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As filed with the Securities and Exchange Commission on April 3, 2015

Registration No. 333-202124

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

AMENDMENT NO. 1
TO

FORM S-1

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

ARCADIA BIOSCIENCES, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**2870**	**81-0571538**
(State or Other Jurisdiction of Incorporation or Organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

202 Cousteau Place, Suite 105
Davis, CA 95618
(530) 756-7077
(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

Eric J. Rey
President & Chief Executive Officer
202 Cousteau Place, Suite 105
Davis, CA 95618
(530) 756-7077
(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent of Service)

Copies to:

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Approximate date of commencement of proposed sale to the public:
As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. o

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer o	Accelerated filer o	Non-accelerated filer ☒ (Do not check if a smaller reporting company)	Smaller reporting company o

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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SUBJECT TO COMPLETION, DATED APRIL 3, 2015

Preliminary Prospectus

Shares

Common Stock

This is the initial public offering of shares of common stock of Arcadia Biosciences, Inc. Prior to this offering, there has been no public market for our common stock. The initial public offering price of our common stock is expected to be between $ and $ per share.

We have applied to list our common stock on The NASDAQ Global Market under the symbol "RKDA."

The underwriters have an option to purchase a maximum of additional shares of common stock from us.

We are an "emerging growth company" as that term is used in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and, as such, we have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings.

Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page 12.

	Price to Public	Underwriting Discounts and Commissions(1)	Proceeds to Arcadia
Per Share	$	$	$
Total	$	$	$

(1) See "Underwriting" beginning on page 139 for additional information regarding underwriting compensation.

Delivery of the shares of common stock will be made on or about , 2015.

Neither the Securities and Exchange Commission nor any other regulatory body has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

Credit Suisse **J.P. Morgan** **Piper Jaffray**

The date of this prospectus is , 2015

Arcadia
BIOSCIENCES

Agronomic traits:

- Nitrogen Use Efficiency
- Water Use Efficiency
- Drought Tolerance
- Salinity Tolerance
- Heat Tolerance
- Herbicide Tolerance

Key crops:

- Rice
- Wheat
- Soybean
- Corn
- Cotton
- Sugarcane

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ABOUT THIS PROSPECTUS

You should rely only on the information contained in this prospectus or contained in any free writing prospectus filed with the Securities and Exchange Commission. Neither we nor the underwriters have authorized anyone to provide you with additional information or information different from that contained in this prospectus or in any free writing prospectus filed with the Securities and Exchange Commission. We are offering to sell, and seeking offers to buy, our common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of our common stock.

Through and including , 2015 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

This prospectus includes statistical, market and industry data and forecasts that we obtained from publicly available information and independent industry publications and reports that we believe to be reliable sources. These publicly available industry publications and reports generally state that they obtain their information from sources that they believe to be reliable, but they do not guarantee the accuracy or completeness of the information. Although we believe that these sources are reliable, we have not independently verified the information contained in such publications. We obtained certain trait value data used in the "Prospectus Summary" and "Industry Overview" sections of this prospectus from a third-party report we commissioned Phillips McDougall to prepare. Phillips McDougall has filed a consent to be named in this prospectus. Certain estimates and forecasts involve uncertainties and risks and are subject to change based on various factors, including those discussed under the headings "Special Note Regarding Forward-Looking Statements" and "Risk Factors" in this prospectus.

Neither we nor any of the underwriters have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who obtain this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside of the United States.

"Arcadia Biosciences," "Sonova" and "Sonova GLA Safflower Oil and design" are our registered trademarks in the United States and, in some cases, in certain other countries. Other trademarks and service marks that we own include: "Sonova 400" and "Sonova ULTRA." This prospectus also contains trademarks, service marks, and trade names of other companies. Solely for convenience, the trademarks, service marks and trade names referred to in this prospectus may appear without the ®, TM, or SM symbols, but such references do not constitute a waiver of any rights that might be associated with the respective trademarks, service marks, or trade names.

PROSPECTUS SUMMARY

This summary highlights selected information that is presented in greater detail elsewhere in this prospectus. This summary does not contain all of the information you should consider before investing in our common stock. You should read this entire prospectus carefully, including the sections titled "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and the related notes included elsewhere in this prospectus, before deciding whether to purchase shares of our common stock.

Overview

We are a leading agricultural biotechnology trait company with an extensive and diversified portfolio of late-stage yield and product quality traits addressing multiple crops that supply the global food and feed markets. We have achieved this leadership position based on our development collaborations with global agricultural leaders, recognition by third parties, and our track record of success in trait development since our founding in 2002. Our traits are focused on high-value enhancements that increase crop yields by enabling plants to more efficiently manage environmental and nutrient stresses, and that enhance the quality and value of agricultural products. Our traits increase value not only for farmers, but also for users of agricultural products. Our target market is the $39.4 billion global seed market. Our goal is to increase the value of this market significantly by increasing yields, and to capture a portion of the increased value. There currently are more than 50 products in development incorporating our traits and there are 13 that have demonstrated efficacy in field trials, one that is in the process of completing the regulatory process, and one that is currently on the market.

Our crop yield traits are being utilized by our commercial partners to develop higher yielding seeds for the most widely grown global crops, including wheat, rice, soybean, corn, and sugarcane, as well as for other crops such as cotton, canola, turf, and trees. Our business model positions us at the nexus of basic research and commercial product development, as we apply our strong product development and regulatory capabilities to collaborate with, and leverage the skills and investments of, upstream basic research institutions and downstream commercial partners. We believe our approach significantly reduces risk and capital requirements, while simplifying and expediting the product development process. We also believe that our collaboration strategy leverages our internal capabilities, enabling us to capture much higher value than would otherwise be the case, and enabling commercial partners to develop and commercialize products more cost-effectively.

Our business model focuses on creating value by leveraging collaborator investments and capabilities upstream in basic research, and downstream in product development and commercialization. We bridge the gap between basic research and commercial development, reducing risk and adding value as a result. We reduce risk and avoid most of the costs associated with basic research by acquiring trait technologies that have already completed initial feasibility screening, thus achieving proof of concep through basic research carried out elsewhere. We further develop these technologies by optimizing function and validating performance through intensive field trial testing in multiple crops. We then form collaborations with major seed and consumer product companies who develop and commercialize products incorporating our traits. In select instances, we may also work with our commercial partners to make any regulatory filings required to support commercial launch of the trait in order to increase our share of the value created by the trait. Field trial data to date in multiple major commodity crops has shown yield improvements attributable to our Nitrogen Use Efficiency, or NUE, trait of greater than 10%. For example, rice plants with our NUE trait, tested in independent field trials over three years from 2012 to 2014 in multiple environments, had an average yield improvement of 27% compared to controls.

By licensing later stage de-risked technologies to our commercial partners, we expect to achieve significantly greater value than generally earned for access to early stag traits. Our license agreements

typically include upfront and annual license fees, as well as multiple milestone payments for key product development stages such as demonstration of greenhouse efficacy, demonstration of field efficacy, regulatory submission, regulatory approval, and commercial launch. Following commercialization of a product utilizing one or more of our traits, we share in the value of the traits realized by our commercial partners. We believe that this broad and balanced approach diversifies and reduces risk, allowing us to address multiple end markets through strong established channels.

We have formed strategic partnerships and developed strong relationships with global agricultural leaders for development and commercialization of our traits in major crops and consumer products. Our collaborators include subsidiaries or affiliates of Limagrain (Vilmorin & Cie), Mahyco (Maharashtra Hybrid Seeds Company Limited), DuPont Pioneer (E.I. du Pont de Nemours and Company), SES Vanderhave, Genective (a joint venture between Limagrain and KWS SAAT), Scotts, U.S. Sugar, Abbott, Ardent Mills, Bioceres, and others. Additionally, in order to increase our participation in the value of two major crops, wheat and soybean, we have formed two joint venture Limagrain Cereal Seeds LLC is our joint venture with Limagrain for the development and commercialization of wheat products for North America. Limagrain is the world's fourth-largest seed company. Verdeca LLC is our joint venture with a wholly owned subsidiary of Bioceres for the development and deregulation of soybean traits globally. Bioceres is an agricultural investment and development company owned by approximately 230 shareholders, including some of South America's largest soybean growers.

The strength of our internal capabilities and collaboration strategy enables us to quickly identify and develop valuable traits and bring them to market, as we have demonstrated through commercializing Sonova 400 GLA safflower oil in less than six years from technology acquisition to commercial launch. Sonova 400 GLA safflower oil is a key ingredient in multiple branded nutritional supplements marketed through GNC stores and other major U.S. retailers.

Our headquarters and primary research and development facilities are located in Davis, California. We have additional facilities in Seattle, Washington; American Falls, Idaho; and Phoenix, Arizona. As of March 31, 2015, we had 76 full-time employees.

Industry Background

In recent decades, agricultural biotechnology has been a major driving force for improving farm economics by introducing genetically modified, or GM, seeds, with trai that reduce the cost of managing crop biotic stresses such as weeds, insects, and microbial pests. The first agricultural biotechnology traits, herbicide tolerance and insect resistance, were developed primarily by companies with deep expertise and a long heritage in crop protection chemistry and pest management. Seeds with these traits have achieved rapid growth and strong commercial success, reaching market share in excess of 90% in key crops and countries as of 2013.

Next generation seed trait research is focused on the development of new technologies that address unmet needs such as abiotic stress tolerance and agricultural product quality. Abiotic plant stresses, or those caused by non-living factors such as heat, drought, flooding, salinity, and nutrient availability, can have a significantly greater negativ impact on crop yield than biotic stresses. Successfully increasing crop yields by addressing these stresses potentially creates much greater value than created by the first wave of biotic stress management traits. Commercially available solutions to manage abiotic stresses are currently limited, but have been the focus of substantial innovation efforts Agricultural product quality traits increase the value of crops to crop processors, food and feed manufacturers, and consumers by altering the performance of the harvested crop in end market products.

Innovative traits can provide significant additional value for farmers. Planting seed is a relatively low cost input for farmers, representing less than 10% of average total costs in 2013 according to the

U.S. Department of Agriculture, or USDA. GM seeds can provide farmers with increased profitability at a relatively low increase in operating costs by means of increased yields, reduced costs of inputs such as chemicals, or enhanced product quality. The historic success of increasing farm profits through the use of GM seeds has fueled the development of the agricultural biotechnology industry, and farmers have historically shared a portion of their economic benefit with the GM seed provider in the form of see premiums.

The following table, based on a Phillips McDougall analysis that we commissioned, sets forth an estimated range of incremental value increase that may be attributed to the addition of a novel, newly developed trait in the most widely grown global crops and key growing regions. Incremental value increase refers to the total revenue potential for seed providers generated from the premium charged on biotechnology seeds due to the added value of the improved trait. This estimated incremental value increase, or trait commercial value, was calculated by multiplying the estimated number of acres per country that could be planted with a particular biotechnology trait by the estimated premiums that will be charged to growers by seed providers. The values displayed are in constant 2013 U.S. Dollar terms.

		Estimated Trait Commercial Value ($ Million)(1)		
Trait	**Crop**	**From**	**To**	**Key Growing Regions(2)**
Nitrogen Use Efficiency	Corn	1,285	2,205	NAFTA, LATAM, China
	Soybeans	747	1,269	NAFTA, LATAM
	Cotton	189	312	NAFTA, LATAM, India+
	Canola	142	227	NAFTA, LATAM, India, China
	Rice	535	910	India+, China, Asia
	Wheat	573	1,136	NAFTA, Europe, India+, China, Australia
	Sugarcane	42	70	NAFTA, LATAM, India, China
	Total	*3,513*	*6,129*	
Water Use Efficiency	Corn	557	976	NAFTA, LATAM, China
	Soybeans	373	642	NAFTA, LATAM
	Cotton	97	176	NAFTA, LATAM, India+
	Canola	75	114	NAFTA, LATAM, India, China
	Rice	269	535	India+, China, Asia
	Wheat	487	569	NAFTA, Europe, India+, China, Australia
	Sugarcane	25	53	NAFTA, LATAM, India, China
	Total	*1,883*	*3,065*	
Salinity Tolerance	Soybeans	373	523	NAFTA, LATAM
	Cotton	97	176	NAFTA, LATAM, India+
	Canola	75	114	NAFTA, LATAM, India, China
	Rice	269	535	India+, China, Asia
	Wheat	429	569	NAFTA, Europe, India+, China, Australia
	Total	*1,243*	*1,917*	*NAFTA, LATAM, India, China*
Heat Tolerance	Corn	557	976	NAFTA, LATAM, China
	Soybeans	373	523	NAFTA, LATAM
	Cotton	97	176	NAFTA, LATAM, India+
	Canola	75	114	NAFTA, LATAM, India, China
	Rice	269	535	India+, China, Asia
	Wheat	429	569	NAFTA, Europe, India+, China, Australia
	Sugarcane	21	41	NAFTA, LATAM, India, China
	Total	*1,821*	*2,934*	
Herbicide Tolerance	Wheat	417	571	NAFTA, Europe, India+, China, Australia
All Traits	***All Crops***	***8,878***	***14,616***	

(1) The range of estimated increase in price attributed to the addition of a novel, newly developed trait for each combination of trait, crop, and region.

(2) NAFTA= Canada, U.S., Mexico; LATAM= Central & South America; India+= India, Pakistan, Bangladesh, Sri Lanka; Asia= S.E. Asia (excluding China)

The development of GM seed traits is currently concentrated in a limited number of large seed companies, including Monsanto, DuPont Pioneer, Syngenta, Limagrain, Dow AgroSciences, KWS SAAT, and Bayer CropScience. According to Phillips McDougall, the leading 11 seed and trait companies as a group invested $4.1 billion in seed and trait research and development in 2013.

Our Products and Pipeline

There currently are more than 50 products in development incorporating our traits and there are 13 that have demonstrated efficacy in field trials, one that is in the process of completing the regulatory process, and one that is on the market. We use both GM and non-GM technologies to develop our traits, which enables us to select the approach most suited for the particular trait, crop and market. Our agricultural yield traits are designed to substantially increase crop yields and farmer income. They do so either by improving efficiency in the use of key inputs, such as fertilizer and water, or by increasing tolerance to environmental stresses, such as drought, heat and salinity. Ou existing portfolio of agricultural yield traits includes Nitrogen Use Efficiency, or NUE, Water Use Efficiency, or WUE, Drought Tolerance, Salinity Tolerance, Heat Tolerance and Herbicide Tolerance. Field trial results have demonstrated significant yield improvements resulting from our agricultural yield traits in multiple crops and geographies.

Our agricultural product quality traits are designed to increase the value of harvested products by improving specific compositional qualities of oilseeds and grains. Thes traits include Enhanced Nutrition Grains and High Value Nutritional Oils, including Sonova 400 GLA safflower oil and Sonova Ultra GLA safflower oil, which we refer to a our Sonova products.

The table below summarizes our current commercial product and our pipeline of products that are in advanced stages of development or on the market, which corresponds to Phase 3 or higher in our product development cycle. The product development cycle is discussed in greater detail in "Industry Overview—Innovation and Commercialization Process in Biotech Seed Traits." The table also identifies the crops, collaborators, and markets that we and our collaborators are addressing with these products.

Program	Crop	Collaborator(s)	Phase	Key Markets
PRODUCTIVITY TRAITS				
Nitrogen Use Efficiency (NUE)	Wheat	Limagrain, Mahyco, CSIRO, ACPFG	3	Global
	Rice	Mahyco, AATF	3	Asia
	Canola	-	3	N. America, Asia
	Barley	-	3	N. America, Australia
Water Use Efficiency (WUE) Drought Tolerance (DT)				
	Soybean (DT)	Verdeca	4	Americas, Asia
	Wheat (DT)	Bioceres	3	Global
Salinity Tolerance (ST)	Rice	Mahyco	3	Asia
Herbicide Tolerance*	Wheat	Confidential	3	Global
Trait Stacks				
NUE/WUE/ST	Rice	AATF	3	Asia
PRODUCT QUALITY TRAITS				
GLA Oil	Safflower	Abbott	5	N. America, Asia
Resistant Starch*	Wheat	-	4	Global
Post Harvest Quality*	Tomato	Bioseed	4	Asia, N. America
ARA Oil	Safflower	Abbott, DuPont Pioneer	3	N. America, Asia

Phase: D=Discovery; 1=Proof of Concept; 2=Greenhouse / Early Field Trials; 3=Additional Field Trials / Product Development; 4=Regulatory / Pre-Commercial; 5=Commercialized
* Non GM

Our Strengths

We believe we are strategically positioned to capitalize on the need to increase crop yields and quality of agricultural products globally. Our competitive strengths include:

- ***We hold a competitive position in an attractive and fast-growing industry.*** According to Phillips McDougall, the GM seed market grew at an 18.4% CAGR between 2003 and 2013, reaching $20.1 billion, which represented 51% of the $39.4 billion total seed market. We believe that addressing opportunities to increase yield in the much larger market for agricultural products will dramatically expand the size of the GM seed market, and that we are well-positioned to take advantage of this with our portfolio of late-stage, high-value traits, and our ability to reduce product development risk and leverage the capabilities of our licensees and partners. We believe the yield-enhancing benefits of our agricultural yield traits provide significant value to farmers, based on field trials to date

- ***We have a broad and diverse portfolio of products and partners.*** Our product portfolio consists of a wide variety of traits that are applicable to major crops in key geographic markets and address agricultural yield and product quality. The applicability of our product portfolio to these major crops provides us access to multiple large end markets that we believe have demonstrated or have the potential for high growth, such as soybeans in North and South America and wheat and rice globally.

- ***The development stage of our products substantially reduces the risk and time to market.*** We reduce risk and avoid most of the costs associated with basic research by acquiring trait technologies that have already achieved proof of concept and have started early development, or Phase 2, through basic research carried out elsewhere. We then optimize and validate trait performance through intensive field trials in multiple crops, and license the further de-risked traits to selected collaborators globally. The majority of the products being developed with our traits are at Phase 2 or higher stages of development. Products that have achieved Phase 2 or higher have substantially shorter average development timelines and substantially greater average probabilities of success than earlier-stage products. See "Industry Overview—Innovation and Commercialization Process in Biotech Seed Traits."

- ***We have demonstrated independent product development and regulatory capabilities.*** Our execution risk is significantly reduced by our in-house scientific and product development expertise, which affords us substantial control over the product development process. Our regulatory expertise enables us to capture additional value in selected instances, and also to expedite the development of products containing our traits. For example, we independently developed and commercialized our first commercial product, Sonova 400 GLA safflower oil, in less than six years from technology acquisition.

- ***We have a seasoned executive team with a diverse blend of technical and commercial experience.*** Our executive team has more than 140 years of combined experience specific to agricultural biotechnology. Several members of our executive team previously worked at industry-leading technology and seed companies, such as Calgene and Monsanto, and seven of our eight executive team members have worked together for more than ten years.

Our Growth Strategy

We believe that there are significant opportunities to grow our business globally by executing the following elements of our strategy:

- ***Accelerate and broaden the commercialization of our high-impact agricultural yield traits.*** One of our highest priorities is to accelerate and broaden the commercialization of our key agricultural yield

traits, such as NUE, WUE, and Drought Tolerance, that are in advanced stages of development with our commercial partners and joint ventures.

- ***Increase the value we capture in selected crops by managing and investing in the regulatory process.*** For certain crops we have the opportunity to invest incrementally in the management of regulatory activities. By doing so, we will increase our share of the trait value from a base range of 15 to 20% to a range of 37 to 50%, depending on the specific crop and trait.

- ***Execute on a range of near-term opportunities in areas that we believe will be materially beneficial.*** Our product quality trait programs, including specialty oils and improved grains, provide opportunities for near-term revenue growth. In particular, our programs for ARA oil and resistant starch wheat are at advanced development stages.

- ***Continue to build our pipeline of next generation and innovative traits.*** We maintain strong relationships with leading basic research institutions and other industry participants, and will continue to partner with them to gain access to new traits and technologies with demonstrated efficacy.

- ***Continue to invest in our human resources and technology infrastructure on a global basis.*** Our highly-skilled and technical employees are critical to our success, and we will continue to invest in development and retention in order to build upon this strength.

Risks Associated with Our Business

Our business is subject to numerous risks, as more fully described in the section entitled "Risk Factors" immediately following this prospectus summary. You should rea these risk factors before you invest in our common stock. For example, you should be aware of the following before investing in our common stock:

- We or our collaborators may not be successful in developing commercial products that incorporate our traits.

- Even if we or our collaborators are successful in developing commercial products that incorporate our traits, such products may not achieve commercial success.

- Our product development cycle is lengthy and uncertain, and we may never earn revenues from the sale of products containing our traits.

- We have a history of significant losses, which we expect to continue, and we may never achieve or maintain profitability.

- If ongoing or future field trials by us or our collaborators are unsuccessful, we may be unable to complete the regulatory process for, or commercialize, our products on a timely basis.

- Competition in traits and seeds is intense and requires continuous technological development. If we are unable to compete effectively, our financial results wi suffer.

Corporate Information

We were incorporated in 2002 in Arizona and reincorporated in Delaware in March 2015. Our headquarters and primary research and development facilities are located at 202 Cousteau Place, Davis, CA 95618, and our telephone number is (530) 756-7077. Our corporate website address is www.arcadiabio.com. Information contained on our website is not incorporated by reference into this prospectus, and you should not consider any information contained on, or that can be accessed through, our website as part of this prospectus or in deciding whether to purchase our common stock. We have included our website address only as an inactive textural reference and do not intend it to b an active link to our website.

Unless the context otherwise requires, the terms "Arcadia Biosciences," "Arcadia," the "company," "we," "us," and "our" in this prospectus refer to Arcadia Biosciences, Inc. and its consolidated subsidiaries.

Implications of Being an Emerging Growth Company

As a company with less than $1.0 billion in revenues during our last fiscal year, we qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. An emerging growth company may take advantage of specified reduced reporting requirements that are otherwise applicable generall to public companies. These provisions include:

- a requirement to have only two years of audited financial statements and only two years of related management's discussion and analysis;
- an exemption from compliance with the auditor attestation requirement on the effectiveness of our internal control over financial reporting;
- an exemption from compliance with any requirement that the Public Company Accounting Oversight Board may adopt regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;
- reduced disclosure about our executive compensation arrangements; and
- exemptions from the requirements to obtain a non-binding advisory vote on executive compensation or a stockholder approval of any golden parachute arrangements.

We will remain an emerging growth company until the earliest to occur of: the last day of the fiscal year in which we have more than $1.0 billion in annual revenues; the date we qualify as a "large accelerated filer," with at least $700 million of equity securities held by non-affiliates; the issuance, in any three-year period, by us of more than $1.0 billion in non-convertible debt securities; and the last day of the fiscal year ending after the fifth anniversary of our initial public offering. We may choose to take advantage of some, but not all, of the available benefits under the JOBS Act. We are choosing to irrevocably "opt out" of the extended transition periods available under the JOBS Act for complying with new or revised accounting standards, but we intend to take advantage of the other exemptions discussed above. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock.

The Offering

The following information assumes that the underwriters do not exercise their option to purchase additional shares in the offering. See "Underwriting."

Common stock offered by us	shares
Common stock to be outstanding after the offering	shares
Option to purchase additional shares of common stock from us	The underwriters have an option to purchase a maximum of additional shares of common stock from us. The underwriters can exercise this optio at any time within 30 days from the date of this prospectus.
Use of proceeds	We intend to use the net proceeds from this offering for general corporate purposes, including working capital, capital expenditures, further developmer and commercialization of our products, and sales and marketing activities. We may also use a portion of the net proceeds to expand our business throug investments in other complementary strategic joint ventures, products, and technologies, although we have no agreements or commitments to do so as o the date of this prospectus.
Listing	We have applied for listing of our common stock on The NASDAQ Global Market under the symbol "RKDA."
Risk factors	Investing in our common stock involves a high degree of risk. You should carefully read and consider the information set forth under "Risk Factors" an all other information in this prospectus before investing in our common stock.

The number of shares of our common stock to be outstanding after this offering is based on shares of our common stock outstanding as of December 31, 2014, and excludes:

- 15,039,363 shares of our common stock issuable upon exercise of stock options outstanding as of December 31, 2014 with a weighted-average exercise price of $0.75 per share under our 2006 Stock Plan;
- 1,230,000 shares of our common stock issuable upon exercise of stock options granted in February and March 2015 with an exercise price of $1.80 per share under our 2006 Stock Plan;
- 5,347,591 shares of our common stock issuable upon the exercise of outstanding warrants to purchase common stock with a weighted-average exercise price o $4.49 per share; and
- shares of common stock reserved for future issuance under new equity-based compensation plans adopted in connection with this offering, including shares of common stock reserved for issuance under our 2015 Omnibus Equity Incentive Plan and shares of common stock reserved for issuance under our 2015 Employee Stock Purchase Plan, and excluding shares that become available under the 2015 Omnibus Equity Incentive Plan and 2015 Employee Stock Purchase Plan pursuant to provisions of these plans that automatically increase the share reserves each year, as more fully described in "Executive Compensation—Employee Benefit Plans."

Except as otherwise indicated, all information in this prospectus assumes:

- a one-for- reverse split of our common stock and a proportional adjustment to the conversion ratio of our preferred stock that will be effected prior to the completion of this offering;
- the automatic conversion of all outstanding shares of our preferred stock into an aggregate of shares of common stock effective upon the closing of this offering, including the conversion of each share of our existing preferred stock (other than our Series D preferred stock) into one share of common stock and the conversion of all shares of our Series D preferred stock into shares of common stock based on an assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus(1);
- our convertible noteholder will not convert any of the outstanding balance of its convertible promissory notes into shares of our common stock and will not place any additional convertible debt with us;
- we will file our amended and restated certificate of incorporation and adopt our amended and restated bylaws immediately prior to the closing of this offering and
- the underwriters will not exercise their option to purchase additional shares of common stock from us in this offering.

(1) The terms of our Series D preferred stock provide that the ratio at which each share of Series D preferred stock will automatically convert into shares of our common stock in connection with this offering is dependent upon the actual initial public offering price of our common stock determined at pricing. Based on the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, the outstanding shares of our Series D preferred stock would convert into an aggregate of shares of our common stock upon the closing of this offering. Each $1.00 increase in the assumed initial public offering price of $ per share would decrease the number of shares of our common stock issuable upon conversion of the outstanding shares of our Series D preferred stock upon the closing of this offering by shares. Each $1.00 decrease in the assumed initial public offering price of $ per share would increase the number of shares of our common stock issuable upon conversion of the outstanding shares of our Series D preferred stock upon the closing of this offering by shares.

Summary Consolidated Financial Data

The following tables summarize our consolidated financial data and should be read together with our consolidated financial statements, the notes to our consolidated financial statements and "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained elsewhere in this prospectus. We derived the summary consolidated statements of operations data for the years ended December 31, 2013 and 2014 from our audited consolidated financial statements included elsewhere in this prospectus. The consolidated balance sheet data as of December 31, 2014 is derived from our audited consolidated financial statements included elsewhere in this prospectus.

	Year Ended December 31,	
	2013	2014
	(in thousands, except share and per share amounts)	
Consolidated Statements of Operations Data:		
Revenues:		
Product	$ 1,102	$ 355
License	1,625	2,325
Contract research and government grants	3,751	4,302
Total revenues	6,478	6,982
Operating expenses:		
Cost of product revenues(1)	673	1,997
Research and development(1)	8,404	10,012
Selling, general, and administrative(1)	7,967	10,126
Total operating expenses	17,044	22,135
Loss from operations	(10,566)	(15,153)
Interest expense	(626)	(1,394)
Other income (expense), net	5	(597)
Loss before income taxes and equity in loss of unconsolidated entity	(11,187)	(17,144)
Income tax provision	(167)	(263)
Equity in loss of unconsolidated entity	(1,841)	(932)
Net loss	(13,195)	$ (18,339)
Accretion of redeemable convertible preferred stock to redemption value	—	(3,738)
Net loss attributable to common stockholders	$ (13,195)	$ (22,077)
Net loss per share attributable to common stockholders, basic and diluted(2)	$ (1.61)	$ (2.68)
Weighted-average number of shares used in per share calculations, basic and diluted(2)	8,213,544	8,245,129
Pro forma net loss per share attributable to common stockholders, basic and diluted(2)		$
Weighted-average number of shares used in pro forma per share calculations, basic and diluted(2)		

(1) Includes stock-based compensation expense as follows:

	Year Ended December 31,	
	2013	2014
	(in thousands)	
Research and development	$ 414	$ 249
Selling, general, and administrative	864	727
Total stock-based compensation	$ 1,278	$ 976

(2) See Note 13 of the notes to our consolidated financial statements for a description of how we compute net loss per share attributable to common stockholders, basic and diluted, and pro forma net loss per share attributable to common stockholders, basic and diluted.

	As of December 31, 2014		
	Actual	Pro Forma(1)	Pro Forma As Adjusted(2)(3)
		(in thousands)	
Consolidated Balance Sheet Data:			
Cash and cash equivalents	$ 16,571	$ 16,571	
Working capital	7,426	7,426	
Total assets	24,889	24,889	
Total indebtedness	14,475	14,475	
Redeemable convertible preferred stock	34,098	—	
Convertible preferred stock	48,783	—	
Additional paid-in capital	29,204	112,085	
Accumulated deficit	(113,970)	(113,970)	
Total stockholders' (deficit) equity	(84,766)	(1,885)	

(1) The pro forma column reflects the filing of our amended and restated certificate of incorporation and the automatic conversion of all outstanding shares of our preferred stock into an aggregate of shares of common stock upon the closing of this offering.

(2) The pro forma as adjusted column reflects the pro forma adjustments described in footnote (1) above and the sale by us of shares of common stock in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and offering expenses payable by us.

(3) Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, cash and cash equivalents, working capital, total assets, additional paid-in capital, and total stockholders' (deficit) equity by $ million, assuming that the numbe of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions. The pro forma as adjusted information presented in the consolidated balance sheet data is illustrative only and will change based on the actual initial public offering price and other terms of this offering determined at pricing.

RISK FACTORS

Investing in our common stock involves a substantial risk of loss. You should carefully consider the risks and uncertainties described below and the other information in this prospectus before deciding whether to purchase shares of our common stock. If any of the following risks actually occur, our business, financial condition, or operating results could be materially adversely affected. This could cause the trading price of our common stock to decline, and you may lose part or all of your investment. See the section entitled "Special Note Regarding Forward-Looking Statements" elsewhere in this prospectus.

Risks Related to our Business and our Industry

We or our collaborators may not be successful in developing commercial products that incorporate our traits.

Our future growth depends on our ability to identify genes that will improve selected crop traits and license these genes to our collaborators to develop and commercialize seeds that contain the genes. Our long-term growth strategy is based on our expectation that revenues related to the sale of seeds containing our traits will comprise a significant portion of our future revenues. Pursuant to our collaboration agreements, we are entitled to share in the revenues from the sale of products that integrate our trait. We expect that it will take several years before the first seeds integrating our agricultural yield traits complete the development process and become commercially available for sale, resulting in revenues for us. However, the development process could take longer than we anticipate or could ultimately fail to succeed in commercialization for any of the following reasons:

- our traits may not be successfully validated in one or more target crops;
- our traits may not have the desired effect sought by our collaborators in the relevant crop or geography, or under certain environmental conditions;
- relevant milestones under our agreements with collaborators may not be achieved; and
- we or our collaborators may be unable to complete the regulatory process for the products containing our traits.

If products containing our traits are never commercialized, or are commercialized on a slower timeline than we anticipate, our ability to generate revenues and become profitable, as well as our long-term growth strategy, would be materially and adversely affected.

Even if we or our collaborators are successful in developing commercial products that incorporate our traits, such products may not achieve commercial success.

Our long-term growth strategy is dependent upon our or our collaborators' ability to incorporate our traits into a wide range of crops with global scope. Even if we or our collaborators are able to develop commercial products that incorporate our traits, any such products may not achieve commercial success as quickly as we project, or at all, for one or more of the following reasons, among others:

- products may fail to be effective in particular crops, geographies, or circumstances, limiting their commercialization potential;
- our competitors may launch competing or more effective traits or products;
- the market for abiotic seed traits is evolving and not well established, and the market opportunities for any product we or our collaborators develop may be smaller than we or our collaborators believe;

- as we do not have a sales or marketing infrastructure, we depend entirely on our collaborators to commercialize our products, and they may fail to devote the necessary resources and attention to sell, market, and distribute our current or any future products effectively;
- significant fluctuations in market prices for agricultural inputs and crops could have an adverse effect on the value of our traits;
- farmers are generally cautious in their adoption of new products and technologies, with conservative initial purchases and proof of product required prior to widespread deployment, and it may accordingly take several growing seasons for farmers to adopt our or our collaborators' products on a large scale;
- farmers may reuse certain non-hybrid GM seeds from prior growing seasons in violation of applicable seed license agreements;
- our collaborators may not be able to produce high-quality seeds in sufficient amounts to meet demand; and
- our collaborators may decide, for whatever reason, not to commercialize products containing our traits.

Our financial condition and results of operations could be materially and adversely affected if any of the above were to occur.

Our product development cycle is lengthy and uncertain, and we may never earn revenues from the sale of products containing our traits.

Research and development in the seed, agricultural biotechnology, and larger agriculture industries is expensive and prolonged and entails considerable uncertainty. We and our collaborators may spend many years and dedicate significant financial and other resources, including the proceeds of this offering, developing traits that will never be commercialized. The process of discovering, developing, and commercializing a seed trait through either genetic modification or advanced breeding involves multiple phases, and it may require from six to thirteen years or more from discovery to commercialization. The length of the process may vary depending on one or more of the complexity of the trait, the particular crop, and the intended geographical market involved. This long product development cycle is in large part attributable to the nature-driven breeding period for a commercial product, as well as a lengthy regulatory process.

There are currently over 50 products in development incorporating our traits, each of which consists of the application of a specific seed trait to a specific crop. Although our Sonova products are on the market currently, we expect that it will take several years before the first products containing our agricultural yield traits complete the development process and become commercially available. However, we have little to no certainty as to which, if any, of these products will eventually reach commercialization in this timeframe or at all. Because of the long product development cycle and the complexities and uncertainties associated with agricultural biotechnology research, there is significant uncertainty as to whether we will ever generate revenues from the sale of products containing one of our traits and, even if such products reach commercialization, any resulting revenues may come at a later time than we currently anticipate.

We have a history of significant losses, which we expect to continue, and we may never achieve or maintain profitability.

We have incurred significant net losses since our formation in 2002 and expect to continue to incur net losses for the foreseeable future. We incurred net losses of $13.2 million and $18.3 million for the years ended December 31, 2013 and 2014, respectively. As of December 31, 2014, we had an

accumulated deficit of $114.0 million. We expect to continue to incur losses until we begin generating revenues from the sale of traits we are currently developing, which we expect will not occur for several years, if at all. Because we have incurred and will continue to incur significant costs and expenses for these efforts before we obtain any incremental revenues from the sale of seeds incorporating our traits, our losses in future periods could be even more significant. In addition, we may find our development efforts are more expensive than we anticipate or that they do not generate revenues in the time period we anticipate, which would further increase our losses. If we are unable to adequately control the costs associated with operating our business, including costs of development and commercialization of our traits, our business, financial condition, operating results, and prospects will suffer.

In addition, our ability to generate meaningful revenues and achieve and maintain profitability depends on our ability, alone or with strategic collaborators, to successfully complete the development of and complete the regulatory process to commercialize our traits. Most of our revenues since inception have consisted of upfront and milestone payments associated with our contract research and license agreements. Additional revenues from these agreements are largely dependent on successful development of our traits by us or our collaborators. To date, we have not generated any significant revenues from product sales other than from our Sonova products, and we do not otherwise anticipate generating revenues from product sales other than from sales of our Sonova products for the next several years. If products containing our traits fail to achieve market acceptance or generate significant revenues, we may never become profitable.

If ongoing or future field trials by us or our collaborators are unsuccessful, we may be unable to complete the regulatory process for, or commercialize, our products in development on a timely basis.

The successful completion of field trials in United States and foreign locations is critical to the success of product development and marketing efforts for products containing our traits. If our ongoing or future field trials, or those of our collaborators, are unsuccessful or produce inconsistent results or unanticipated adverse effects on crops or on non-target organisms, or if we or our collaborators are unable to collect reliable data, regulatory review of products in development containing our traits could be delayed or commercialization of products in development containing our traits may not be possible. In addition, more than one growing season may be required to collect sufficient data to develop or market a product containing our traits, and it may be necessary to collect data from different geographies to prove performance for customer adoption. Even in cases where field trials are successful, we cannot be certain that additional field trials conducted on a greater number of acres, or in different crops or geographies, will be successful. Generally, our collaborators conduct these field trials or we pay third parties, such as farmers, consultants, contractors, and universities, to conduct field trials on our behalf. Poor trial execution or data collection, failure to follow required agronomic practices, regulatory requirements, or mishandling of products in development by our collaborators or these third parties could impair the success of these field trials.

Many factors that may adversely affect the success of our field trials are beyond our control, including weather and climatic variations, such as drought or floods, severe heat or frost, hail, tornadoes and hurricanes, pests and diseases, or acts of protest or vandalism. For example, if there was prolonged or permanent disruption to the electricity, climate control, or water supply operating systems in our greenhouses or laboratories, the crops in which we or our collaborators are testing our traits and the samples we or our collaborators store in freezers, both of which are essential to our research and development activities, could be severely damaged or destroyed, adversely affecting these activities and thereby our business and results of operations. Unfavorable weather conditions can also reduce both acreage planted and incidence, or timing of, certain crop diseases or pest infestations, each of which may halt or delay our field trials. We have also experienced crop failures in the past for then-unknown reasons, causing delays in our achievement of milestones and delivery of results and necessitating that we repeat the impacted field trials. Any field test failure we may experience may not be covered by

insurance and, therefore, could result in increased cost for the field trials and development of our traits, which may negatively impact our business and results of operations. Additionally, we are subject to U.S. Department of Agriculture, or USDA, regulations, which may require us to abandon a field trial or to purchase and destroy neighboring crops that are planted after our field trials have commenced. For example, while conducting early field trials for GLA safflower oil, we were forced to purchase and destroy an adjacent safflower crop when the placement of bee hives by a third party altered the required isolation distance between our crop and the neighboring crop, requiring us to either purchase and destroy the adjacent crop or abandon our field trial. In order to prevent the significant delays that would result from terminating our field trial, we decided to purchase and destroy the neighboring crop at a cost of approximately $30,000. Similar factors outside of our control can create substantial volatility relating to our business and results of operations.

Competition in traits and seeds is intense and requires continuous technological development, and, if we are unable to compete effectively, our financial results will suffer.

We face significant competition in the markets in which we operate. The markets for traits and agricultural-biotechnology products are intensely competitive and rapidly changing. In most segments of the seed and agricultural biotechnology market, the number of products available to consumers is steadily increasing as new products are introduced. At the same time, the expiration of patents covering existing products reduces the barriers to entry for competitors. We may be unable to compete successfully against our current and future competitors, which may result in price reductions, reduced margins and the inability to achieve market acceptance for products containing our traits. In addition, several of our competitors have substantially greater financial, marketing, sales, distribution, research and development, and technical resources than us, and some of our collaborators have more experience in research and development, regulatory matters, manufacturing, and marketing. We anticipate increased competition in the future as new companies enter the market and new technologies become available. Our technologies may be rendered obsolete or uneconomical by technological advances or entirely different approaches developed by one or more of our competitors, which will prevent or limit our ability to generate revenues from the commercialization of our traits being developed.

We derive a significant portion of our current revenues from government agencies, which may not continue in the future and which may expose us to government audits and potential penalties.

We historically have derived a significant portion of our revenues from grants from U.S. government agencies. Such grants accounted for 44% and 50% of our total revenue in the years ended December 31, 2013 and 2014, respectively. For example, revenues from the U.S. Agency for International Development accounted for 26% and 36% of our total revenues in the years ended December 31, 2013 and 2014, respectively. Our ability to obtain grants is subject to the availability of funds under applicable government programs and approval of our applications to participate in such programs. The application process for these grants is highly competitive. We may not be successful in obtaining any additional grants. Once we successfully obtain a grant, the awarding U.S. government agency has the right to discontinue funding on such a grant at any time. The recent political focus on reducing spending at the U.S. federal and state levels may reduce the scope and amount of funds dedicated to seed and agricultural biotechnology innovations, if such funds continue to be available at all. To the extent that we are unsuccessful in obtaining any additional government grants in the future or if funding is discontinued on an existing grant, we would lose a significant source of our current revenues.

To the extent that we do not comply with the specific requirements of a grant, our expenses incurred may not be reimbursed and any of our existing grants or new grants that we may obtain in the future may be terminated or modified. In addition, our activities funded by our government grants may be subject to audits by U.S. government agencies. As part of an audit, these agencies may review our

performance, cost structures and compliance with applicable laws, regulations and standards, and the terms and conditions of the grant. An audit could result in a material adjustment to our results of operations and financial condition. Moreover, if an audit uncovers improper or illegal activities, we may also be subject to civil and criminal penalties and administrative sanctions, including termination of contracts, forfeiture of profits, suspension of payments, or fines, and we may be suspended or prohibited from doing business with the government. In addition, serious reputational harm or significant adverse financial effects could occur if allegations of impropriety are made against us, even if we are ultimately found to have done no wrong.

A significant portion of our revenues to date are from a limited number of strategic collaborations, and the termination of these collaborations would have a material adverse effect on our results of operations.

We derive a substantial amount of our revenues from a limited number of strategic collaborations, under which we generate revenues through licensing arrangements such as research and development payments, up-front payments, milestone payments, and, once a product is commercialized, a portion of the commercial value of the trait. In particular, revenues from Mahyco accounted for 23% and 29% of our total revenues in the years ended December 31, 2013 and 2014, respectively. A small number of commercial partners are expected to continue to account for a substantial amount of our revenues for the next several years. Our agreements with Mahyco are terminable by Mahyco at will upon 90 days' notice. The termination or non-renewal of our arrangements with Mahyco or our other commercial partners would have a material adverse effect on our business, financial condition, results of operations, and prospects.

We expect to derive a substantial portion of our future revenues from commercial products sold outside the United States, which subjects us to additional business risks.

A significant number of our research and collaboration agreements include products under development for markets outside the United States. Our collaborators' operations in these regions are subject to a variety of risks, including different regulatory requirements, uncertainty of contract and intellectual property rights, unstable political and regulatory environments, economic and fiscal instability, tariffs and other import and trade restrictions, restrictions on the ability to repatriate funds, business cultures accepting of various levels of corruption, and the impact of anti-corruption laws. These risks could result in additional cost, loss of materials, and delays in our commercialization timeline in international markets and have a negative effect on our operating results.

Revenues generated outside the United States could also be subject to increased difficulty in collecting delinquent or unpaid accounts receivables, adverse tax consequences, currency and exchange rate fluctuations, relatively high inflation, exchange control regulations, and governmental pricing directives. Acts of terror or war may impair our ability to operate in particular countries or regions and may impede the flow of goods and services between countries. Customers in these and other markets may be unable to purchase our products if their economies deteriorate, or it could become more expensive for them to purchase imported products in their local currency or sell their commodities at prevailing international prices, and we may be unable to collect receivables from such customers. If any of these risks materialize, our results of operations and profitability could be harmed.

We or our collaborators may fail to perform our respective obligations under contract research and collaboration agreements.

We are obligated under certain contract research agreements to perform research activities over a particular period of time. If we fail to perform our obligations under these agreements, in some cases our collaborators may terminate our agreements with them and in other cases our collaborators' obligations may be reduced and, as a result, our anticipated revenues may decrease. In addition, any of our collaborators may fail to perform their obligations under the diligence timelines in our

collaboration agreements, which may delay development and commercialization of products containing our traits and materially and adversely affect our future results of operations.

Furthermore, the various payments we receive from our collaborators are a significant source of our current revenues and are expected to be the largest source of our revenues in the future. If our collaborators do not make these payments, either due to financial hardship, disagreement under the relevant collaboration agreement, or for any other reason, our results of operations and business could be materially and adversely affected. If disagreements with a collaborator arise, any dispute with such collaborator may negatively affect our relationship with one or more of our other collaborators and may hinder our ability to enter into future collaboration agreements, each of which could negatively impact our business and results of operations.

Most of our collaborators have significant resources and development capabilities and may develop their own products that compete with or negatively impact the advancement or sale of products containing our traits.

Most of our collaborators are significantly larger than us and may have substantially greater resources and development capabilities. As a result, we are subject to competition from many of our collaborators, who could develop or pursue competing products and traits that may ultimately prove more commercially viable than our traits. In addition, former collaborators, by virtue of having had access to our proprietary technology, may utilize this insight for their own development efforts, despite the fact that our collaboration agreements prohibit such use. The development or launch of a competing product by a collaborator may adversely affect the advancement and commercialization of any traits we develop and any associated research and development and milestone payments and value-sharing payments we receive from the sale of products containing our traits.

We rely on third parties to conduct, monitor, support, and oversee field trials and, in some cases, to maintain regulatory files for those products in development, and any performance issues by third parties, or our inability to engage third parties on acceptable terms, may impact our or our collaborators' ability to complete the regulatory process for or commercialize such products.

We rely on third parties, including farmers, to conduct, monitor, support, and oversee field trials. As a result, we have less control over the timing and cost of these trials than if we conducted these trials with our own personnel. If we are unable to maintain or enter into agreements with these third parties on acceptable terms, or if any such engagement is terminated prematurely, we may be unable to conduct and complete our trials in the manner we anticipate. In addition, there is no guarantee that these third parties will devote adequate time and resources to our studies or perform as required by our contract or in accordance with regulatory requirements, including maintenance of field trial information regarding our products in development. If these third parties fail to meet expected deadlines, fail to transfer to us any regulatory information in a timely manner, fail to adhere to protocols, or fail to act in accordance with regulatory requirements or our agreements with them, or if they otherwise perform in a substandard manner or in a way that compromises the quality or accuracy of their activities or the data they obtain, then field trials of our products in development may be extended or delayed with additional costs incurred, or our data may be rejected by the USDA, the U.S. Food and Drug Administration, or FDA, the U.S. Environmental Protection Agency, or EPA, or other regulatory agencies. Ultimately, we are responsible for ensuring that each of our field trials is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards, and our reliance on third parties does not relieve us of our responsibilities.

If our relationship with any of these third parties is terminated, we may be unable to enter into arrangements with alternative parties on commercially reasonable terms, or at all. Switching or adding farmers or other suppliers can involve substantial cost and require extensive management time and focus. In addition, there is a natural transition period when a new farmer or other third party commences work. As a result, delays may occur, which can materially impact our ability to meet our

desired development timelines. If we are required to seek alternative supply arrangements, the resulting delays and potential inability to find a suitable replacement could materially and adversely impact our business.

Our prospects for successful development and commercialization of our products are dependent upon the research, development, commercialization, and marketing efforts of our collaborators.

We primarily rely on third parties for research, development, commercialization, and marketing of our products and products in development. Other than as provided for in our collaboration agreements, we have no control over the resources, time and effort that our collaborators may devote to the development of products incorporating our traits, and have limited access to information regarding or resulting from such programs. We are dependent on our third party collaborators to fund and conduct the research and development of product candidates, to complete the regulatory process, and for the successful marketing and commercialization of one or more of such products or products in development. Such success will be subject to significant uncertainty.

Our ability to recognize revenues from successful collaborations may be impaired by multiple factors including:

- a collaborator may shift its priorities and resources away from our programs due to a change in business strategies, or a merger, acquisition, sale, or downsizing of its company or business unit;
- a collaborator may cease development in a specific crop area that is the subject of a collaboration agreement;
- a collaborator may change the success criteria for a particular program or product in development, thereby delaying or ceasing development of such program or product in development;
- a significant delay in initiation of certain development activities by a collaborator will also delay payment of milestones tied to such activities, thereby impacting our ability to fund our own activities;
- a collaborator could develop or acquire a product that competes, either directly or indirectly, with our current products or any future products;
- a collaborator with commercialization obligations may not commit sufficient financial or human resources to the marketing, distribution, or sale of a product;
- a collaborator with manufacturing responsibilities may encounter regulatory, resource, or quality issues and be unable to meet demand requirements;
- a collaborator may exercise its rights under the agreement to terminate our collaboration;
- a dispute may arise between us and a collaborator concerning the development and commercialization of a product in development, resulting in a delay in milestones, royalty payments, or termination of a program and possibly resulting in costly litigation or arbitration that may divert management attention and resources;
- a collaborator may not adequately protect the intellectual property rights associated with a product or product in development; and
- a collaborator may use our proprietary information or intellectual property in such a way as to expose us to litigation from a third party.

If our collaborators do not perform in the manner we expect or fulfill their responsibilities in a timely manner, or at all, the development, regulatory, and commercialization process could be delayed, terminated, or otherwise unsuccessful. Conflicts between us and our collaborators may arise. In the event of termination of one or more of our collaboration agreements, it may become necessary for us to assume the responsibility for any terminated products or products in development at our own expense or seek new collaborators. In that event, we likely would be required to limit the size and scope of one or more of our independent programs or increase our expenditures and seek additional funding, which may not be available on acceptable terms or at all, and our business may be materially and adversely affected.

Our joint venture agreements could present a number of challenges that may have a material adverse effect on our business, financial condition, and results of operations.

We currently participate in two joint ventures, Limagrain Cereal Seeds LLC, which focuses on the development and commercialization of improved wheat seeds, and Verdeca LLC, which focuses on the development and deregulation of soybean traits, and we may enter into additional joint ventures in the future. Our joint venture arrangements may present financial, managerial, and operational challenges, including potential disputes, liabilities, or contingencies and may involve risks not otherwise present when operating independently, including:

- our joint venture partners may have business interests, goals, or cultures that are or become inconsistent with our business interests, goals, or culture;
- our joint venture partners may share certain approval rights, or in some cases, as with Limagrain Cereal Seeds LLC, have control over major decisions;
- our joint venture partners may not pay their share of the joint venture's obligations, potentially leaving us liable for their share of such obligations, or we may be unable to pay our share of the joint venture's obligations, which may result in a reduction of our ownership interest;
- we may incur liabilities or losses as a result of an action taken by the joint venture or our joint venture partners;
- our joint venture partners may take action contrary to our instructions, requests, policies, or objectives, which could reduce our return on investment, harm our reputation, or restrict our ability to run our business; and
- disputes between us and our joint venture partners may result in delays, litigation, or operational impasses.

The risks described above or the failure to continue any joint venture or joint development arrangement or to resolve disagreements with our current or future joint venture partners could materially and adversely affect our ability to transact the business that is the subject of such joint venture, which would in turn negatively affect our financial condition and results of operations.

We and our collaborators may disagree over our right to receive payments under our collaboration agreements, potentially resulting in costly litigation and loss of reputation.

Our ability to receive payments under our collaboration agreements depends on our ability to clearly delineate our rights under those agreements. We typically license our intellectual property to our collaborators, who then develop and commercialize seeds with improved traits. However, a collaborator may use our intellectual property without our permission, dispute our ownership of certain intellectual property rights, or argue that our intellectual property does not cover, or add value to, their marketed product. If a dispute arises, it may result in costly patent office procedures and litigation, and our collaborator may refuse to pay us while the dispute is ongoing. Furthermore, regardless of any resort to

legal action, a dispute with a collaborator over intellectual property rights may damage our relationship with that collaborator and may also harm our reputation in the industry.

Even if we are entitled to payments from our collaborators, we may not actually receive these payments, or we may experience difficulties in collecting the payments to which we believe we are entitled. After our collaborators launch commercial products containing our licensed traits, we will need to rely on the good faith of our collaborators to report to us the sales they earn from these products and to accurately calculate the payments we are entitled to, a process that will involve complicated and difficult calculations. Although we seek to address these concerns in our collaboration agreements by reserving our right to audit financial records, such provisions may not be effective.

Our business is subject to various government regulations and if we or our collaborators are unable to timely complete the regulatory process for our products in development, our or our collaborators' ability to market our traits could be delayed, prevented or limited.

Our business is generally subject to two types of regulations: regulations that apply to how we and our collaborators operate and regulations that apply to products containing our traits. We apply for and maintain the regulatory permits necessary for our operations, particularly those covering our field trials, while we or our collaborators apply for and maintain regulatory approvals necessary for the commercialization of products containing our seed traits. The large-scale field trials that our collaborators conduct during advanced stages of product development are subject to regulations similar to those to which we are subject. Pursuant to our collaboration agreements, our collaborators also apply for the requisite regulatory approvals prior to commercialization of products containing our traits. In most of our key target markets, regulatory approvals must be received prior to the importation of genetically modified products. These regulatory processes may be complex; for example, the U.S. federal government's regulation of biotechnology is divided among the EPA, which regulates activity related to the use of plant pesticides and herbicides, the USDA, which regulates the import, field testing, and interstate movement of specific technologies that may be used in the creation of genetically modified plants, and the FDA, which regulates foods derived from new plant varieties. In addition to regulation by the U.S. government, products containing our biotech traits may be subject to regulation in each country in which such products are tested or sold. International regulations may vary from country to country and from those of the United States. The difference in regulations under U.S. law and the laws of foreign countries may be significant and, in order to comply with the laws of foreign countries, we may have to implement global changes to our products or business practices. Such changes may result in additional expense to us and either reduce or delay product development or sales. Additionally, we or our collaborators may be required to obtain certifications or approvals by foreign governments to test and sell the products in foreign countries.

The regulatory process is expensive and time-consuming, and the time required to complete the process is difficult to predict and depends upon numerous factors, including the substantial discretion of the regulatory authorities. Other than our Sonova products, neither we nor our collaborators have completed the regulatory process for any of our products in development. Our traits could require a significantly longer time to complete the regulatory process than expected, or may never gain approval, even if we and our collaborators expend substantial time and resources seeking such approval. A delay or denial of regulatory approval could delay or prevent our ability to generate revenues and to achieve profitability. For example, we are currently awaiting completion of the regulatory process for one of our Sonova products to be used in pet food, which has taken longer than expected. Changes in regulatory review policies during the development period of any of our traits, changes in, or the enactment of, additional regulations or statutes, or changes in regulatory review practices for a submitted product application may cause a delay in obtaining approval or result in the rejection of an application for regulatory approval. Regulatory approval, if obtained, may be made subject to limitations on the indicated uses for which we or our collaborators may market a product. These limitations could

adversely affect our potential revenues. Failure to comply with applicable regulatory requirements may, among other things, result in fines, suspensions of regulatory approvals, product recalls, product seizures, operating restrictions, and criminal prosecution. We have on certain occasions notified the USDA of instances of noncompliance with regulations. Although these occasions did not result in any enforcement actions, we may have occasions of noncompliance in the future that result in USDA or other governmental agency enforcement action.

Consumer resistance to genetically modified organisms may negatively affect our public image and reduce sales of seeds containing our traits.

We are active in the field of agricultural biotechnology research and development in seeds and crop protection, including GM seeds. Foods made from such seeds are not accepted by many consumers due to concerns over such products' effects on food safety and the environment. The high public profile of biotechnology in food production and lack of consumer acceptance of products to which we have devoted substantial resources could negatively affect our public image and results of operations. The current resistance from consumer groups, particularly in Europe, to GM crops not only limits our access to such markets but also has the potential to spread to and influence the acceptance of products developed through biotechnology in other regions of the world. For example, in the United States, organizations have advocated for the labeling of food products containing GM ingredients, three states (Connecticut, Maine, and Vermont) have passed GM labeling legislation, and more than 20 states introduced legislation or ballot initiatives in 2014 that would require GM labeling. These labeling-related initiatives have heightened consumer awareness of GM crops generally and may make consumers less likely to purchase food products containing GM ingredients, which could have a negative impact on the commercial success of products that incorporate our traits and materially and adversely affect our financial condition and results of operations.

Governmental restrictions on the production of GM crops may negatively affect our business and results of operations.

The production of certain GM crops is effectively prohibited in certain countries, including throughout the European Union, which limits our commercial opportunities and may influence regulators in other countries to limit or ban production of GM crops. Our GM crops are grown principally in North America, South America, and Australia, where there are fewer restrictions on the production of GM crops. If these or other countries where our GM crops are grown enact laws or regulations that ban the production of such crops or make regulations more stringent, we could experience a longer product development cycle for our products, encounter difficulty obtaining intellectual property protection, and may even have to abandon projects related to certain crops or geographies, any of which would negatively affect our business and results of operations. Furthermore, any changes in such laws and regulations or consumer acceptance of our GM crops could negatively impact our collaborators, who in turn might terminate or reduce the scope of their collaborations with us or seek to alter the financial terms of our agreements with them.

Changes in laws and regulations to which we are subject, or to which we may become subject in the future, may materially increase our costs of operation, decrease our operating revenues, and disrupt our business.

Laws and regulatory standards and procedures that impact our business are continuously changing. Responding to these changes and meeting existing and new requirements may be costly and burdensome. Changes in laws and regulations could:

- impair or eliminate our ability, or increase our cost, to develop our traits, including validating our products in development through field trials;

- increase our compliance and other costs of doing business through increases in the cost to patent or otherwise protect our intellectual property or increases in the cost to our collaborators to complete the regulatory process to commercialize and market the products we develop with them;
- render any products less profitable, obsolete, or less attractive compared to competing products;
- affect our collaborators' willingness to do business with us;
- reduce the amount of revenues we receive from our collaborators; and
- discourage our collaborators from offering, and consumers from purchasing, products that incorporate our traits.

Any of these events could have a material adverse effect on our business, results of operations, and financial condition. Legislators and regulators have increased their focus on plant biotechnology in recent years, with particular attention paid to GM crops.

Our future growth relies on the ability of our collaborators to commercialize and market our products in development, and any restrictions on such activities could materially and adversely impact our business and results of operations. Any changes in regulations in countries where GM crops are grown or imported could result in our collaborators being unable or unwilling to develop, commercialize, or sell products that incorporate our traits. Any changes to these existing laws and regulations may also materially increase our costs of operation, decrease our operating revenues, and disrupt our business. See "Business—Regulatory Matters."

The unintended presence of our traits in other products or plants may negatively affect us.

Trace amounts of our traits may unintentionally be found outside our containment area in the products of third parties, which may result in negative publicity and claims of liability brought by such third parties against us. Furthermore, in the event of an unintended dissemination of our genetically engineered materials to the environment or the presence of unintended but unavoidable trace amounts, sometimes called "adventitious presence," of our traits in conventional seed, or in the grain or products produced from conventional or organic crops, we could be subject to claims by multiple parties, including environmental advocacy groups, as well as governmental actions such as mandated crop destruction, product recalls, or additional stewardship practices and environmental cleanup or monitoring.

Loss of or damage to our germplasm collection would significantly slow our product development efforts.

We have developed and maintain a comprehensive collection of germplasm through strategic collaborations with leading institutions, which we utilize in our non-GM programs. Germplasm comprises collections of genetic resources covering the diversity of a crop, the attributes of which are inherited from generation to generation. Germplasm is a key strategic asset since it forms the basis of seed development programs. To the extent that we lose access to such germplasm because of the termination or breach of our collaboration agreements, our product development capabilities would be severely limited. In addition, loss of or damage to these germplasm collections would significantly impair our research and development activities. Although we restrict access to our germplasm at our research facilities to protect this valuable resource, we cannot guarantee that our efforts to protect our germplasm collection will be successful. The destruction or theft of a significant portion of our germplasm collection would adversely affect our business and results of operations.

We depend on our key personnel and, if we are not able to attract and retain qualified scientific and business personnel, we may not be able to grow our business or develop and commercialize our products.

We depend heavily on the skills, expertise and legacy knowledge of principal members of our management, including Eric J. Rey, our President and Chief Executive Officer, and Vic C. Knauf, our Chief Scientific Officer, the loss of whose services might significantly delay or prevent the achievement of our scientific or business objectives.

Additionally, the vast majority of our workforce is involved in research, development, and regulatory activities. Our business is therefore dependent on our ability to recruit and maintain a highly skilled and educated workforce with expertise in a range of disciplines, including molecular biology, biochemistry, plant genetics, agronomics, mathematics, agribusiness, and other subjects relevant to our operations. All of our current employees are at-will employees, and the failure to retain or hire skilled and highly educated personnel could limit our growth and hinder our research and development efforts.

Many of our employees have become or will soon become vested in a substantial number of stock options. Our employees may be more likely to leave us if the shares they own or the shares underlying their vested options have significantly appreciated in value relative to the original purchase prices of the shares or the exercise prices of the options. Further, our employees' ability to exercise those options and sell their stock in a public market after the closing of this offering may result in a higher than normal turnover rate.

Our development activities are currently conducted at a limited number of locations, which makes us susceptible to damage or business disruptions caused by natural disasters.

Our headquarters, certain research and development operations and our seed storage warehouse are located in Davis, California. We also conduct certain research and development operations and store certain biomaterials in Seattle, Washington. The safflower grain used in the production of our Sonova products is grown in several locations throughout Idaho and is stored in a single facility in Idaho. Our production of our Sonova products takes place at a single facility in Northern California, and the inventory is stored in a single cold storage facility in Northern California. We take precautions to safeguard our facilities, including insurance, health and safety protocols, and off-site storage of critical research results and computer data. However, a natural disaster, such as a fire, flood, or earthquake, could cause substantial delays in our operations, damage or destroy our equipment, inventory, or development projects, and cause us to incur additional expenses. The insurance we maintain against natural disasters may not be adequate to cover our losses in any particular case.

Interruptions in the production or transportation of raw materials used in our Sonova products could adversely affect our operations and profitability.

The production of our Sonova products requires that sufficient quantities of certain raw materials, including our GLA safflower grain grown in Idaho, be timely delivered to our service provider's production facility in Northern California. Our dependency upon timely deliveries means that interruptions or stoppages in such deliveries, or delays or limitations with respect to the production of such raw materials, could adversely affect our operations until alternative arrangements could be made. If we were unable to obtain the necessary raw materials for an extended period of time for any reason, our business, customer relations, and operating results could suffer.

Disruption to our IT system could adversely affect our reputation and have a material adverse effect on our business and results of operations.

Our technologies rely on our IT system to collect and analyze our genomic data, including TILLING and other experimental data, and manage our plant inventory system, which tracks every plant that we have ever produced. We can provide no assurance that our current IT system is fully

protected against third-party intrusions, viruses, hacker attacks, information, or data theft, or other similar threats. Furthermore, we store significant amounts of data and, though we are developing back-up storage for our stored data, we can not assure you that our back-up storage arrangements will be effective if it becomes necessary to rely on them.

If our IT system does not function properly or proves incompatible with new technologies, we could experience interruptions in data transmissions and slow response times, preventing us from completing routine research and business activities. Furthermore, disruption or failure of our IT system due to technical reasons, natural disaster, or other unanticipated catastrophic events, including power interruptions, storms, fires, floods, earthquakes, terrorist attacks, and wars could significantly impair our ability to deliver data related to our projects to our collaborators on schedule and materially and adversely affect the outcome of our collaborations, our relationships with our collaborators, our business, and our results of operations.

Our use of hazardous materials exposes us to potential liabilities.

Certain of our operations involve the storage and controlled use of hazardous materials, including herbicides and pesticides. This requires us to conduct our operations in compliance with applicable environmental and safety standards, and we cannot completely eliminate the risk of accidental contamination from hazardous materials. In the event of such contamination, we may be held liable for significant damages or fines, which could have a material adverse effect on our business and operating results.

Most of the licenses we grant to our collaborators to use our proprietary genes in certain crops are exclusive within certain jurisdictions, which limits our licensing opportunities.

Most of the licenses we grant our collaborators to use our proprietary genes in certain crops are exclusive within specified jurisdictions, so long as our collaborators comply with certain diligence requirements. That means that once genes are licensed to a collaborator in a specified crop or crops, we are generally prohibited from licensing those genes to any third party. The limitations imposed by these exclusive licenses could prevent us from expanding our business and increasing our product development initiatives with new collaborators, both of which could adversely affect our business and results of operations.

Our business model for discovery of genes is dependent on licensing patent rights from third parties, and any disruption of this licensing process could adversely affect our competitive position and business prospects.

Our business model involves acquiring technologies that have achieved proof of concept through rigorous development and testing by third-party basic researchers in order to avoid the significant risks and high costs associated with basic research. Only a small number of the genes we evaluate for acquisition are likely to provide viable commercial candidates and an even more limited number, if any, are likely to be commercialized by us or our collaborators. A failure by us to continue identifying genes that improve specific crop traits could make it difficult to grow our business. If we are unable to identify additional genes, we may be unable to develop new traits, which may negatively impact our ability to generate revenues.

If we are unable to enter into licensing arrangements to acquire rights to these potentially viable genes on favorable terms in the future, it may adversely affect our business. In addition, if the owners of the patents we license do not properly maintain or enforce the patents underlying such licenses, our competitive position and business prospects could be harmed. Without protection for the intellectual property we license, other companies might be able to offer substantially similar or identical products for sale, which could adversely affect our competitive business position and harm our business prospects.

If we fail to comply with our obligations under license agreements, our counterparties may have the right to terminate these agreements, in which event we may not be able to develop, manufacture, register, or market, or may be forced to cease developing, manufacturing, registering, or marketing, any product that is covered by these agreements or may face other penalties under such agreements. Such an occurrence could materially adversely affect the value of the applicable products to us and have an adverse effect on our business and result of operations.

Our success depends on our ability to protect our intellectual property and our proprietary technologies.

Our commercial success depends, in part, on our ability to obtain and maintain patent and trade secret protection for our proprietary technologies, our traits, and their uses, as well as our ability to operate without infringing upon the proprietary rights of others. If we do not adequately protect our intellectual property, competitors may be able to use our technologies and erode or negate any competitive advantage we may have, which could harm our business and ability to achieve profitability.

If we are unable to protect the confidentiality of our trade secrets, the value of our technology could be materially and adversely affected and our business could be harmed.

We treat our proprietary technologies, including unpatented know-how and other proprietary information, as trade secrets. We seek to protect these trade secrets, in part, by entering into non-disclosure and confidentiality agreements with any third parties who have access to them, such as our consultants, independent contractors, advisors, corporate collaborators, and outside scientific collaborators. We also enter into confidentiality and invention or patent assignment agreements with employees and certain consultants. Any party with whom we have executed such an agreement could breach that agreement and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive, and time consuming, and the outcome is unpredictable. In addition, if any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent such third party, or those to whom they communicate such technology or information, from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor, or if we otherwise lose protection for our trade secrets or proprietary know-how, the value of this information may be greatly reduced and our business and competitive position could be harmed.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products in development.

As an agricultural biotechnology company, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents involves technological and legal complexity, and is costly, time consuming, and inherently uncertain. In addition, the U.S. Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents once obtained. Depending on decisions by the U.S. Congress, the federal courts, and the U.S. Patent and Trademark Office, the laws and regulations governing patents could change in unpredictable ways that may weaken or undermine our ability to obtain new patents or to enforce our existing patents and patents we might obtain in the future.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting, maintaining, and defending patents on products in development in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some

countries outside the United States are less extensive than those in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. For example, several countries outside the United States prohibit patents on plants and seeds entirely. In addition, we may at times license third-party technologies for which limited international patent protection exists and for which the time period for filing international patent applications has passed. Consequently, we are unable to prevent third parties from using intellectual property we develop or license in all countries outside the United States, or from selling or importing products made using our intellectual property in and into the jurisdictions in which we do not have patent protection. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products, and we may be unable to prevent such competitors from importing those infringing products into territories where we have patent protection, but where enforcement is not as strong as in the United States. These products may compete with our products in development and our patents and other intellectual property rights may not be effective or sufficient to prevent them from competing in those jurisdictions. Moreover, farmers or others in the chain of commerce may raise legal challenges to our intellectual property rights or may infringe upon our intellectual property rights, including through means that may be difficult to prevent or detect, and local regulators may choose to not enforce our intellectual property rights.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions where we have filed patent applications. The legal systems of certain countries have not historically favored the enforcement of patents or other intellectual property rights, which could hinder us from preventing the infringement of our patents or other intellectual property rights and result in substantial risks to us. Proceedings to enforce our patent rights in the United States or foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert patent infringement or other claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful or even cover our associated legal costs. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license from third parties.

If we or one of our collaborators are sued for infringing the intellectual property rights of a third party, such litigation could be costly and time consuming and could prevent us or our collaborators from developing or commercializing our products.

Our ability to generate significant revenues from our products depends on our and our collaborators' ability to develop, market and sell our products and utilize our proprietary technology without infringing the intellectual property and other rights of any third parties. In the United States and abroad there are numerous third-party patents and patent applications that may be applied toward our proprietary technology, business processes, or developed traits, some of which may be construed as containing claims that cover the subject matter of our products or intellectual property. Because of the rapid pace of technological change, the confidentiality of patent applications in some jurisdictions (including U.S. provisional patent applications), and the fact that patent applications can take many years to issue, there may be currently pending applications that are unknown to us that may later result in issued patents upon which our products in development or proprietary technologies infringe. Similarly, there may be issued patents relevant to our products in development of which we are not aware. These patents could reduce the value of the traits we develop or the genetically modified plants containing our traits or, to the extent they cover key technologies on which we have unknowingly relied, require that we seek to obtain licenses or cease using the technology, no matter how valuable to our business. We may not be able to obtain such a license on commercially reasonable terms. If any third party patent or patent application covers our intellectual property or proprietary rights and we are not

able to obtain a license to it, we and our collaborators may be prevented from commercializing products containing our traits.

As the agricultural biotechnology industry continues to develop, we may become party to, or threatened with, litigation or other adverse proceedings regarding intellectual property or proprietary rights in our technology, processes, or developed traits. Third parties may assert claims based on existing or future intellectual property rights and the outcome of any proceedings is subject to uncertainties that cannot be adequately quantified in advance. Any litigation proceedings could be costly and time consuming, and negative outcomes could result in liability for monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed a patent. There is also no guarantee that we would be able to obtain a license under such infringed intellectual property on commercially reasonable terms or at all. A finding of infringement could prevent us or our collaborators from developing, marketing or selling a product or force us to cease some or all of our business operations. Even if we are successful in these proceedings, we may incur substantial costs and the time and attention of our management and scientific personnel may be diverted as a result of these proceedings, which could have a material adverse effect on us. Claims that we have misappropriated the confidential information or trade secrets of third parties could similarly have a negative impact on our business.

Our results of operations will be affected by the level of royalty payments that we are required to pay to third parties.

We are a party to license agreements that require us to remit royalty payments and other payments related to in-licensed intellectual property. Under our in-license agreements, we may pay up-front fees and milestone payments and be subject to future royalties. We cannot precisely predict the amount, if any, of royalties we will owe in the future, and if our calculations of royalty payments are incorrect, we may owe additional royalties, which could negatively affect our results of operations. As our product sales increase, we may, from time to time, disagree with our third-party collaborators as to the appropriate royalties owed and the resolution of such disputes may be costly and may consume management's time. Furthermore, we may enter into additional license agreements in the future, which may also include royalty, milestone and other payments.

We are subject to governmental export and import controls that could impair our ability to compete in international markets due to licensing requirements and subject us to liability if we are not in compliance with applicable laws.

Our products and products in development are subject to export control and import laws and regulations, including the U.S. Export Administration Regulations, U.S. Customs regulations, and various economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Controls. Exports of our products and technology must be made in compliance with these laws and regulations. If we fail to comply with these laws and regulations, we and certain of our employees could be subject to substantial civil or criminal penalties, including the possible loss of export or import privileges; fines, which may be imposed on us and responsible employees or managers; and, in extreme cases, the incarceration of responsible employees or managers.

In addition, changes in our products or solutions or changes in applicable export or import laws and regulations may create delays in the introduction and sale of our products and solutions in international markets, prevent our customers from deploying our products and solutions or, in some cases, prevent the export or import of our products and solutions to certain countries, governments or persons altogether. Any change in export or import laws and regulations, shift in the enforcement or scope of existing laws and regulations, or change in the countries, governments, persons or technologies targeted by such laws and regulations, could also result in decreased use of our products and solutions, or in our decreased ability to export or sell our products and solutions to existing or potential

customers. Any decreased use of our products and solutions or limitation on our ability to export or sell our products and solutions would likely adversely affect our business, financial condition and results of operations.

We are subject to anti-corruption and anti-money laundering laws with respect to both our domestic and international operations, and non-compliance with such laws can subject us to criminal and civil liability and harm our business.

We are subject to the U.S. Foreign Corrupt Practices Act of 1977, as amended, or the FCPA, the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the USA PATRIOT Act, and possibly other anti-bribery and anti-money laundering laws in countries in which we conduct activities. Anti-corruption laws are interpreted broadly and prohibit us and our collaborators from authorizing, offering, or directly or indirectly providing improper payments or benefits to recipients in the public or private sector. We or our collaborators may have direct and indirect interactions with government agencies and state-affiliated entities and universities in the course of our business. We may also have certain matters come before public international organizations such as the United Nations. We use third-party collaborators, joint venture and strategic partners, law firms, and other representatives for regulatory compliance, patent registration, lobbying, deregulation advocacy, field testing, and other purposes in a variety of countries, including those that are known to present a high corruption risk such as India, China, and Latin American countries. We can be held liable for the corrupt or other illegal activities of these third-party collaborators, our employees, representatives, contractors, partners, and agents, even if we do not explicitly authorize such activities. In addition, although we have implemented policies and procedures to ensure compliance with anti-corruption and related laws, there can be no assurance that all of our employees, representatives, contractors, partners, or agents will comply with these laws at all times. Noncompliance with these laws could subject us to whistleblower complaints, investigations, sanctions, settlements, prosecution, other enforcement actions, disgorgement of profits, significant fines, damages, other civil and criminal penalties or injunctions, suspension and debarment from contracting with certain governments or other persons, the loss of export privileges, reputational harm, adverse media coverage, and other collateral consequences. If any subpoenas or investigations are launched, or governmental or other sanctions are imposed, or if we do not prevail in any possible civil or criminal litigation, our business, results of operations, and financial condition could be materially harmed. In addition, responding to any action will likely result in a materially significant diversion of management's attention and resources and significant defense costs and other professional fees. Enforcement actions and sanctions could further harm our business, results of operations, and financial condition.

We may require additional financing in the future and may not be able to obtain such financing on favorable terms, if at all, which could force us to delay, reduce, or eliminate our research and development activities.

We will continue to need capital to fund our research and development projects and to provide working capital to fund other aspects of our business. If our capital resources are insufficient to meet our capital requirements, we will have to raise additional funds. If future financings involve the issuance of equity securities, our existing stockholders would suffer dilution. If we are able to raise additional debt financing, which will require the consent of our current debt holders, we may be subject to additional restrictive covenants that limit our operating flexibility. We may not be able to raise sufficient additional funds on terms that are favorable to us, if at all. If we fail to raise sufficient funds and continue to incur losses, our ability to fund our operations, take advantage of strategic opportunities, develop and commercialize products or technologies, or otherwise respond to competitive pressures could be significantly limited. If this happens, we may be forced to delay or terminate research and development programs or the commercialization of products or curtail operations. If adequate funds are not available, we will not be able to successfully execute on our business strategy or continue our business.

Adverse outcomes in future legal proceedings could subject us to substantial damages and adversely affect our results of operations and profitability.

We may become party to legal proceedings, including matters involving personnel and employment issues, personal injury, environmental matters, and other proceedings. Some of these potential proceedings could result in substantial damages or payment awards that exceed our insurance coverage. We will estimate our exposure to any future legal proceedings and establish provisions for the estimated liabilities where it is reasonably possible to estimate and where an adverse outcome is probable. Assessing and predicting the outcome of these matters will involve substantial uncertainties. Furthermore, even if the outcome is ultimately in our favor, our costs associated with such litigation may be material. Adverse outcomes in future legal proceedings or the costs and expenses associated therewith could have an adverse effect on our results of operations.

We may be required to pay substantial damages as a result of product liability claims for which insurance coverage is not available.

We are subject to product liability claims with respect to our Sonova products, and as additional products integrating our traits reach commercialization, product liability claims will increasingly be a commercial risk for our business, particularly as we are involved in the supply of biotechnological products, some of which may be harmful to humans and the environment. Product liability claims against us or our collaborators selling products that contain our traits, or allegations of product liability relating to seeds containing traits developed by us, could damage our reputation, harm our relationships with our collaborators, and materially and adversely affect our business, results of operations, financial condition, and prospects. Furthermore, while our collaboration agreements typically require that our collaborators indemnify us for the cost of product liability claims brought against us as a result of our collaborator's misconduct, such indemnification provisions may not always be enforced, and we may receive no indemnification if our own misconduct contributed to the claims.

We may seek to expand through acquisitions of and investments in other brands, businesses, and assets. These acquisition activities may be unsuccessful or divert management's attention.

We may consider strategic and complementary acquisitions of and investments in other agricultural biotechnology brands, businesses or other assets, and such acquisitions or investments are subject to risks that could affect our business, including risks related to:

- the necessity of coordinating geographically disparate organizations;
- implementing common systems and controls;
- integrating personnel with diverse business and cultural backgrounds;
- integrating acquired manufacturing and production facilities, technology and products;
- combining different corporate cultures and legal systems;
- unanticipated expenses related to integration, including technical and operational integration;
- increased costs and unanticipated liabilities, including with respect to registration, environmental, health and safety matters, that may affect sales and operating results;
- retaining key employees;
- obtaining required government and third-party approvals;
- legal limitations in new jurisdictions;
- installing effective internal controls and audit procedures;

- issuing common stock that could dilute the interests of our existing stockholders;
- spending cash and incurring debt;
- assuming contingent liabilities; and
- creating additional expenses.

We may not be able to identify opportunities or complete transactions on commercially reasonable terms, or at all, or actually realize any anticipated benefits from such acquisitions or investments. Similarly, we may not be able to obtain financing for acquisitions or investments on attractive terms. In addition, the success of any acquisitions or investments also will depend, in part, on our ability to integrate the acquisition or investment with our existing operations.

We will incur significantly increased costs and devote substantial management time as a result of operating as a public company.

As a public company, we will incur significant legal, accounting, and other expenses that we did not incur as a private company. For example, we will be subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and will be required to comply with the applicable requirements of the Sarbanes-Oxley Act and the Dodd-Frank Wall Street Reform and Consumer Protection Act, as well as rules and regulations subsequently implemented by the SEC and The NASDAQ Stock Market, including the establishment and maintenance of effective disclosure and financial controls and corporate governance practices. We expect that compliance with these requirements will increase our legal and financial compliance costs and will make some activities more time consuming and costly. In addition, we expect that our management and other personnel will need to divert attention from operational and other business matters to devote substantial time to these public company requirements. In particular, we expect to incur significant expenses and devote substantial management effort toward ensuring compliance with the requirements of Section 404 of the Sarbanes-Oxley Act, which will increase when we are no longer an emerging growth company, as defined by the JOBS Act. We will need to hire additional accounting and financial staff with appropriate public company experience and technical accounting knowledge and may need to establish an internal audit function. We cannot predict or estimate the amount of additional costs we may incur as a result of becoming a public company or the timing of such costs. We also expect that operating as a public company will make it more expensive for us to obtain director and officer liability insurance on the terms that we would like. As a public company, it may be more difficult for us to attract and retain qualified people to serve on our board of directors, our board committees, or as executive officers.

Our ability to use our net operating loss carryforwards to offset future taxable income may be subject to certain limitations.

As of December 31, 2014, we had net operating loss carryforwards, or NOLs, for federal income tax reporting purposes of $98.1 million, which begin to expire in 2020, and state NOLs of $77.2 million, which began expiring in 2015. In general, under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its NOLs to offset future taxable income. Our existing NOLs may be subject to limitations arising from previous ownership changes, and if we undergo an ownership change in connection with or after this offering, our ability to utilize NOLs could be further limited by Section 382 of the Code. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 of the Code. Furthermore, our ability to utilize NOLs of companies that we may acquire in the future may be subject to limitations. There is also a risk that, due to regulatory changes, such as suspensions on the use of NOLs, or other unforeseen reasons, our existing NOLs could expire or otherwise be unavailable to offset future income

tax liabilities. For these reasons, we may not be able to realize a tax benefit from the use of our NOLs, whether or not we obtain profitability.

We expect our operating results to vary significantly from quarter to quarter, which may cause our stock price to fluctuate widely.

We expect our quarterly operating results to fluctuate widely and unpredictably for the following reasons, among others:

- our significant customer concentration;
- our uncertain ability to obtain government grant funding, which affects the timing and amounts of our payments from the U.S. government;
- the greatly varying timing, stage, and results of our and our collaborators' research, development, and regulatory activities;
- the impact of seasonality in agricultural operations on our field trials and sales of products that incorporate our seed traits;
- supplier, manufacturing, or quality problems; and
- variance in the timing of customer and distributor orders for our Sonova products.

Further, a large proportion of our costs are fixed, due in part to our significant research and development costs and general and administrative expenses. Thus, even a small decline in revenues could disproportionately affect our quarterly operating results and could cause such results to differ materially from expectations. Any unanticipated change in revenues or operating results is likely to cause our stock price to fluctuate since such changes reflect new information available to investors and analysts.

The estimates of market opportunity and forecasts of market growth included in this prospectus may prove to be inaccurate, and even if the market in which we compete achieves the forecasted growth, our business could fail to grow at similar rates, if at all.

Market opportunity estimates and growth forecasts are subject to significant uncertainty and are based on assumptions and estimates that may not prove to be accurate. The estimates and forecasts in this prospectus relating to the size and expected growth of the seed and agricultural biotechnology market and the estimated range of incremental value increase that a novel, newly developed trait may produce may prove to be inaccurate. Even if the market in which we compete meets our size estimates and forecasted growth, our business could fail to grow at similar rates, if at all. For more information regarding our estimates of market opportunity, forecasts of market growth, and estimated trait commercial values included in this prospectus, see "Industry Overview."

Risks Related to Our Common Stock and this Offering

An active, liquid and orderly trading market for our common stock may not develop, our stock price may be volatile, and you may be unable to sell your shares at or above the offering price you paid.

Prior to this offering, there has not been a public market for our common stock. We cannot predict the extent to which a trading market will develop or how liquid that market might become. The initial public offering price for our common stock will be determined by negotiations between us and representatives of the underwriters and may not be indicative of prices that will prevail in the trading market after the offering closes. The market price of our common stock could be subject to wide

fluctuations in response to many risk factors listed in this section and others beyond our control, including:

- addition or loss of significant customers, collaborators, or distributors;
- changes in laws or regulations applicable to our industry or traits;
- additions or departures of key personnel;
- the failure of securities analysts to cover our common stock after this offering;
- actual or anticipated changes in expectations regarding our performance by investors or securities analysts;
- price and volume fluctuations in the overall stock market;
- volatility in the market price and trading volume of companies in our industry or companies that investors consider comparable;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;
- our ability to protect our intellectual property and other proprietary rights;
- sales of our common stock by us or our stockholders;
- the expiration of contractual lock-up agreements;
- litigation involving us, our industry, or both;
- major catastrophic events; and
- general economic and market conditions and trends.

Further, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. In addition, the stock prices of many seed and agricultural biotechnology companies have experienced wide fluctuations that have often been unrelated to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political, and market conditions such as recessions, interest rate changes, or international currency fluctuations, may cause the market price of our common stock to decline. If the market price of our common stock after this offering does not exceed the initial public offering price, you may not realize any return on your investment and may lose some or all of your investment.

As a result of becoming a public company, we will be obligated to develop and maintain proper and effective internal control over financial reporting. We may not complete our analysis of our internal control over financial reporting in a timely manner, or these internal controls may not be determined to be effective, which may adversely affect investor confidence in our company and, as a result, the value of our common stock.

Pursuant to Section 404 of the Sarbanes-Oxley Act and the related rules adopted by the SEC and the Public Company Accounting Oversight Board, starting with the second annual report that we file with the SEC after the consummation of this offering, our management will be required to report on the effectiveness of our internal control over financial reporting. In addition, once we no longer qualify as an emerging growth company under the JOBS Act and lose the ability to rely on the exemptions related thereto, our independent registered public accounting firm will also need to attest to the effectiveness of our internal control over financial reporting under Section 404. We have not yet commenced the process of determining whether our existing internal controls over financial reporting systems are compliant with Section 404. This process will require the investment of substantial time and

resources, including by members of our senior management. As a result, this process may divert internal resources and take a significant amount of time and effort to complete. In addition, we cannot predict the outcome of this determination and whether we will need to implement remedial actions in order to implement effective internal control over financial reporting.

In connection with the preparation of our financial statements for the years ended December 31, 2013 and 2014, we identified certain internal control deficiencies that did not rise to the level of a material weakness, on an individual basis or in the aggregate, but which represented significant deficiencies in our internal control over financial reporting. One deficiency related to our information technology access controls and the other related to the timeliness of our accounting and disclosure procedures. We successfully remediated the deficiency relating to the timeliness of our accounting and disclosure procedures during the year ended December 31, 2014, but we can provide no assurance that we will not experience similar control deficiencies in the future. We are currently working to improve our technology access controls and strengthen our internal control environment. As a result, we may experience higher than anticipated operating expenses, as well as higher auditor fees during and after the implementation of these changes. If we are unable to implement any of the required changes to our internal control over financial reporting effectively or efficiently or are required to do so earlier than anticipated, it could adversely affect our operations, financial reporting, and results of operations and could result in an adverse opinion on internal controls from our independent registered public accounting firm.

Our stock price could decline due to the large number of outstanding shares of our common stock eligible for future sale.

Sales of substantial amounts of our common stock in the public market following this offering, or the perception that these sales could occur, could cause the market price of our common stock to decline. These sales could also make it more difficult for us to sell equity or equity-related securities in the future at a time and price that we deem appropriate.

Upon completion of this offering, we will have outstanding shares of common stock based on the number of shares outstanding as of and assuming no exercise of the underwriters' option to purchase additional shares and no exercise of outstanding options after . The shares sold pursuant to this offering will be immediately tradable without restriction, excluding any shares sold under our reserved share program or to our directors or officers, which shares will become saleable beginning 181 days after the date of this prospectus. Of the remaining shares:

- no shares will be eligible for sale immediately upon completion of this offering; and
- shares will become eligible for sale, subject to the provisions of Rule 144 or Rule 701, upon the expiration of agreements not to sell such shares entered into between the underwriters and such stockholders beginning 181 days after the date of this prospectus.

We and all of our directors and officers and substantially all of our security holders have agreed that, subject to certain exceptions, we and they will not, without the prior written consent of Credit Suisse Securities (USA) LLC and J.P. Morgan Securities LLC, on behalf of the underwriters, during the period ending 180 days after the date of this prospectus:

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of our common stock or securities convertible into or exercisable or exchangeable for our common stock; or
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of our common stock;

whether any transaction described above is to be settled by delivery of shares of our common stock or such other securities, in cash or otherwise. See "Underwriting."

Credit Suisse Securities (USA) LLC and J.P. Morgan Securities LLC, on behalf of the underwriters, may, in their sole discretion and at any time, release all or any portion of the securities subject to lock-up agreement. After the closing of this offering, we intend to register approximately shares of common stock that have been reserved for future issuance under our stock incentive plans.

Insiders will continue to have substantial control over us after this offering, which could limit your ability to influence the outcome of key transactions, including a change of control.

Our directors, executive officers and each of our stockholders who own greater than 5% of our outstanding common stock and their affiliates, in the aggregate, will beneficially own approximately % of the outstanding shares of our common stock after this offering. As a result, these stockholders, if acting together, would be able to influence or control matters requiring approval by our stockholders, including the election of directors and the approval of mergers, acquisitions or other extraordinary transactions. They may have interests that differ from yours and may vote in a way with which you disagree and that may be adverse to your interests. This concentration of ownership may have the effect of delaying, preventing or deterring a change of control of our company, could deprive our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our company and might affect the market price of our common stock.

Immediately following this offering, Moral Compass Corporation, our largest stockholder, will beneficially own approximately % of our outstanding common stock assuming no exercise of the underwriters' option to purchase additional shares and approximately % assuming full exercise of the underwriters' option to purchase additional shares, and Moral Compass Corporation and Mandala Capital together will beneficially own approximately % of our outstanding common stock assuming no exercise of the underwriters' option to purchase additional shares and approximately % assuming full exercise of the underwriters' option to purchase additional shares. For so long as Moral Compass Corporation continues to own a significant percentage of our outstanding shares they will be able to significantly influence the composition of our board of directors and the approval of actions requiring stockholder approval. Accordingly, for such period of time, Moral Compass Corporation may be able to exercise control over our management, business plans, and policies, including the appointment and removal of our officers, and may be able to cause or prevent a change of control of our company or a change in the composition of our board of directors and could preclude any unsolicited acquisition of our company. This concentration of ownership could deprive you of an opportunity to receive a premium for your shares as part of a sale of our company and ultimately might affect the market price of our common stock.

Our management will have broad discretion over the use of the proceeds from this offering and may not apply the proceeds of this offering in ways that increase the value of your investment.

Our management will have broad discretion to use the net proceeds we receive from this offering and you will be relying on its judgment regarding the application of these proceeds. We expect to use the net proceeds from this offering as described under the heading "Use of Proceeds." However, management may not apply the net proceeds of this offering in ways that increase the value of your investment.

If you purchase shares of our common stock in this offering, you will experience substantial and immediate dilution.

If you purchase shares of our common stock in this offering, you will experience substantial and immediate dilution of $ per share, because the price that you pay will be substantially greater than the net tangible book value per share of the common stock that you acquire. This dilution is due in large part because our earlier investors paid substantially less than the initial public offering price when they purchased their shares of our capital stock. You will experience additional dilution upon the exercise of options to purchase common stock under our equity incentive plans, if we issue restricted stock to our employees under these plans, or if we otherwise issue additional shares of our common stock. See "Dilution."

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws and under Delaware law might discourage, delay or prevent a change of control of our company or changes in our management and, therefore, depress the trading price of our common stock.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could depress the trading price of our common stock by discouraging, delaying or preventing a change of control of our company or changes in our management that the stockholders of our company may believe advantageous. These provisions include:

- establishing a classified board of directors so that not all members of our board of directors are elected at one time;
- authorizing "blank check" preferred stock that our board of directors could issue to increase the number of outstanding shares to discourage a takeover attempt;
- eliminating the ability of stockholders to call a special stockholder meeting;
- eliminating the ability of stockholders to act by written consent;
- the requirement that, to the fullest extent permitted by law and unless we consent to an alternate form, certain proceedings against or involving us or our directors, officers, or employees be brought exclusively in the Court of Chancery in the State of Delaware;
- providing that the board of directors is expressly authorized to make, alter, or repeal our bylaws; and
- establishing advance notice requirements for nominations for elections to our board of directors or for proposing matters that can be acted upon by stockholders at stockholder meetings.

If securities or industry analysts do not publish or cease publishing research or reports about us, our business, or our market, or if they change their recommendations regarding our stock adversely, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts may publish about us, our business, our market or our competitors. If any of the analysts who may cover us make adverse changes to their recommendation regarding our stock, or provide more favorable relative recommendations about our competitors, our stock price would likely decline. If any analyst who may cover us were to cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

As an emerging growth company within the meaning of the Securities Act, we will utilize certain modified disclosure requirements, and we cannot be certain if these reduced requirements will make our common stock less attractive to investors.

We are an emerging growth company within the meaning of the rules under the Securities Act of 1933, as amended, or the Securities Act. We have in this prospectus utilized, and we plan in future filings with the SEC to continue to utilize, the modified disclosure requirements available to emerging growth companies, including reduced disclosure about our executive compensation and omission of compensation discussion and analysis, and an exemption from the requirement of holding a nonbinding advisory vote on executive compensation. In addition, we will not be subject to certain requirements of Section 404 of the Sarbanes-Oxley Act, including the additional testing of our internal control over financial reporting as may occur when outside auditors attest as to our internal control over financial reporting. As a result, our stockholders may not have access to certain information they may deem important. We cannot predict if investors will find our common stock less attractive because we will rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

We could remain an emerging growth company for up to five years, or until the earliest of (i) the last day of the first fiscal year in which our annual gross revenues exceed $1.0 billion, (ii) the date that we become a large accelerated filer as defined in Rule 12b-2 under the Exchange Act, which would occur if the market value of our common stock that is held by non-affiliates exceeds $700 million as of the last business day of our most recently completed second fiscal quarter, or (iii) the date on which we have issued more than $1.0 billion in non-convertible debt during the preceding three-year period.

Because we do not expect to pay any dividends for the foreseeable future, investors in this offering may be forced to sell their stock to realize a return on their investment.

We do not anticipate that we will pay any dividends to holders of our common stock for the foreseeable future. Any payment of cash dividends will be at the discretion of our board of directors and will depend on, among other things, our results of operations, cash requirements, financial condition, contractual restrictions including compliance with covenants under our debt agreements, and other factors that our board of directors may deem relevant. Our ability to pay dividends might be restricted by the terms of any indebtedness that we incur in the future. In addition, certain of our current outstanding debt agreements prohibit us from paying cash dividends on our common stock. Consequently, you should not rely on dividends to receive a return on your investment. See "Dividend Policy."

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements within the meaning of the federal securities laws, which statements involve substantial risks and uncertainties. Forward-looking statements generally relate to future events, our future financial or operating performance, growth strategies, anticipated trends in our industry, and our potential opportunities, plans, and objectives. In some cases, you can identify forward-looking statements because they contain words such as "may," "will," "should," "expects," "plans," "anticipates," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "potential," or "continue" or the negative of these words or other similar terms or expressions that concern our expectations, strategy, plans, or intentions. Forward-looking statements contained in this prospectus include, but are not limited to, statements about:

- our or our collaborators' ability to develop commercial products that incorporate our traits and complete the regulatory process for such products;
- our ability to earn revenues from the sale of products that incorporate our traits;
- our ability to maintain our strategic collaborations and joint ventures and enter into new arrangements;
- estimated commercial value for traits;
- market conditions for products, including competitive factors and the supply and pricing of competing products;
- compliance with laws and regulations that impact our business, and changes to such laws and regulations;
- our ability to license patent rights from third parties for development as potential traits;
- our ability to maintain, protect, and enhance our intellectual property;
- our future capital requirements and our ability to satisfy our capital needs;
- industry conditions and market conditions; and
- the use of the proceeds from this offering.

We caution you that the foregoing list may not contain all of the forward-looking statements made in this prospectus.

You should not rely upon forward-looking statements as predictions of future events. We have based the forward-looking statements contained in this prospectus primarily on our current expectations and projections about future events and trends that we believe may affect our business, financial condition, results of operations and prospects. The outcome of the events described in these forward-looking statements is subject to risks, uncertainties and other factors described in the section titled "Risk Factors" and elsewhere in this prospectus. Moreover, we operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this prospectus. We cannot assure you that the results, events and circumstances reflected in the forward-looking statements will be achieved or occur, and actual results, events or circumstances could differ materially from those described in the forward-looking statements.

The forward-looking statements made in this prospectus relate only to events as of the date on which the statements are made. We undertake no obligation to update any forward-looking statements made in this prospectus to reflect events or circumstances after the date of this prospectus or to reflect new information or the occurrence of unanticipated events, except as required by law. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures, or investments we may make.

USE OF PROCEEDS

We estimate that we will receive net proceeds from this offering of approximately $ million, or approximately $ million if the underwriters exercise their option in full to purchase additional shares of our common stock, based upon the assumed initial public offering price of $ per share (the midpoint of the estimated offering price range set forth on the cover page of this prospectus), after deducting the estimated underwriting discounts and commissions and expenses of this offering.

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share would increase or decrease the net proceeds that we receive from this offering by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions.

We will have broad discretion over the use of the net proceeds in this offering. As of the date of this prospectus, we cannot specify all of the particular uses for the net proceeds from this offering. We currently intend to use the net proceeds to us from this offering primarily for general corporate purposes, including working capital, capital expenditures, further development and commercialization of our products, and sales and marketing activities. We may also use a portion of the net proceeds to expand our business through investments in or acquisitions of other complementary strategic joint ventures, businesses, products or technologies, including potential investments along with our seed company partners in product development and/or deregulation. We do not have any understandings, commitments, or agreements with respect to any such acquisitions or investments at this time.

We intend to invest the net proceeds in short- and intermediate-term interest-bearing obligations, investment-grade instruments, certificates of deposit or guaranteed obligations of the U.S. government, pending their use as described above.

Some of the other principal purposes of this offering are to create a public market for our common stock and increase our visibility in the marketplace. A public market for our common stock will facilitate future access to public equity markets and enhance our ability to use our common stock as a means of attracting and retaining key employees and as consideration for acquisitions.

DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings for use in the operation of our business and do not anticipate paying any cash dividends in the foreseeable future. Any decision to declare and pay cash dividends in the future will be made at the discretion of our board of directors and will depend on, among other things, our results of operations, cash requirements, financial condition, contractual restrictions including compliance with covenants under our debt agreements, and other factors that our board of directors may deem relevant. Certain of our current outstanding debt agreements prohibit us from paying cash dividends on our common stock.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and capitalization as of December 31, 2014:

- on an actual basis;
- on a pro forma basis to give effect to (i) the automatic conversion of all outstanding shares of our preferred stock into an aggregate of shares of common stock upon the closing of this offering, including the conversion of each share of our existing preferred stock (other than our Series D preferred stock) into one share of common stock and the conversion of all shares of our Series D preferred stock into shares of common stock based on an assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus(1), and (ii) the effectiveness of our amended and restated certificate of incorporation immediately prior to the completion of this offering that, among other things, will increase our authorized number of shares of common stock; and
- on a pro forma as adjusted basis after giving effect to the application of the net proceeds from the sale of shares of common stock in this offering at an assumed public offering price of $ (the midpoint of the estimated offering price range set forth on the cover page of this prospectus).

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(1) The terms of our Series D preferred stock provide that the ratio at which each share of Series D preferred stock will automatically convert into shares of our common stock in connection with this offering is dependent upon the actual initial public offering price of our common stock determined at pricing. Based on the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, the outstanding shares of our Series D preferred stock would convert into an aggregate of shares of our common stock upon the closing of this offering. Each $1.00 increase in the assumed initial public offering price of $ per share would decrease the number of shares of our common stock issuable upon conversion of the outstanding shares of our Series D preferred stock upon the closing of this offering by shares. Each $1.00 decrease in the assumed initial public offering price of $ per share would increase the number of shares of our common stock issuable upon conversion of the outstanding shares of our Series D preferred stock upon the closing of this offering by shares.

You should read this table in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes included elsewhere in this prospectus.

	As of December 31, 2014		
	Actual	Pro Forma	Pro Forma As Adjusted(1)
	(in thousands, except share and per share data)		
Cash and cash equivalents	$ 16,571	$ 16,571	$
Total indebtedness	14,475	14,475	
Redeemable convertible preferred stock, no par value: 10,533,770 shares authorized and 9,822,283 issued and outstanding, actual; no shares authorized, issued and outstanding, pro forma and pro forma as adjusted	34,098	—	
Convertible preferred stock, no par value: 94,586,346 shares authorized, 93,540,163 shares issued and outstanding, actual; no shares authorized, issued and outstanding, pro forma and pro forma as adjusted	48,783	—	
Stockholders' equity (deficit):			
Common stock: no par value, 140,000,000 shares authorized, 8,296,131 shares issued and outstanding, actual; par value per share: $0.001, shares authorized, shares issued and outstanding, pro forma; par value per share: $0.001, shares authorized, shares issued and outstanding, pro forma as adjusted	—	—	
Undesignated preferred stock, $0.001 par value per share: no shares authorized, issued and outstanding, actual and pro forma; shares authorized, no shares issued and outstanding, pro forma as adjusted	—	—	
Additional paid-in capital	29,204	112,085	
Accumulated deficit	(113,970)	(113,970)	
Total stockholders' (deficit) equity	(84,766)	(1,885)	
Total capitalization	$ 12,590	$ 12,590	$

(1) Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the amount of additional paid-in capital, total stockholders' equity and total capitalization by approximately $ million, assuming the number of shares offered by us, as set forth on the cover of this prospectus, remains the same, and after deducting the estimated underwriting discounts and commissions payable by us.

DILUTION

If you invest in our common stock, your interest will be diluted to the extent of the difference between the public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock after this offering. Our pro forma net tangible book value as of December 31, 2014 was $ million, or $ per share of common stock. Pro forma net tangible book value per share represents total tangible assets less total liabilities, divided by the number of shares of common stock outstanding. After giving effect to our sale of our common stock in this offering at the initial public offering price of $ per share, and after deducting underwriting discounts and commissions and our estimated offering expenses, our pro forma as adjusted net tangible book value as of December 31, 2014 would have been $, or $ per share. This represents an immediate increase in net tangible book value of $ per share to our existing stockholders and an immediate dilution of $ per share to new investors purchasing shares of common stock in this offering. The following table illustrates this dilution on a per share basis:

Initial public offering price per share		$
Pro forma net tangible book value per share as of December 31, 2014	$	
Increase in net tangible book value per share attributable to new investors purchasing shares in this offering		
Pro forma net tangible book value per share after giving effect to this offering		
Dilution per share to new investors in this offering		$

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, our pro forma as adjusted net tangible book value by $, or approximately $ per share, and would increase or decrease, as applicable, dilution per share to new investors in this offering by $, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions. In addition, to the extent any outstanding options or warrants are exercised, new investors would experience further dilution.

The following table presents on a pro forma basis, as of December 31, 2014, the differences between the existing stockholders and new investors with respect to the number of shares of common stock purchased from us, the total consideration paid to us and the average price per share paid or to be paid to us at an assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, before deducting estimated underwriting discounts and commissions:

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders		%	$	%	$
New investors					
Total		100.0%	$	100.0%	

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimating offering price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the total consideration paid by new investors and total consideration paid by all stockholders by approximately $ million, assuming that the number

of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions.

Except as otherwise indicated, the above discussion and tables assume no exercise of the underwriters' option to purchase additional shares. If the underwriters exercise their option to purchase additional shares in full, the total consideration paid by new investors and total consideration paid by all stockholders would (decrease) increase by approximately $ and $ per share, respectively, the pro forma as adjusted net tangible book value per share would be $ per share, and the dilution in pro forma as adjusted net tangible book value per share to new investors in this offering would be $ per share. Following such exercise, our existing stockholders would own % and our new investors would own % of the total number of shares of our common stock outstanding upon the closing of this offering.

SELECTED CONSOLIDATED FINANCIAL DATA

The following selected consolidated statements of operations data for the years ended December 31, 2013 and 2014 and the consolidated balance sheet data as of December 31, 2013 and 2014 are derived from our audited consolidated financial statements included elsewhere in this prospectus, and should be read together with our consolidated financial statements, the notes to our consolidated financial statements and "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained elsewhere in this prospectus.

	Year Ended December 31,	
	2013	2014
	(in thousands, except share and per share amounts)	
Revenues:		
Product	$ 1,102	$ 355
License	1,625	2,325
Contract research and government grants	3,751	4,302
Total revenues	6,478	6,982
Operating expenses:		
Cost of product revenues(1)	673	1,997
Research and development(1)	8,404	10,012
Selling, general, and administrative(1)	7,967	10,126
Total operating expenses	17,044	22,135
Loss from operations	(10,566)	(15,153)
Interest expense	(626)	(1,394)
Other income (expense), net	5	(597)
Loss before income taxes and equity in loss of unconsolidated entity	(11,187)	(17,144)
Income tax provision	(167)	(263)
Equity in loss of unconsolidated entity	(1,841)	(932)
Net loss	(13,195)	(18,339)
Accretion of redeemable convertible preferred stock to redemption value	—	(3,738)
Net loss attributable to common stockholders	$ (13,195)	$ (22,077)
Net loss per share attributable to common stockholders, basic and diluted(2)	$ (1.61)	$ (2.68)
Weighted-average number of shares used in per share calculations, basic and diluted(2)	8,213,544	8,245,129
Pro forma net loss per share attributable to common stockholders, basic and diluted(2)		$
Weighted-average number of shares used in pro forma per share calculations, basic and diluted(2)		

(1) Includes stock-based compensation expense as follows:

	Year Ended December 31,	
	2013	2014
	(in thousands)	
Research and development	$ 414	$ 249
Selling, general, and administrative	864	727
Total stock-based compensation	$ 1,278	$ 976

(2) See Note 13 of the notes to our consolidated financial statements for a description of how we compute net loss per share attributable to common stockholders, basic and diluted, and pro forma net loss per share attributable to common stockholders, basic and diluted.

	As of December 31,	
	2013	2014
	(in thousands)	
Consolidated Balance Sheet Data:		
Cash and cash equivalents	$ 2,835	$ 16,571
Working capital (deficit)	(4,977)	7,426
Total assets	9,542	24,889
Total indebtedness	14,492	14,475
Redeemable convertible preferred stock	—	34,098
Convertible preferred stock(1)	—	48,783
Additional paid-in capital	78,334	29,204
Accumulated deficit	(95,631)	(113,970)
Total stockholder's deficit	(17,297)	(84,766)

(1) The carrying value of $48.8 million related to the convertible preferred stock as of December 31, 2013 was included as a component of additional paid-in capital.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and the related notes to those statements included elsewhere in this prospectus. In addition to historical financial information, the following discussion and analysis contains forward-looking statements that involve risks, uncertainties and assumptions. Our actual results and timing of selected events may differ materially from those anticipated in these forward-looking statements as a result of many factors, including those discussed under "Risk Factors" and elsewhere in this prospectus.

Overview

We are a leading agricultural biotechnology trait company with an extensive and diversified portfolio of late-stage yield and product quality traits addressing multiple crops that supply the global food and feed markets. Our traits are focused on high-value enhancements that increase crop yields by enabling plants to more efficiently manage environmental and nutrient stresses, and that enhance the quality and value of agricultural products. Our traits increase value not only for farmers, but also for users of agricultural products. Our target market is the $39.4 billion global seed market. Our goal is to increase the value of this market significantly by increasing yields in the more than $1.0 trillion market for the five largest global crops, and to capture a portion of the increased value. There currently are more than 50 products in development incorporating our traits and there are 13 in advanced stages of development or on the market.

Our crop yield traits are being utilized by our commercial partners to develop higher yielding seeds for the most widely grown global crops, including wheat, rice, soybean, corn, and sugarcane, as well as for other crops such as cotton, canola, turf, and trees. Our business model positions us at the nexus of basic research and commercial product development, as we apply our strong product development and regulatory capabilities to collaborate with, and leverage the skills and investments of, upstream basic research institutions and downstream commercial partners. We believe our approach significantly reduces risk and capital requirements, while simplifying and expediting the product development process. We also believe that our collaboration strategy leverages our internal capabilities, enabling us to capture much higher value than would otherwise be the case, and enabling our commercial partners to develop and commercialize products more cost-effectively.

We were incorporated in 2002 to pursue agricultural-based biotechnology business opportunities that improve the environment and human health, and in 2004, we entered into our first collaboration agreement with a potential commercial partner. In 2009, we completed the U.S. Food and Drug Administration, or FDA, regulatory process for our Sonova brand gamma linolenic acid safflower oil, called Sonova 400 GLA safflower oil, just six years after we first began developing the trait under a research and commercial agreement with Abbott. We introduced this product commercially in late 2010, and in 2014, we introduced Sonova Ultra GLA safflower oil, a more concentrated version of our Sonova 400 GLA safflower oil. We refer to these products as our Sonova products.

We have formed strategic partnerships and developed strong relationships with global agricultural leaders for development and commercialization of our traits in major crops and consumer products. Our collaborators include subsidiaries or affiliates of Limagrain (Vilmorin & Cie), Mahyco (Maharashtra Hybrid Seeds Company Limited), DuPont Pioneer (E.I. du Pont de Nemours and Company), SES Vanderhave, Genective (a joint venture between Limagrain and KWS SAAT), Scotts, U.S. Sugar, Abbott, Ardent Mills, Bioceres, and others. Additionally, in order to increase our participation in the value of two major crops, wheat and soybean, we have formed two joint ventures. Limagrain Cereal Seeds LLC is our joint venture with Limagrain for the development and commercialization of wheat products for North America. Verdeca LLC is our joint venture with

Bioceres for the development and deregulation of soybean traits globally. We intend to enter into future collaboration agreements and joint ventures depending on our assessment of which structure provides the best ratio of risk to investment return.

The process of developing and commercializing innovative traits and seed products requires significant time and investment. Our business model focuses on creating value by leveraging collaborator investments and capabilities upstream in basic research, and downstream in product development and commercialization. We bridge the gap between basic research and commercial development, reducing risk and adding value as a result. We reduce risk and avoid most of the costs associated with basic research by acquiring trait technologies that have already completed initial feasibility screening, thus achieving proof of concept, through basic research carried out elsewhere. We further develop these technologies by optimizing function and validating performance through intensive field trial testing in multiple crops. We then form collaborations with major seed and consumer product companies that develop and commercialize products incorporating our traits. As a result of our expertise and this additional development work, we are positioned to capture significantly greater payments in our downstream license and collaboration agreements than we believe is otherwise typical in our industry.

In certain instances, we may also work to complete the regulatory process to support the commercial launch of products containing our traits. We would do this in order to obtain a greater share of the economics of the commercial product. We intend to pace any regulatory investments so that we only make such investments after the performance risk for the seed trait has been significantly reduced through extensive field testing. We may pursue regulatory investments in these instances if we believe that they will result in a highly positive rate of return due to increased payments from our commercial partners or joint ventures.

Our commercial strategy aims to balance our near-term revenue goals with long-term value capture. Our trait license agreements with our commercial partners contain two main types of financial components:

- A set of pre-commercialization payments from our commercial partners that are linked to their pursuit of technical and regulatory milestones under a well-defined diligence plan. The pre-commercialization payments typically include upfront and annual license fees, as well as multiple payments for key technical and development milestones such as demonstration of greenhouse efficacy, demonstration of field efficacy, regulatory submission, regulatory approval, and commercial launch. Under most of our license agreements, failure of our commercial partners to adhere to the diligence plan may result in a reduction, or elimination, of their license rights. The combination of diligence requirements and milestone payments motivates our commercial partners to develop and commercialize products containing our traits, while providing us with revenue to fund our development programs.

- Once a product containing one or more of our traits is commercialized, we are entitled to receive a portion of the revenue that it generates for our commercial partner. For seeds incorporating valuable traits, farmers typically pay either a premium for the seed or a trait fee. This premium or trait fee represents the additional value generated for our commercial partner by our trait(s), and we receive a percentage of this additional value. Typically, our share of this value ranges from 15 to 20%, and it can increase to a range of 37 to 50% under certain agreements if we elect to co-invest in product development and/or deregulation. We expect that our participation in joint ventures will provide us with an opportunity to recognize additional value from our traits.

While we seek patent protection on our technologies and traits, we have structured our commercial agreements so that we receive our percentage of additional commercial value whether or not patent protection is in effect at any particular time or place. Nearly all of our agreements provide

that access to our traits, and our right to receive a share of commercial value, continue for a set number of years after products containing our traits are commercialized. While the exclusive rights afforded by patents may enable our commercial partners to realize greater commercial value attributable to our traits, our right to receive a portion of that increased commercial value is not dependent on the existence of patent rights in a particular geography.

Most of our agreements include the grant of exclusive rights to a particular trait for use in a particular crop within a defined geography. To date, we have not granted exclusive rights to all of our traits for use in a particular crop to a single partner and, likewise, we have not granted exclusive rights to utilize a particular trait in all crops to a single partner. Our approach to selecting commercial partners involves careful consideration of their market channels and capabilities to ensure that they are well matched to the trait, crop, and geography that form the foundation of our commercial relationship.

The process of discovering, developing, and commercializing a seed trait through either genetic modification or advanced breeding involves multiple phases and takes an average of 13 years from discovery to commercialization. The length of the process may vary depending on both the complexity of the trait and the type of crop involved. This long product development cycle is in large part attributable to the limitations of natural growing seasons and the impact of this on the time it takes to breed commercial seed products. For genetically modified, or GM, seeds, there is also a rigorous and lengthy regulatory process that operates in parallel to the later stages of the seed breeding process.

Since our inception, we have devoted substantially all of our efforts to research and development activities, including the discovery, development, and testing of our traits and products in development incorporating our traits. To date, we have not generated revenues from sales of commercial products, other than limited revenues from our Sonova products, and we do not anticipate generating any revenues from commercial product sales other than from sales of our Sonova products for at least the next three to five years. We do receive revenues from fees associated with the licensing of our traits to commercial partners. Our long-term business plan and growth strategy is based in part on our expectation that revenues from products that incorporate our traits will comprise a significant portion of our future revenues.

We have never been profitable and had an accumulated deficit of $114.0 million as of December 31, 2014. We incurred net losses of $13.2 million and $18.3 million for the years ended December 31, 2013 and 2014, respectively. We expect to incur substantial costs and expenses before we obtain any revenues from the sale of seeds incorporating our traits. As a result, our losses in future periods could become even more significant, and we will need substantial additional funding to support our operating activities.

Components of Our Statements of Operations Data

Revenues

We derive our revenues from product revenues, licensing agreements, contract research agreements, and government grants. We expect that over the next several years, a substantial majority of our revenues will consist of license revenues and contract research and government grant revenues until our product revenues increase with the introduction of our seed trait products to the market, if and when they are commercially available. Further, we expect that our license revenues will vary as we enter into new license agreements and with the timing of milestone payments and recognition of deferred upfront license fees under existing license agreements.

Product Revenues

Our product revenues to date have consisted solely of sales of our Sonova products. We generally recognize revenue from product sales upon delivery to our third-party distributors or customers. Our revenues will fluctuate depending on the timing of orders from our customers and distributors. Because some of our large customers and distributors order in bulk only one or two times a year, our product revenues may fluctuate significantly from period to period.

License Revenues

Our license revenues consist of up-front, nonrefundable license fees, annual license fees, and subsequent milestone payments that we receive under our research and license agreements. We generally recognize nonrefundable up-front license fees and guaranteed, time-based payments as revenue proportionally over the expected development period. We recognize annual license fees proportionally over the related term subject to cancellation provisions.

We recognize milestone payments as revenue when the related performance criteria are achieved. Milestones typically consist of significant stages of development for our traits in a potential commercial product, such as achievement of specific technological targets, completion of field trials, filing with regulatory agencies, completion of the regulatory process, and commercial launch of a product containing our traits. Given the seasonality of agriculture and time required to progress from one milestone to the next, achievement of milestones is inherently uneven, and our license revenues are likely to fluctuate significantly from period to period.

Contract Research and Government Grant Revenues

Contract research revenues consist of amounts earned from performing contracted research primarily related to breeding programs or the genetic engineering of plants for third parties. We generally recognize revenue as these services are provided. In addition, we are entitled to receive a portion of the revenues generated from sales of products that incorporate our seed traits. Products expected to result from such contract research are in various stages of the product development cycle and we do not expect to generate any revenues from the sale of any such products for at least the next three to five years.

We receive payments from government entities in the form of government grants. Government grant revenues are recognized as eligible research and development expenses are incurred. Our obligation with respect to these agreements is to perform the research on a best-efforts basis.

Operating Expenses

Cost of Product Revenues

Cost of product revenues relates to sale of our Sonova products and consists of in-licensing and royalty fees as well as the cost of raw materials, including inventory and third-party services costs related to procuring, processing, formulating, packaging, and shipping our Sonova products.

Research and Development Expenses

Research and development expenses consist of costs incurred in the discovery, development, and testing of our products and products in development incorporating our traits. These expenses consist primarily of employee salaries and benefits, fees paid to subcontracted research providers, fees associated with in-licensing technology, land leased for field trials, chemicals and supplies, and other external expenses. These costs are expensed as incurred. Additionally, we are required from time to time to make certain milestone payments in connection with the development of technologies in-licensed from third parties. We expense these milestone payments at the time the milestone is

achieved and deemed payable. We expect our research and development expenses to increase on an absolute dollar basis for the foreseeable future, although our research and development expenses may increase significantly if we choose to accelerate certain research and development programs or if we elect to take a greater role in the regulatory and commercialization process with respect to one or more of our seed traits or products in development incorporating our seed traits. Our research and development expenses may also fluctuate from period to period as a result of the timing of various research and development projects.

Selling, General, and Administrative Expenses

Selling, general, and administrative expenses consist primarily of employee costs, professional service fees, and overhead costs. In addition, in the first half of 2014, we also incurred costs of $2.1 million paid to an advisor related to our financing efforts that ultimately resulted in the issuance of our Series D preferred stock. Notwithstanding these costs of $2.1 million, we expect our selling, general, and administrative expenses to increase substantially for the foreseeable future as we begin to operate as a public company after the completion of this offering, although our selling, general, and administrative expenses may fluctuate from period to period.

Interest Expense

Interest expense consists of interest costs related to our outstanding borrowings of promissory notes and convertible promissory notes payable to related and non-related parties.

Other Income (Expense), Net

Other income (expense), net, consists of changes in the fair value of our derivative liabilities related to our convertible promissory notes, gains or losses from the sale or retirement of property and equipment, and interest income on our cash and cash equivalents.

Equity in Loss of Unconsolidated Entity

We use the equity method to account for our investment in Limagrain Cereal Seeds LLC, or LCS, a joint venture we formed with an affiliate of Limagrain and in which we hold a 35% interest. We account for LCS as an unconsolidated entity, as we exercise significant influence but do not have a controlling interest.

Income Tax Provision

Our income tax provision has not been historically significant, as we have incurred losses since our inception. As of December 31, 2014, we had federal and state net operating loss carryforwards of $98.1 million and $77.2 million, respectively, for which we have provided a full valuation allowance, as it is more likely that we will not realize the benefit of such net operating losses. The federal net operating loss carryforwards expire at various dates beginning in 2020 and the state net operating loss carryforwards expire at various dates beginning in 2015.

Results of Operations

Comparison of the Years Ended December 31, 2013 and 2014

	Year Ended December 31,	
	2013	2014
	(in thousands)	
Revenues:		
Product	$ 1,102	$ 355
License	1,625	2,325
Contract research and government grants	3,751	4,302
Total revenues	6,478	6,982
Operating expenses:		
Cost of product revenues	673	1,997
Research and development	8,404	10,012
Selling, general and administrative	7,967	10,126
Total operating expenses	17,044	22,135
Loss from operations	(10,566)	(15,153)
Interest expense	(626)	(1,394)
Other income (expense), net	5	(597)
Loss before income taxes	(11,187)	(17,144)
Income tax provision	(167)	(263)
Equity in loss of unconsolidated entity	(1,841)	(932)
Net loss	$ (13,195)	$ (18,339)
Accretion of redeemable convertible preferred stock to redemption value	—	(3,738)
Net loss attributable to common stockholders	$ (13,195)	$ (22,077)

Revenues

Product revenues accounted for 17% and 5% of our total revenues for the years ended December 31, 2013 and 2014, respectively. Our product revenues from sales of our Sonova products decreased by $0.7 million, or 68%, in 2014 compared to 2013. The decrease in product revenues was primarily due to the timing of large orders, as there were no bulk orders for our Sonova products from distributors during 2014. The timing for bulk orders fluctuates greatly as distributors tend to order large quantities on an infrequent basis.

License revenues accounted for 25% and 33% of our total revenues for the years ended December 31, 2013 and 2014, respectively. Our license revenues increased by $0.7 million, or 43%, in 2014 compared to 2013. The increase in license revenues was primarily attributable to the timing of recognition of deferred upfront license fees.

Contract research and government grant revenues comprise a significant portion of our total revenues, accounting for 58% and 62% of our total revenues for the years ended December 31, 2013 and 2014, respectively. Our contract research and government grant revenues increased by $0.6 million, or 15%, in 2014 compared to 2013. The increase was primarily driven by increased revenues associated with new grants obtained in the second half of 2013 and recognized as revenue in 2014, as well as increased activity under existing grants.

Revenues from Mahyco accounted for 23% and 29% of our total revenues for 2013 and 2014, respectively. Revenues from the U.S. Agency for International Development accounted for 26% and 36% of our total revenues for 2013 and 2014, respectively.

Cost of Product Revenues

Cost of product revenues increased by $1.3 million, or 197%, in 2014 compared to 2013 due to a $1.7 million reserve for inventory recorded in the 2014. This reserve is primarily a result of changes in conditions of specific customers and regulatory delays related to the use of our Sonova products by certain new industries. The remaining decrease in the cost of product revenues is consistent with the decrease in product revenues.

Research and Development

Research and development expenses increased by $1.6 million, or 19%, in 2014 compared to 2013. The increase was primarily driven by an expense of $1.5 million recorded in 2014 relating to the September 2014 amendment of our Bioceres funding agreement pursuant to which we surrendered shares of Bioceres in exchange for a reduction of the annual commitment amount for 2014 and elimination of the 2015 commitment amount, as well as increased subcontracted services under various new and existing grants.

Selling, General, and Administrative

Selling, general, and administrative expenses increased by $2.2 million, or 27%, in 2014 compared to 2013. The increase was primarily due to costs of $2.1 million paid to an advisor upon the closing of our Series D preferred stock financing in 2014.

Interest Expense

Interest expense was $1.4 million for 2014, an increase of $0.8 million compared to $0.6 million for 2013. The increase was primarily due to interest expense related to debt issued to fund our operations, including our issuance of $3.6 million of promissory notes and $5.0 million of convertible promissory notes in the second half of 2013.

Other Income (Expense), Net

Other income (expense), net for 2014 primarily consisted of the increase in fair value of the derivative liabilities related to our convertible promissory notes that we entered into in the second half of 2013.

Accretion of Redeemable Convertible Preferred Stock to Redemption Value

Accretion of redeemable convertible preferred stock to redemption value was $3.7 million in 2014 as a result of our issuance of Series D preferred stock in the first half of 2014.

Seasonality

We and our commercial partners operate in different geographies around the world and conduct field trials that are used for data generation, which must be conducted during the appropriate growing seasons of particular crops and markets. Often, there is only one crop-growing season per year for certain crops and markets. Similarly, climate conditions and other variables on which sales of our products are dependent may vary from season to season and year to year. In particular, weather conditions, including natural disasters such as heavy rains, hurricanes, hail, floods, tornadoes, freezing conditions, drought, or fire, may affect the timing and outcome of field trials, which may delay milestone payments and the commercialization of products incorporating our seed traits. In the future, sales of commercial products that incorporate our seed traits will vary based on crop growing seasons and weather patterns in particular regions.

The level of seasonality in our business overall is difficult to evaluate at this time due to our relatively early stage of development, our relatively limited number of commercialized products, our expansion into new geographical markets, and our introduction of new products and traits.

Liquidity and Capital Resources

Since our inception, we have funded our operations primarily with the net proceeds from private placements of equity and debt securities, as well as proceeds from the sale of our Sonova products and payments under license agreements, contract research agreements, and government grants. Our principal use of cash is to fund our operations, which are primarily focused on progressing our agricultural yield and product quality seed traits through the regulatory process and to commercialization. This includes conducting replicated field trials, coordinating with our partners on their development programs, and collecting, analyzing, and submitting field trial data to regulatory authorities. As of December 31, 2014, we had cash and cash equivalents of $16.6 million. We expect to incur additional losses related to the continued development and expansion of our business, including research and development, seed production and operations, and sales and marketing. We cannot assure you that we will ever achieve profitability or, if we do, that we will be able to sustain it.

We do not currently expect to generate significant revenues from sales of our seed trait products under development for at least the next several years. We expect that research and development expenses will continue to constitute a significant portion of our operating expenses in the future, with the timing and magnitude of expenditures varying depending on the timing of various research and development projects. For example, as additional products in development incorporating our traits reach Phase 3 or later in the development process, we expect that the relative share of research and development expenses devoted to the regulatory process will increase. In addition, we can elect to increase our participation in, as well as our cost share of, the regulatory process in order to obtain a greater share of the economics of the commercial product. We may also use a portion of the proceeds from this offering to expand our pipeline of seed traits in development.

We believe that the proceeds from this offering, together with our existing cash and future license and product revenues, including milestone revenues, will be sufficient to fund our operations through the commercialization of our initial products incorporating our next generation seed traits. We may consider entering into additional partner arrangements, seek further contract research revenues, pursue additional government grants, institute cost cutting measures, extend the maturity debt on existing debt, incur additional debt, or sell additional equity. We are currently in the process of exploring financing with various lenders. Our incurrence of additional debt would result in debt service obligations and the instruments governing our debt could provide for operating and financing covenants that would restrict our operations. The sale of additional equity would result in dilution to our existing stockholders. If we are not able to secure adequate additional funding, we may be forced to reduce our spending, extend payment terms with our suppliers, liquidate assets, or suspend or curtail planned development programs. Any of these actions could harm our business, results of operations, and financial condition.

Term Note, Related Party

In July 2012, we entered into a 36-month unsecured term note with Moral Compass Corporation, our controlling stockholder, in the amount of $8.0 million. The interest rate on the loan was prime plus 2%, with interest paid monthly in arrears, and the principal was due in full at maturity in July 2015. In November 2014, we amended this note to change the maturity date to the first to occur of (i) April 1, 2016, (ii) the date of an event of default, or (iii) a date designated by Moral Compass Corporation no earlier than the 20th day following our completion of an equity financing with gross proceeds to us of at least $50.0 million. In addition, the interest rate on the term loan remained at prime plus 2% through December 31, 2014, after which the rate increased to 11% per annum until maturity.

Promissory Notes

We entered into promissory notes in August 2013 and November 2013 in the amounts of $2.0 million and $1.1 million, respectively. The interest rate on the notes is fixed at 10% with principal and interest due in 36 equal monthly installments over the course of the three-year terms. Monthly principal and interest on the $2.0 million note is $65,000 and the three-year term ends in August 2016. Monthly principal and interest on the $1.1 million note is $35,000 and the three-year term ends in November 2016.

Convertible Promissory Notes

In September 2013, we entered into a note and warrant purchase agreement in the amount of $5.0 million with an affiliate of Mahyco, one of our commercial partners with which we have several research and license agreements. We issued a convertible promissory note under this agreement in exchange for $500,000 in September 2013 and issued a second convertible promissory note in exchange for $4.5 million in December 2013. The interest rate on the notes is prime plus 2%, compounded monthly over the course of the five-year terms ending in September and December 2018, respectively. At any time during the term, Mahyco may convert all or part of the aggregate outstanding balance of the notes (including principal and accrued but unpaid interest) into shares of our common stock at $4.13 per share. Mahyco has the right, at its option, to place another $5.0 million of convertible debt with us during the five-year term. Mahyco, at its option, may offset future fee payments to us due under any license agreements or contract research and development agreements with us against the outstanding balance of the note, including principal and accrued but unpaid interest. With the exception of such offset payments, no principal or interest is due until the end of the term. Under this note and warrant purchase agreement, we also issued Mahyco warrants to purchase 302,665 shares of our common stock at an exercise price of $4.13 per share. The warrants were issued in December 2013, vested immediately, and remain exercisable throughout the five-year term.

Cash Flows

The following table summarizes our cash flows for the periods indicated (in thousands):

	Year Ended December 31,	
	2013	2014
Net cash provided by (used in):		
Operating activities	$ (9,745)	$ (14,787)
Investing activities	(600)	(1,591)
Financing activities	7,830	30,114
Net (decrease) increase in cash and cash equivalents	$ (2,515)	$ 13,736

Cash Flows from Operating Activities

Cash used in operating activities for the year ended December 31, 2014 was $14.8 million. Our net loss of $18.3 million and decrease in net operating assets of $1.3 million were partly offset by non-cash charges of $1.5 million relating to the amendment of our Bioceres funding agreement, $0.9 million for equity in loss of unconsolidated entity, $1.0 million for stock-based compensation, $0.5 million for accretion of debt discount, $0.6 million change in fair value of derivative liabilities, and $0.4 million for depreciation and amortization.

Cash used in operating activities for the year ended December 31, 2013 was $9.7 million. Our net loss of $13.2 million and decrease in net operating assets of $0.1 million were partly offset by non-cash charges of $1.8 million for equity in loss of unconsolidated entity, $1.3 million for stock-based compensation, and $0.4 million for depreciation and amortization.

Cash Flows from Investing Activities

Cash used in investing activities for the year ended December 31, 2014 of $1.6 million consisted primarily of our investment in Bioceres in accordance with our agreements concerning Verdeca.

Cash used in investing activities for the year ended December 31, 2013 of $0.6 million consisted of our $0.5 million investment in Bioceres and $0.1 million in purchases of property and equipment.

Cash Flows from Financing Activities

Cash from financing activities for the year ended December 31, 2014 of $30.1 million was related to the $32.8 million of net proceeds from our issuance of Series D preferred stock in the first half of 2014 and offset by $2.7 million of payments on notes payable, convertible promissory notes, and deferred offering costs.

Cash from financing activities for the year ended December 31, 2013 of $7.8 million was primarily related to the proceeds from our issuance of notes payable, promissory notes, and convertible promissory notes and related common stock warrants issued to Mahyco of $8.6 million and offset by $0.7 million of our payments on notes payable and convertible promissory notes.

Contractual Obligations and Other Commitments

Our future contractual obligations at December 31, 2014 were as follows (in thousands):

	Payments Due by Period(2)(3)				
	Less than 1 year	1 to 3 Years	3 to 5 Years	More than 5 years	Total
Non-cancelable operating leases	$ 623	$ 231	$ —	$ —	$ 854
Notes payable due to a related party(1)	841	8,219	—	—	9,060
Promissory notes payable(1)	1,196	902	—	—	2,098
Convertible promissory notes payable(1)	274	593	5,169	—	6,036
Total contractual obligations	$ 2,934	$ 9,945	$ 5,169	$ —	$ 18,048

(1) Amounts include scheduled interest on our outstanding borrowings.

(2) Does not include any amounts related to contract research or other agreements with unrelated parties that require us to pay certain funding commitments, as these agreements are cancelable by us.

(3) Does not include any payments we may have to make under the contingent liability related to the Anawah acquisition, as the amount and timing of the ultimate payments are unknown. Please see Note 2 of the notes to our consolidated financial statements included elsewhere in this prospectus for more information.

We are obligated to make future payments to related and unrelated parties under in-license agreements, including certain license fees, royalties, and milestone fees. In addition, certain royalty payments ranging from the low single digits to mid-teens are payable on net revenue amounts as defined in the in-licensing agreements. Milestone payments under these agreements may also be payable upon the successful development or implementation of various technologies. The amount and timing of these payments are uncertain and have been excluded from the above table.

Off-Balance Sheet Arrangements

Since our inception, we have not engaged in any off-balance sheet arrangements, including the use of structured finance, special purpose entities, or variable interest entities.

Critical Accounting Polices and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States, or U.S. GAAP. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenue generated and expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We believe that the accounting policies discussed below are critical to understanding our historical and future performance, as these policies relate to the more significant areas involving management's judgments and estimates.

Revenue Recognition

We generate revenues through sales of product, license agreements, contract research agreements, and government grants. Revenue generated from our license agreements may include up-front, nonrefundable license fees, annual license fees, milestone payments, and future value-sharing payments subsequent to commercialization by our partners. We recognize revenue when the following criteria have been met: persuasive evidence of an arrangement with the customer exists, price and terms of the arrangement are fixed or determinable, delivery of the product has occurred or the service has been performed in accordance with the terms of the arrangement, and collectability is reasonably assured.

We generally recognize product revenues once passage of title has occurred. Shipping and handling costs charged to customers are recorded as revenues and included in cost of product revenues at the time the sale is recognized.

For revenue agreements with multiple-element arrangements, such as license and contract research agreements, we evaluate the arrangements to determine whether the deliverables can be separated or whether they must be accounted for as a single unit of accounting. This determination is generally based on whether any deliverable has stand-alone value to the customer. This analysis also establishes a selling price hierarchy for determining how to allocate arrangement consideration to identified units of accounting. When deliverables are separable, consideration received is allocated to the separate units of accounting based on the relative selling price method and the appropriate revenue recognition principles are applied to each unit. The selling price used for each unit of accounting is based on estimated selling price as neither vendor-specific nor third-party evidence is available. When we determine that an arrangement should be accounted for as a single unit of accounting, we must determine the period over which the performance obligations will be performed and revenue will be recognized over the performance period.

We have determined that, at the inception of each license agreement, there is only one deliverable for the license for, access to, and assistance with the development of the specified intellectual property. We recognize revenue from upfront payments proportionally over the term of our estimated period of performance under the agreement. On a quarterly basis, we review our estimated period of performance for our license agreements based on the progress under the arrangement and account for the impact of any changes on a prospective basis. We recognize annual license fees proportionally over the related term subject to cancellation provisions.

We recognize revenue related to milestone payments when the contractually specified performance obligations are achieved. Performance obligations typically consist of significant milestones in the development life cycle of the related technology, such as achievement of specific technological targets,

successful results from field trials, filing for approval with regulatory agencies, approvals granted by regulatory agencies and commercial launch of a product utilizing the licensed technology.

Contract research revenue consists of amounts earned from performing contracted research activities for third parties. Activities performed are related to breeding programs or the genetic engineering of plants and are subject to an executed agreement. We generally recognize fees for research activities ratably over the contractually specified performance period.

Grant revenues are recognized as eligible research and development expenses are incurred using a proportional performance recognition methodology.

Deferred revenue represents the portion of payments received that has not been recognized.

Inventories

Inventory costs are tracked on a lot-identified basis, valued at the lower of cost or market and are included as cost of product sales when sold. We compare the cost of inventories with market value and write down inventories to market value, if lower. We provide for inventory reserves when conditions indicate that the selling price may be less than cost due to physical deterioration, obsolescence, changes in price levels, or other factors. Additionally, we provide reserves for excess and slow-moving inventory to its estimated net realizable value. The reserves are based upon estimates about future demand from our customers and distributors and market conditions. Future events that could significantly influence our judgment and related estimates include conditions in target markets, introduction of new products or changes to current or future competitor products.

Stock-Based Compensation

We recognize compensation expense related to stock options granted to employees and directors based on the estimated fair value of the awards on the date of grant, net of estimated forfeitures. We estimate the grant date fair value, and the resulting stock-based compensation expense, using the Black-Scholes option-pricing model. The grant date fair value of the stock-based awards is generally recognized on a straight-line basis over the requisite service period, which is generally the vesting period of the respective awards.

We recognize compensation expense for equity instruments issued to non-employees based on the estimated fair value of the equity instrument. The fair value of the non-employee awards is subject to re-measurement at each reporting period until services required under the arrangement are completed, which is the vesting date.

We recorded stock-based compensation expense related to equity awards of $1.3 million and $1.0 million for the years ended December 31, 2013 and 2014, respectively. This expense relates to equity awards made prior to January 1, 2013 and in the year ended December 31, 2014.

In February and March 2015, our Board of Directors approved the grant of options to purchase an aggregate of 1,230,000 shares of common stock with an exercise price of $1.80 per share.

In determining the fair value of stock-based awards, we use the Black-Scholes option-pricing model and assumptions discussed below. Each of these inputs is subjective and generally requires significant judgment to determine.

Expected Term—The expected term represents the period that stock-based awards are expected to be outstanding and was estimated based on historical and anticipated future exercise activity.

Expected Volatility—Since we are privately held and do not have any trading history for our common stock, the expected volatility was estimated based on the average historical volatilities of common stock of comparable publicly traded entities over a period equal to the expected term of the stock option grants. The comparable companies were chosen based on their similar size, stage in the life cycle, or area of specialty. We will continue to apply this process until a sufficient amount of historical information regarding the volatility of our own stock price becomes available.

Risk-Free Interest Rate—The risk-free interest rate is based on the U.S. Treasury zero coupon issues in effect at the time of grant for periods corresponding with the expected term of option.

Expected Dividend—We have never paid dividends on our common stock and have no plans to pay dividends on our common stock. Therefore, we used an expected dividend yield of zero.

In addition to the Black-Scholes assumptions, we estimate our forfeiture rate based on an analysis of our actual forfeitures and will continue to evaluate the adequacy of the forfeiture rate based on actual forfeiture experience, analysis of employee turnover behavior, and other factors. The impact from any forfeiture rate adjustment would be recognized in full in the period of adjustment and if the actual number of future forfeitures differs from our estimates, we might be required to record adjustments to stock-based compensation in future periods.

Historically, for all periods prior to this initial public offering, the fair value of the shares of common stock underlying our share-based awards were estimated on each grant date by our board of directors, which intended all stock options granted to be exercisable at a price per share not less than the per share fair market value of our common stock underlying those options on the date of grant. Given the absence of a public trading market for our common stock, our board of directors exercised reasonable judgment and considered a number of objective and subjective factors to determine the best estimate of the fair value of our common stock, including our stage of development; progress of our research and development efforts; the rights, preferences and privileges of our preferred stock relative to those of our common stock; equity market conditions affecting comparable public companies and the lack of marketability of our common stock. To assist our board of directors in this determination and in order to set the exercise price of each stock option grant, our management informed them of the most recent available valuation analysis prior to the dates of grant.

For purposes of our February and March 2015 option grants, our board of directors determined the fair market value of our common stock after consideration of the factors listed above, including the contemporaneous independent third-party valuation as of September 15, 2014. The valuation uses the income approach and the market approach. The income approach estimates the fair value of a company based on the present value of the company's future estimated cash flows. These future cash flows are discounted to their present values using an appropriate discount rate, to reflect the risks inherent in the company achieving these estimated cash flows. The discount rate used in our valuation was based primarily on benchmark venture capital studies of other companies in similar stages of development. The market approach determines the fair value of the company by estimating the value of the business based on projecting a future value under an initial public offering scenario, referencing recent biotechnology initial public offerings, our 2014 Series D preferred stock transaction, and an estimate of value under a merger and acquisition scenario. The estimated enterprise value is then allocated to the common stock using both the Option Pricing Method, or OPM, and the Probability Weighted Expected Return Method, or PWERM, or the hybrid method. The hybrid method applies the PWERM utilizing the probability of two exit scenarios, an initial public offering or an acquisition, and the OPM was utilized in the continuing as a private company scenario.

For stock options and other equity awards after the completion of this offering, our board of directors will determine the fair value of each share of underlying common stock based on the closing price of our common stock as reported on The NASDAQ Global Market on the date of grant.

Income Taxes

We use the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on the differences between the financial reporting and the tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. A valuation allowance is provided when it is more likely than not that some portion or all of a deferred tax asset will not be realized.

As of December 31, 2014, we had net operating loss carryforwards for federal income tax reporting purposes of $98.1 million, which begin to expire in 2020, and state net operating loss carryforwards of $77.2 million, which began expiring in 2015.

Quantitative and Qualitative Disclosures about Market Risk

As of December 31, 2014, we had cash and cash equivalents of $16.6 million, which consisted primarily of bank deposits. Such interest-earning instruments carry a degree of interest rate risk; however, historical fluctuations of interest income have not been significant.

We have not been exposed nor do we anticipate being exposed to material risks due to changes in interest rates. A hypothetical 10% change in interest rates during any of the periods presented would not have had a material impact on our consolidated financial statements.

Recent Accounting Pronouncements

In April 2014, the Financial Accounting Standards Board, or FASB, issued Accounting Standards Update (ASU) ASU 2014-08, *Presentation of Financial Statements (Topic 205) and Property, Plant, and Equipment (Topic 36)*, which amends the definition of a discontinued operation in ASC 205-20 and requires entities to provide additional disclosures about disposal transactions that do not meet the discontinued-operations criteria. The revised guidance will change how entities identify and disclose information about disposal transactions under U.S. GAAP. The ASU applies to all entities and is effective for annual periods beginning after December 15, 2014 and interim periods thereafter, with early adoption permitted. We do not anticipate that the adoption of this ASU will change the presentation of our consolidated financial statements.

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers*, which requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. The ASU will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective. The new standard will be effective for us beginning January 1, 2017. Early application is not permitted. The standard permits the use of either the retrospective or cumulative effect transition method. We are evaluating the effect that ASU 2014-09 will have on our consolidated financial statements and related disclosures. We have not yet selected a transition method nor have we determined the effect of the standard on our ongoing financial reporting.

In August 2014, the FASB issued ASU 2014-15, *Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern*, which provides guidance on determining when and how to disclose going-concern uncertainties in the consolidated financial statements. The new standard requires management to perform interim and annual assessments of an entity's ability to continue as a going concern within one year of the date the financial statements are issued. An entity must provide certain disclosures if "conditions or events raise substantial doubt about the entity's ability to continue as a going concern." The ASU applies to all entities and is effective for annual periods ending after December 15, 2016, and interim periods thereafter, with early adoption permitted. We do not anticipate a material change to our consolidated financial statements upon the adoption of this ASU. However, we will be required to evaluate and determine if further disclosure is necessary at each balance sheet date.

In February 2015, the FASB issued ASU 2015-02, *Consolidation (Topic 810): Amendments to the Consolidation Analysis*. The amendments significantly change the consolidation analysis required under U.S. GAAP. Reporting entities will need to reevaluate all their previous consolidation conclusions. We do not anticipate that the adoption of this ASU will materially change the presentation of our consolidated financial statements.

INDUSTRY OVERVIEW

Industry Overview and Macro Drivers

Global agricultural production continues to expand in response to a growing population, an increasing standard of living in emerging markets, and the resulting increased demand for higher-quality food. According to the United States Department of Agriculture, or USDA, the annual global food market was estimated to be approximately $4.0 trillion in 2012. This market was supplied by 164 crops that, according to the Food and Agriculture Organization of the United Nations, or FAO, generated approximately $2.6 trillion in annual farm revenue in 2012. Of these crops, the top five (rice, corn, wheat, soybean, and sugarcane) accounted for more than $1.0 trillion in annual farm revenue as of 2012. Global crop production utilizes several key inputs. According to MarketLine, the global fertilizer industry was $183.3 billion in 2012. According to Phillips McDougall, the global crop protection chemicals industry was $54.2 billion and the global seed industry was $39.4 billion in 2013.

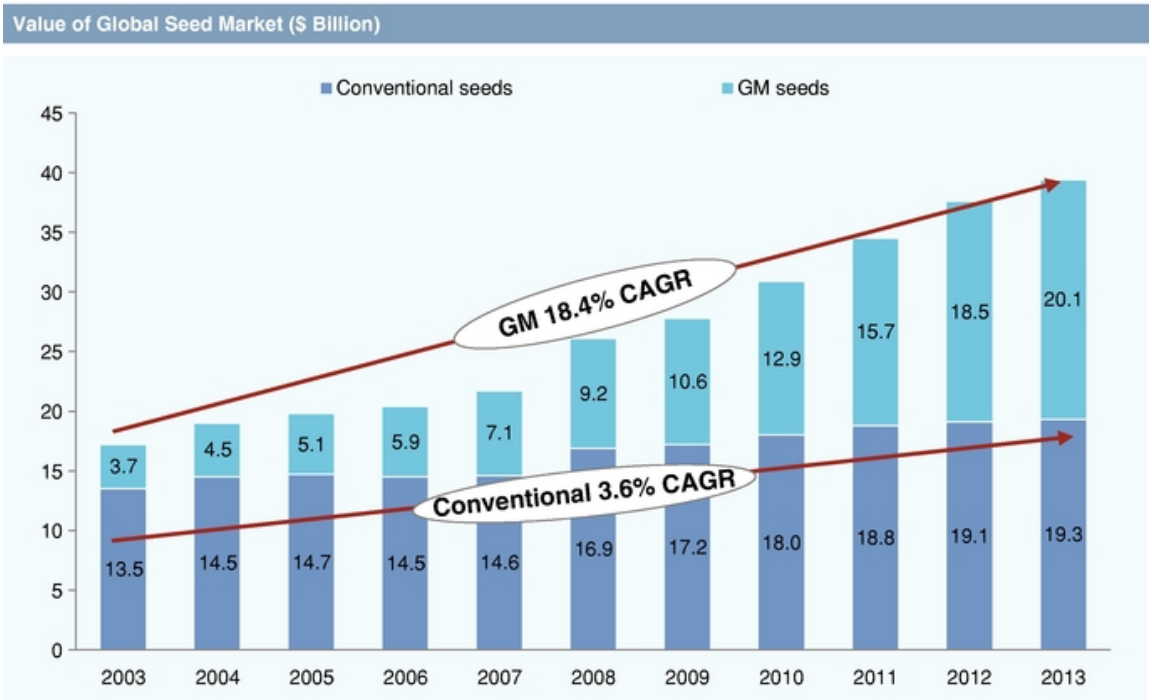
The combination of population growth and rising incomes in emerging markets is expected to continue driving increased demand for higher value food, particularly meat. Growth in global meat consumption directly increases the need for agricultural crop products. In 2009, the FAO estimated that supplies of agricultural products will need to increase 60% by 2050 in order to meet global food demand. Due to constrained land and water resources, the FAO also estimated that approximately 90% of this increase will need to come from increased farm yield and increased farming intensity.

Over the last several decades, consecutive waves of innovation have provided new solutions for increasing agricultural yields. Improved irrigation techniques, enhanced mechanization, increasing use of fertilizers and crop protection chemicals, and improved seed varieties have contributed to significant increases in yield.

Traditional plant breeding techniques have resulted in a very long history of increasing crop yields. Over the past two decades, advances in plant biotechnology have led to the development and commercialization of novel characteristics, or traits, in crops. Seeds developed using biotechnology techniques rather than conventional plant breeding are generally known as biotech seeds. Biotech seeds that are developed using genetic modification techniques are known as genetically modified, or GM, seeds. There are also biotechnology techniques, such as marker assisted selection, that do not involve genetic modification and, therefore, do not result in GM seeds. The GM seed industry has historically focused on mitigating the negative yield impact of living, or biotic, plant stresses, such as insect pests, diseases, and weeds. To date, GM seed traits have generally been herbicide tolerance and insect resistance, and have primarily been commercialized by companies with significant crop protection chemical platforms. Seeds with these traits have achieved strong commercial success, reaching market share in excess of 90% in key crops and countries as of 2013. These traits, initially offered individually, are increasingly available in combinations, or stacks, leading to an increase in seed value and significant growth in the GM seed industry.

Phillips McDougall estimates that the market for GM seeds was approximately $20.1 billion in 2013, or approximately 51% of the total $39.4 billion seed market. According to Phillips McDougall, the total market for conventional seeds grew at a compound annual growth rate, or CAGR, of 3.6% between 2003 and 2013. During the same period, GM seed market growth was at a CAGR of 18.4%, far outpacing growth in the conventional seed market.

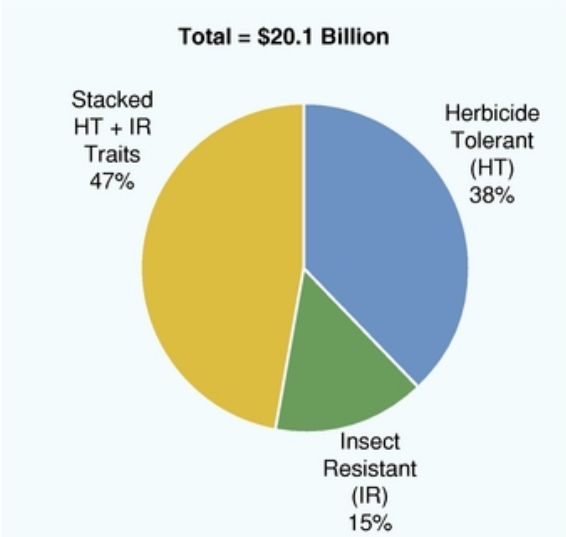
The graph below depicts the growth in value of GM and conventional seed markets from 2003 through 2013.



Source: Seed Industry Synopsis, Phillips McDougall, June 2014

The chart below shows the composition of the $20.1 billion GM seed market in 2013 by type of trait and illustrates the dependence on biotic stress traits as well as the significant market share of stacked biotic traits.

$20.1 Billion GM Seed Market Value by Trait Type (2013)



Source: Seed Traits, Phillips McDougall, July 2014

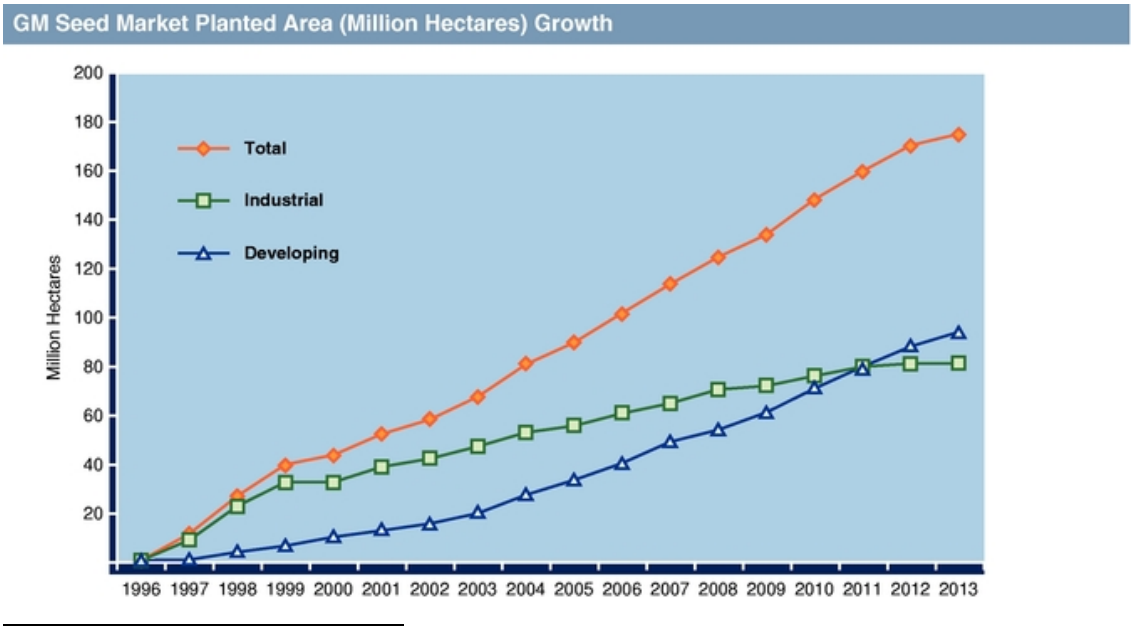
Abiotic plant stresses, or those caused by non-living factors such as heat, drought, flooding, salinity, and nutrient availability, can have a significantly greater negative impact on yield than biotic stresses. Commercially available solutions to manage abiotic stresses are currently limited, but have been the focus of recent innovation efforts. Seed companies are working to develop portfolios of abiotic traits such as nitrogen use efficiency, water use efficiency, drought tolerance, heat tolerance, salinity tolerance, and flooding tolerance, among others.

Innovative traits can provide significant additional value to farmers. Planting seed is a relatively low cost input for farmers, representing less than 10% of average total costs in 2013 according to the USDA. GM seeds can provide farmers with increased profitability at a relatively low increase in operating costs by means of increased yields, reduced cost of inputs such as chemicals, or enhanced product quality. The historic success of increasing farm profits through the use of GM seeds has fueled the development of the agricultural biotechnology industry, and farmers have historically shared a significant portion of their economic benefit with the GM seed provider in the form of seed premiums.

History of Innovation in the Seed Market

Historically, crop improvements came from conventional plant breeding approaches involving the selection and advancement of exceptional individual plants within a population. Because of the low frequency and generally low margin of improvement for any individual plant, this approach requires many generations and numerous years of breeding to develop a significantly improved variety. Plant biotechnology techniques, including genetic modification, have significantly enhanced the capabilities of plant breeders and facilitated the development improved varieties with valuable traits. Other biotechnology techniques, including advanced methods of selection and screening, build on knowledge gained from genetic research and have also led to the development of valuable new traits at a faster pace.

Since the early 1990s, the number of research programs involving biotech plants has grown enormously. Crops containing GM traits were first introduced in 1995 and the total area planted with GM seeds has been steadily growing, both in industrial and developing countries, as illustrated by the chart below.



Source: Clive James, 2013, ISAAA

Herbicide tolerance and insect resistance traits were the first types of GM seeds to be successfully introduced, and the GM seeds on the market today are primarily focused on these two types of traits, both of which address biotic stress issues. There are also a few commercialized product quality traits available, most of which are focused on changing the fatty acid composition of plant oils produced by soybean and canola seeds. While research and innovation into traits addressing abiotic stresses, such as heat, drought, flooding, salinity, and nutrient availability, is ongoing, there were only three such traits on the market as of 2013 according to Phillips McDougall.

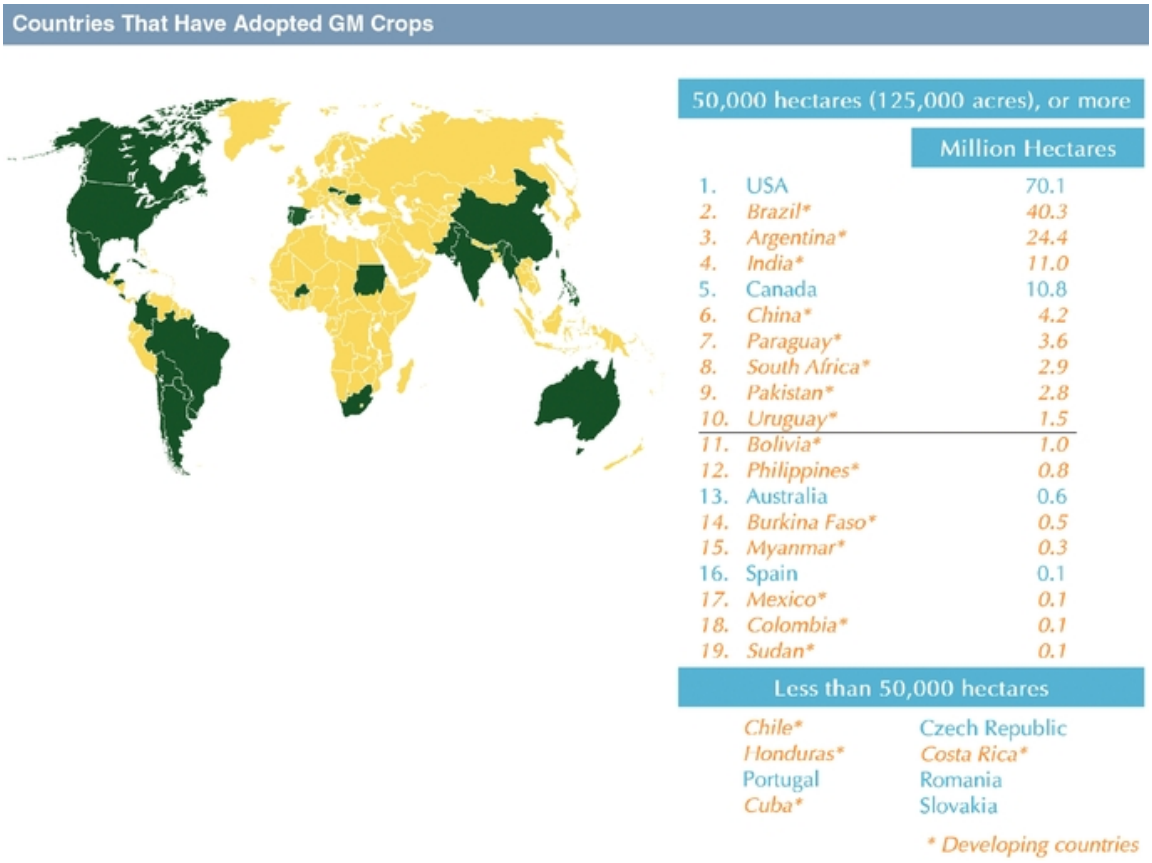
LibertyLink, introduced in 1995 by Bayer, and Roundup Ready, introduced in 1996 by Monsanto, provide resistance to broad spectrum herbicides and allow farmers to use these on their fields instead of complex and more expensive combinations of selective herbicides. More recently, the range of available herbicide tolerance traits has broadened, providing resistance to multiple herbicides, although many are available only for selected crops.

Since the introduction of herbicide tolerance and insect resistance traits in 1995 and 1996, respectively, many major seed companies have commercialized multiple seed products with these traits. The use of herbicide tolerant and insect resistant seeds enables farmers to reduce their use of herbicides and insecticides on crops. Some of the increased profit realized by farmers is shared with seed providers in the form of a premium paid for the improved seeds.

Biotech seeds, and specifically GM seeds, have been adopted by an increasing number of countries since their introduction in 1995. According to International Service for the Acquisition of Agri-Biotech Applications, or ISAAA, the global area of GM crops has increased more than 100-fold from 1.7 million hectares in 1996 to over 175 million hectares in 2013, making GM crops the highest growth crop technology in recent history. According to ISAAA, as of 2013, 27 countries have grown GM crops and more than half of the world's population, or 60%, live in those countries. The United States continues to be the leading producer of GM crops globally with 70.1 million hectares, and average

adoption level of 90% across all crops. Six developing countries—Brazil, Argentina, India, China, Paraguay, and South Africa—grew approximately 49% of global GM crops.

The graphic below identifies the 27 countries growing GM crops and the area grown in each country.



Source: Clive James, 2013. Global Status of Commercialized Biotech/GM Crops for 2013: ISAAA Brief 46.

In markets where GM seeds are commercialized, market penetration is significant by crop type, as illustrated in the table below.

GM Seed Planted Areas for Key Crops (based on 2013 data)

CORN			SOYBEAN			COTTON		
Country	Sales $mm	GM utilization (% of area planted)	Country	Sales $mm	GM utilization (% of area planted)	Country	Sales $mm	GM utilization (% of area planted)
USA	9,294	92.1	USA	3,646	96.0	India	667	96.9
Brazil	2,433	81.4	Brazil	1,651	86.6	USA	598	99.3
Argentina	926	90.2	Argentina	898	98.1	China	230	80.1
Mexico	789	-	Canada	197	90.7	Pakistan	87	87.7
China	584	-	Paraguay	174	96.9	Argentina	49	97.2
Other	3,327	N/A	Other	521	N/A	Other	188	N/A
Total	**17,353**		**Total**	**7,087**		**Total**	**1,819**	

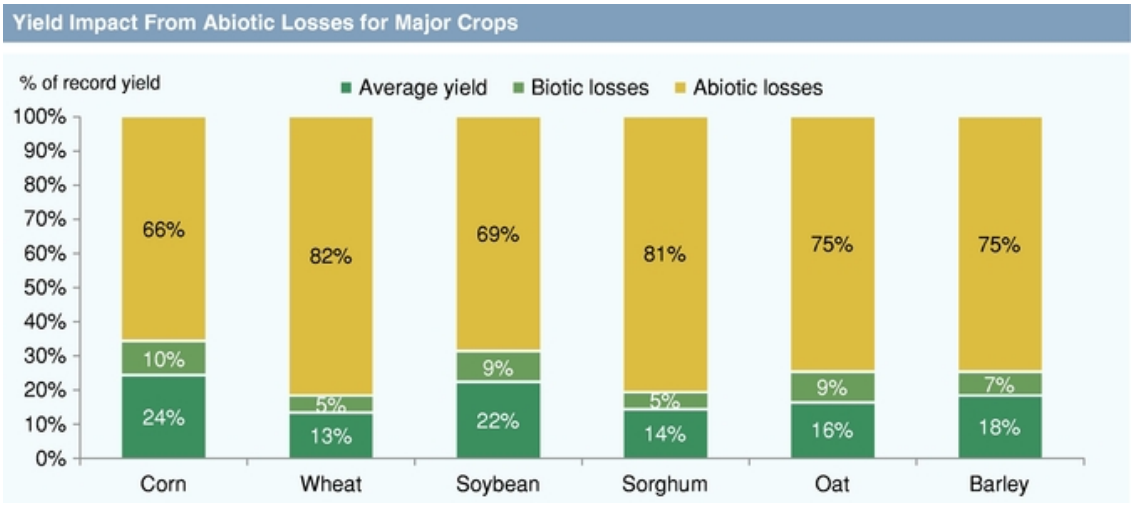
Source: Phillips McDougall, 2013

Next Generation Seed Traits

Next generation seed trait research is focused on the development of new technologies that address unmet needs such as abiotic stress tolerance and agricultural product quality. Seed traits are generally divided into two main categories, agricultural yield and product quality traits. Agricultural yield traits add value to farmers by decreasing production costs and increasing yield. Product quality traits increase the value of crops to crop processors, food and feed manufacturers and consumers by altering the composition of the harvested product.

Traits addressing abiotic stresses that limit crop yields have significant potential for increasing global yields and farmer profits. For example, conventional crops are inherently inefficient in the use of nitrogen fertilizer, the key yield-driving nutrient, and a $104.6 billion product within the $183.3 billion fertilizer industry. Research published in Plant Biotechnology Journal reported that only 30 to 50% of added nitrogen fertilizer is taken up by agricultural crops, with the remainder left unutilized and potentially becoming a significant environmental pollutant. Nitrogen use efficiency, or NUE, traits are designed to improve crop use of nitrogen and are expected to provide farmers with higher profits by increasing yields or decreasing the use of nitrogen fertilizer.

Other abiotic stresses such as heat, drought, flooding, salinity, and nutrient availability have significant negative impacts on yield and are largely unaddressed by currently available products. Abiotic stress tolerance traits are designed to reduce the negative impact of this natural response and significantly enhance yield potential. As illustrated in the chart below, yield losses from abiotic stresses significantly outweigh the impact of losses from biotic stresses and, as a result, the potential value of traits addressing abiotic stresses is expected to be significantly higher than the value of currently commercialized biotic stress traits.



Source: Biochemistry and Molecular Biology of Plants, Buchanan, Gruissem, Jones, American Society of Plant Physiologists, 2000.

The GM seed industry has historically focused on crops and traits where the combination of large acreage and high input costs (such as pest and weed control chemical costs) create significant economic value for a trait. In contrast, a number of crops with very large planted areas and high potential for yield improvement remain largely unpenetrated by the GM seed industry today. These represent a large opportunity for market expansion with next generation seed traits. For example, wheat—the most widely grown global crop in 2013 according to the FAO—represents a large potential market for GM seed development. The same is true for rice, the third most widely grown global crop in 2013 according to the FAO.

The following table, based on a Phillips McDougall analysis that we commissioned, sets forth the estimated commercial value of key agricultural yield traits in the most widely grown global crops. Estimated trait commercial value refers to the total revenue potential for seed providers generated from the premium charged on biotechnology seeds due to the added value of the improved trait. The estimated trait commercial value was calculated by multiplying the estimated number of acres per country that could be planted with a particular biotechnology trait by the estimated premiums that will be charged to growers by seed providers. The values displayed are in constant 2013 U.S. Dollar terms.

Crop	Trait	Estimated Trait Commercial Value ($ Million)(1) From	To	Key Growing Regions(2)
Corn	Nitrogen Use Efficiency	1,285	2,205	NAFTA, LATAM, China
	Water Use Efficiency	557	976	
	Heat Tolerance	557	976	
	Crop Total	*2,399*	*4,157*	
Soybeans	Nitrogen Use Efficiency	747	1,269	NAFTA, LATAM
	Water Use Efficiency	373	642	
	Salinity Tolerance	373	523	
	Heat Tolerance	373	523	
	Crop Total	*1,866*	*2,957*	
Rice	Nitrogen Use Efficiency	535	910	India+, China, Asia
	Water Use Efficiency	269	535	
	Salinity Tolerance	269	535	
	Heat Tolerance	269	535	
	Crop Total	*1,342*	*2,515*	
Wheat	Nitrogen Use Efficiency	573	1,136	NAFTA, Europe, India+, China, Australia
	Water Use Efficiency	487	569	
	Salinity Tolerance	429	569	
	Heat Tolerance	429	569	
	Herbicide Tolerance	417	571	
	Crop Total	*2,335*	*3,414*	
Cotton	Nitrogen Use Efficiency	189	312	NAFTA, LATAM, India+
	Water Use Efficiency	97	176	
	Salinity Tolerance	97	176	
	Heat Tolerance	97	176	
	Crop Total	*480*	*840*	
Canola	Nitrogen Use Efficiency	142	227	NAFTA, LATAM, India, China
	Water Use Efficiency	75	114	
	Salinity Tolerance	75	114	
	Heat Tolerance	75	114	
	Crop Total	*368*	*569*	
Sugarcane	Nitrogen Use Efficiency	42	70	NAFTA, LATAM, India, China
	Water Use Efficiency	25	53	
	Heat Tolerance	21	41	
	Crop Total	*88*	*164*	
All Crops	***All Traits***	***8,878***	***14,616***	

(1) The range of estimated increase in price attributed to the addition of a novel, newly developed trait for each combination of trait, crop, and region.

(2) NAFTA= Canada, U.S., Mexico; LATAM= Central & South America; India+= India, Pakistan, Bangladesh, Sri Lanka; Asia= S.E. Asia (excluding China)

Innovation and Commercialization Process in Biotech Seed Traits

Developing and integrating seed traits into commercial seeds using advanced breeding or biotechnology is a lengthy process. The length of the process may vary depending on the complexity of the trait and the type of crop involved. The development process for GM seed traits is divided into several discrete steps, or phases, which generally include discovery, validation, and development through field trials, regulatory review, and commercial launch of a GM seed product containing the trait. The following table summarizes these phases, indicates the timeframes that may be required to complete each phase, and provides an estimate of the average probability of commercial success at each phase. This table is substantially based on the development stages described in Monsanto Supplemental Information for Investors, April 6, 2011, which we refer to as the Monsanto Toolkit and which we believe has been adopted by other companies and research analysts as an industry standard for seed trait development. We believe that the Monsanto Toolkit framework has been adopted by the industry because the factors that affect the duration and probability of success of each stage in the GM trait research and development process are comparable across companies within the industry, due in part to the impact of plant biology on the development process and timeline. Although we believe the development stages described in the Monsanto Toolkit are generally applicable to trait research and development, whether conducted by Monsanto or by other companies, including us, the actual development time for any particular product and the probability of success will vary and is dependent on many factors, including those set forth in "Risk Factors."

Overview of GM Trait Research and Development Process

Phase	Description	Average Duration, Months[1]	Average Probability of Success[2]
Discovery Gene/Trait Identification	Screen genetic resources for target genes. Most promising target genes move to Phase 1.	24-48	5%
Phase 1 Proof of Concept	Test genetic constructs in plants to screen for desired performance. Determine most promising leads for application to crops of interest.	12-24	25%
Phase 2 Early Development	Conduct laboratory, greenhouse, and initial field trials of traits in plants to select potential commercial product candidates.	12-24	50%
Phase 3 Advanced Development	Demonstrate efficacy of traits in commercial quality events through additional field trials. Begin development of regulatory data as appropriate.	12-24	75%
Phase 4 Regulatory/Pre-Launch	Complete regulatory process as needed. Develop plans and other requirements for commercial launch.	12-36	90%
Phase 5 Commercial	On-market.		

(1) *Source: Monsanto Supplemental Information for Investors, April 6, 2011.* Time estimates based on Monsanto experience; phases can overlap. Total development time for any particular product may be shorter or longer than the time estimated here.

(2) *Source: Monsanto Supplemental Information for Investors, April 6, 2011.* This is the estimated average probability that the traits will ultimately become commercial products, based on Monsanto's experience. These probabilities may change over time. Commercialization is dependent on many factors, including successful conclusion of the regulatory process.

In the early stages of development, the process for developing seed traits is similar under both conventional and GM approaches. However, the two methods differ significantly in later phases of development. Completing regulatory review for GM seeds is a far more comprehensive and lengthy process than for conventionally developed seeds. However, the plant breeding required to develop commercial seed products based on GM technologies is typically carried out in parallel to the regulatory process, meaning that the regulatory process may not be rate-limiting in all situations.

Participation in different stages of the trait development and commercialization process carries different levels of economic benefits. Typically, companies that participate in later stages of the development process are able to retain a greater portion of the economic value attributable to the trait.

Competitive Landscape

The development of GM seed traits is concentrated in a limited number of large seed companies, including Monsanto, DuPont Pioneer, Syngenta, Limagrain, Dow AgroSciences, KWS SAAT, and Bayer CropScience. According to Phillips McDougall, the leading 11 seed and trait companies as a group invested $4.1 billion in seed and trait research and development in 2013. Many of these companies have programs that address both biotic and abiotic stress. Many of them also have extensive regulatory and commercialization capabilities and are able to take a trait from the gene discovery phase to commercialization on their own. Notwithstanding their in-house capabilities, many of these companies also regularly source traits from third parties.

A few small specialized biotechnology companies focus on the research and development of a select range of traits. These companies typically have limited development capabilities and do not have significant regulatory capabilities. They generally seek to partner with large seed companies, such as those identified above, in order to complete regulatory requirements for their technologies and bring products to market.

BUSINESS

Overview

We are a leading agricultural biotechnology trait company with an extensive and diversified portfolio of late-stage yield and product quality traits addressing multiple crops that supply the global food and feed markets. Our traits are focused on high-value enhancements that increase crop yields by enabling plants to more efficiently manage environmental and nutrient stresses, and that enhance the quality and value of agricultural products. Our traits increase value not only for farmers, but also for users of agricultural products. There currently are more than 50 products in development incorporating our traits and there are 13 in advanced stages of development or on the market.

Our crop yield traits are being utilized by our commercial partners to develop higher yielding seeds for the most widely grown global crops, including wheat, rice, soybean, corn, and sugarcane, as well as for other crops such as cotton, canola, turf, and trees. Our business model positions us at the nexus of basic research and commercial product development, as we apply our strong product development and regulatory capabilities to collaborate with, and leverage the skills and investments of, upstream basic research institutions and downstream commercial partners. We believe our approach significantly reduces risk and capital requirements, while simplifying and expediting the product development process. We also believe that our collaboration strategy leverages our internal capabilities, enabling us to capture much higher value than would otherwise be the case, and enabling our commercial partners to develop and commercialize products more cost-effectively.

In recent decades, agricultural biotechnology has been a major driving force for improving farm economics by introducing genetically modified, or GM, seeds, with traits that reduce the cost of managing crop biotic stresses such as weeds, insects, and microbial pests. The first agricultural biotechnology traits, herbicide tolerance and insect resistance, were developed primarily by companies with deep expertise and a long heritage in crop protection chemistry and pest management. Seeds with these traits have achieved rapid growth and strong commercial success, reaching market share in excess of 90% in key crops and countries as of 2013.

We believe the next generation of advancements in agricultural biotechnology involves increasing yields by making crops which perform significantly better under a wide range of abiotic stresses, including drought, heat, salinity, and variable availability of key nutrients such as nitrogen. Our target market is the $39.4 billion global seed market. Our goal is to increase the value of this market significantly by increasing yields in the more than $1.0 trillion market for the five largest global crops, and to capture a portion of the increased value.

Our business model focuses on creating value by leveraging collaborator investments and capabilities upstream in basic research, and downstream in product development and commercialization. We bridge the gap between basic research and commercial development, reducing risk and adding value as a result. We reduce risk and avoid most of the costs associated with basic research by acquiring trait technologies that have already completed initial feasibility screening, thus achieving proof of concept, through basic research carried out elsewhere. We further develop these technologies by optimizing function and validating performance through intensive field trial testing in multiple crops. We then form collaborations with major seed and consumer product companies that develop and commercialize products incorporating our traits. In select instances, we also work with our commercial partners to make any regulatory filings required to support commercial launch of the trait in order to increase our share of the value created by the trait.

By licensing later stage de-risked technologies to our commercial partners, we expect to achieve significantly greater value than generally earned for access to early stage traits. Our license agreements typically include upfront and annual license fees, as well as multiple milestone payments for key product development stages such as demonstration of greenhouse efficacy, demonstration of field

efficacy, regulatory submission, regulatory approval, and commercial launch. Following commercialization of a product utilizing one or more of our traits, we share in the value of the traits realized by our commercial partners. We believe that this broad and balanced approach diversifies and reduces risk, allowing us to address multiple end markets through strong established channels.

There currently are more than 50 products in development incorporating our traits and there are 13 in advanced stages of development or on the market. We use both GM and non-GM technologies to develop our traits, which enables us to select the approach most suited for the particular trait, crop and market. Our agricultural yield traits are designed to substantially increase crop yields and farmer income. They do so either by improving efficiency in the use of key inputs, such as fertilizer and water, or by increasing tolerance to environmental stresses, such as drought, heat and salinity. Our existing portfolio of agricultural yield traits includes Nitrogen Use Efficiency, or NUE, Water Use Efficiency, or WUE, Drought Tolerance, Salinity Tolerance, Heat Tolerance, and Herbicide Tolerance. Field trial results have demonstrated significant yield improvements resulting from our agricultural yield traits in multiple crops and geographies. As one example, field trials in multiple environments conducted by an independent testing organization with our NUE trait in rice resulted in a consistent yield improvement that on average was 27% above the controls over a three-year period from 2012 to 2014. Rice is the world's most valuable crop, with a harvest value of $334.4 billion in 2012, and the third most widely grown crop, according to the FAO. Our agricultural product quality traits increase the value of harvested products by improving specific compositional qualities of oilseeds and grains. These traits include Enhanced Nutrition Grains and High Value Nutritional Oils, including Sonova 400 GLA safflower oil and Sonova Ultra GLA safflower oil, which we refer to as our Sonova products.

We have formed strategic partnerships and developed strong relationships with global agricultural leaders for development and commercialization of our traits in major crops and consumer products. Our collaborators include subsidiaries or affiliates of Limagrain (Vilmorin & Cie), Mahyco (Maharashtra Hybrid Seeds Company Limited), DuPont Pioneer (E.I. du Pont de Nemours and Company), SES Vanderhave, Genective (a joint venture between Limagrain and KWS SAAT), Scotts, U.S. Sugar, Abbott, Ardent Mills, Bioceres, and others. Additionally, in order to increase our participation in the value of two major crops, wheat and soybean, we have formed two joint ventures. Limagrain Cereal Seeds LLC is our joint venture with Limagrain for the development and commercialization of wheat products for North America. Limagrain is the world's fourth-largest seed company. Verdeca LLC is our joint venture with Bioceres for the development and deregulation of soybean traits globally. Bioceres is an agricultural investment and development company owned by approximately 230 shareholders, including some of South America's largest soybean growers.

The strength of our internal capabilities and collaboration strategy enables us to quickly identify and develop valuable traits and bring them to market, as we have demonstrated through commercializing Sonova 400 GLA safflower oil in less than six years from technology acquisition to commercial launch. Sonova 400 GLA safflower oil is a key ingredient in multiple branded nutritional supplements marketed through GNC stores and other major U.S. retailers.

Our Strengths

We believe we are strategically positioned to capitalize on the need to increase crop yields and quality of agricultural products globally. Our competitive strengths include:

- ***We hold a competitive position in an attractive and fast-growing industry.*** According to Phillips McDougall, the GM seed market grew at an 18.4% CAGR between 2003 and 2013, reaching $20.1 billion, which represented 51% of the $39.4 billion total seed market. We believe that addressing opportunities to increase yield in the much larger market for agricultural products will dramatically expand the size of the GM seed market, and that we are well-positioned to take advantage of this with our portfolio of late-stage, high-value traits, and our ability to reduce

product development risk and leverage the capabilities of our licensees and partners. We believe the yield-enhancing benefits of our agricultural yield traits provide significant value to farmers, based on field trials to date. As one example, field trials conducted by an independent testing organization with our NUE trait in rice resulted in a consistent yield improvement that on average was 27% above the controls over a three-year period from 2012 to 2014. We carefully select our collaborators and partners and license our traits to leading seed and consumer product companies. This allows us to leverage their substantial development capabilities and market presence, creating a highly scalable and capital light platform.

- ***We have a broad and diverse portfolio of products and partners.*** Our product portfolio consists of a wide variety of traits that are applicable to major crops in key geographic markets and address agricultural yield and product quality. The applicability of our product portfolio to these major crops provides us access to multiple large end markets that we believe have demonstrated or have the potential for high growth, such as soybeans in North and South America and wheat and rice globally. We believe that our established relationships with multiple global agricultural and consumer product leaders, such as Limagrain, Mahyco, DuPont Pioneer, SES Vanderhave, Abbott, Ardent Mills, and others, improve our ability to monetize the benefits of our traits. Importantly, in most cases our technologies and traits are additive to, rather than competitive with, the efforts of our collaborators. As a result, we and our collaborators mutually benefit from a strong alignment of interests. Additionally, in order to add value by participating in the downstream value of two major crops, wheat and soybean, we have formed two joint ventures. Limagrain Cereal Seeds LLC is our joint venture with Limagrain for the development and commercialization of wheat products for North America. Verdeca LLC is our joint venture with Bioceres for the development and deregulation of soybean traits globally.

- ***The development stage of our products substantially reduces the risk and time to market.*** We reduce risk and avoid most of the costs associated with basic research by acquiring trait technologies that have already achieved proof of concept and have started Phase 2 of development through basic research carried out elsewhere. We then optimize and validate trait performance through intensive field trials in multiple crops, and license the further de-risked traits to selected collaborators globally. The majority of the products being developed with our traits, including those based on NUE and WUE trait technologies, are in Phase 2, Phase 3, or later stages of development. The efficacy of these traits has been demonstrated through field testing over multiple years in a variety of major crops. According to the Monsanto 2011 Investor Toolkit, products in Phase 2 and Phase 3 of development have a 50% and 75% probability of reaching commercialization, respectively. Commercial launch of the first seed products containing our proprietary agricultural yield traits is expected within the next few years.

- ***We have demonstrated independent product development and regulatory capabilities.*** Our execution risk is significantly reduced by our in-house scientific and product development expertise, which affords us substantial control over the product development process. Our regulatory expertise enables us to capture additional value in selected instances, and also to expedite the development of products containing our traits. For example, we independently developed and commercialized our first commercial product, Sonova 400 GLA safflower oil, in less than six years from technology acquisition. This is significantly less than the 13 years it takes, on average, to commercialize a seed using advanced breeding or biotechnology, according to Phillips McDougall. Our regulatory team's expertise in bringing traits through the regulatory process quickly and cost-effectively is a key differentiating factor. For example, by working closely with federal and state regulatory authorities, we have designed and implemented robust protocols for conducting field trials in California with GM rice. To our knowledge, we are the only company currently permitted to conduct such trials. Coupled with strong in-house intellectual property law

expertise, our technology development process has resulted in a portfolio of over 100 issued patents that are either owned or exclusively controlled by us.

- ***We have a seasoned executive team with a diverse blend of technical and commercial experience.*** Our executive team has more than 140 years of combined experience specific to agricultural biotechnology, including management of research, regulatory matters, business development, product commercialization, finance and intellectual property. Several members of our executive team previously worked at Calgene and Monsanto, and seven of our eight executive team members have worked together for more than ten years. Our executive team has a strong track record of acquiring and developing valuable trait technologies and forging sustainable partnerships, and has raised more than $100 million in capital for our company since inception. Our scientific advisory board brings substantial, relevant experience in the analysis, research and development, regulatory review, and commercialization of next generation seed traits.

Our Growth Strategy

We believe that there are significant opportunities to grow our business globally by executing the following elements of our strategy:

- ***Accelerate and broaden the commercialization of our high-impact agricultural yield traits.*** One of our highest priorities is to accelerate and broaden the commercialization of our key agricultural yield traits, such as NUE, WUE, and Drought Tolerance, that are in advanced stages of development with our commercial partners and joint ventures. We intend to do this by working with our collaborators to expand the scope of development activities and execute against predetermined technical and regulatory milestones in our joint work plans.

- ***Increase the value we capture in selected crops by managing and investing in the regulatory process.*** For certain crops, including wheat, soybean, cotton, and sugar beets, we have the opportunity to invest incrementally in the management of regulatory activities. By doing so, we will increase our share of the trait value from a base range of 15 to 20% to a range of 37 to 50%, depending on the specific crop and trait. We believe that investment in the regulatory process is highly de-risked because it occurs after clear evidence of trait efficacy has been demonstrated and, as a result, will bring highly favorable economic returns.

- ***Execute on a range of near-term opportunities in areas that we believe will be materially beneficial.*** In addition to developing agricultural yield traits for major global crops, we develop such traits for secondary crops, and also develop product quality traits. Our product quality trait programs, including specialty oils and improved grains, provide opportunities for near-term revenue growth. In particular, our programs for ARA oil and resistant starch wheat are at advanced development stages and we intend to accelerate our efforts in these programs.

- ***Continue to build our pipeline of next generation and innovative traits.*** We maintain strong relationships with leading basic research institutions and other industry participants, and will continue to partner with them to gain access to new traits and technologies with demonstrated efficacy. Our independence, broad technical product development, and regulatory expertise position us to collaborate effectively with parties throughout the value chain to reduce risk and leverage the resources. We have a strong track record of working effectively and transparently with third parties and are a sought-after partner for independent trait development and regulatory work. We believe that opportunities exist to expand such relationships in the future.

- ***Continue to invest in our human resources and technology infrastructure on a global basis.*** Our highly-skilled and technical employees are critical to our success, and we will continue to invest in development and retention in order to build upon this strength. We will continue to invest in

best-in-class technology and research and development capabilities that will enable us to continue advancing our position in the agricultural biotechnology marketplace.

Our Products and Product Development Pipeline

There currently are more than 50 products in development incorporating our traits and there are 13 in advanced stages of development or on the market. We use both GM and non-GM technologies to develop our traits, which enables us to select the approach most suited for the particular trait, crop, and market. Our agricultural yield traits are designed to substantially increase crop yields and farmer income. They do so either by improving efficiency in the use of key inputs, such as fertilizer and water, or by increasing tolerance to environmental stresses, such as drought, heat, and salinity. Our existing portfolio of agricultural yield traits includes NUE, WUE, Drought Tolerance, Salinity Tolerance, Heat Tolerance, and Herbicide Tolerance as further described below. Our traits are developed as individual offerings and as stacks that incorporate several different traits, and can be designed for use in a variety of crops and end markets.

The following table summarizes our current commercial product and our pipeline of products in development.

Program	Crop	Collaborator(s)	Phase D	1	2	3	4	5	Key Markets
YIELD TRAITS									
Nitrogen Use Efficiency (NUE)	Wheat	Limagrain, Mahyco, CSIRO, ACPFG							Global
	Rice	Mahyco, AATF							Asia
	Soybean	Verdeca							Americas, Asia
	Corn	-							Global
	Cotton	Mahyco							Americas, Asia
	Canola	-							N. America, Asia
	Sugarcane	US Sugar, SASRI, Mahyco							S. America, Asia
	Sorghum	-							N. America, India, Africa
	Barley	-							N. America, Australia
	Turf	Scotts							N. America
	Tree Crops	Arborgen, Futuragene							Brazil, N. America
	Sugar Beets	-							N. America
	Vegetables	Mahyco							Asia
Water Use Efficiency (WUE) Drought Tolerance (DT)									
	Wheat (WUE)	Limagrain							Global
	Wheat (DT)	Bioceres							Global
	Rice (WUE)	Mahyco							Asia
	Soybean (DT)	Verdeca							Americas, Asia
	Corn (WUE)	Genective							Global
	Cotton (WUE)	Mahyco							Americas, Asia
	Canola (WUE)	-							N. America, Asia
	Sugarcane (WUE)	US Sugar, SASRI, Mahyco							S. America, Asia
	Sorghum (WUE)	-							N. America, India, Africa
	Sugar Beets	SES Vanderhave							N. America
	Tree Crops (WUE)	Arborgen, Futuragene							Brazil, N. America
	Vegetables (WUE)	Mahyco							Asia
Salinity Tolerance (ST)	Wheat	Mahyco							Global
	Rice	Mahyco							Asia
	Cotton	Mahyco							Americas, Asia
	Canola	Mahyco							N. America, Asia
	Sugarcane	Mahyco							S. America, Asia
	Sorghum	-							N. America, India, Africa
	Vegetables	Mahyco							Asia
Herbicide Tolerance*	Wheat	Confidential							Global
Heat Tolerance	Wheat	USAID, CIMMYT							Global
Trait Stacks									
NUE/WUE/ST	Rice	AATF							Asia
NUE/DT	Wheat	Bioceres							Global
NUE/WUE	Wheat	Limagrain							Global
NUE/WUE	Canola	-							N. America, Asia
PRODUCT QUALITY TRAITS									
GLA Oil	Safflower	Abbott							N. America, Asia
Resistant Starch*	Wheat	-							Global
Post Harvest Quality*	Tomato	Bioseed							Asia, N. America
ARA Oil	Safflower	Abbott, DuPont Pioneer							N. America, Asia
Grain Quality*	Wheat	Ardent Mills							Global
Low Gluten*	Wheat	-							Global

Phase: D=Discovery; 1=Proof of Concept; 2=Greenhouse / Early Field Trials; 3=Additional Field Trials / Product Development; 4=Regulatory / Pre-Commercial; 5=Commercialized
* Non GM

Agricultural Yield Traits

Nitrogen Use Efficiency (NUE)

Our NUE technology enables plants to absorb and utilize nitrogen fertilizer much more efficiently than conventional plants. This allows crops to achieve significantly higher yields under normally applied levels of nitrogen fertilizer, or to achieve the same yields as conventional crops while using 30 to 50% less nitrogen fertilizer.

Nitrogen fertilizer is a primary plant nutrient and key driver of crop yield. Nitrogen fertilizer is a significant component of crop production cost and was a $104.6 billion product within the $183.3 billion market for all fertilizers in 2012, according to an industry-specific report by MarketLine. Research published in Plant Biotechnology Journal reported that only 30 to 50% of added nitrogen fertilizer is taken up by agricultural crops, with the remainder left unutilized and potentially becoming a significant environmental pollutant.

Our NUE technology was originally discovered at the University of Alberta (Canada) and we hold an exclusive, global license to the technology for use in all crops, with unlimited sublicense rights. The first commercialization of crops with NUE technology is expected to occur within the next three to five years.

The target crops and markets for NUE include all major agricultural crops and markets. Our NUE technology has now been incorporated, or is under development by our commercial partners, in major global crops, including rice, wheat, soybean, cotton, canola, sugar beets, sugarcane, vegetables, turf grass, and multiple forestry species. Specific crops, collaborators, stages of development, and target markets for our NUE technology are shown in the following table.

Program	Crop	Collaborator(s)	Phase						Key Markets
			D	1	2	3	4	5	
Nitrogen Use Efficiency (NUE)	Wheat	Limagrain, Mahyco, CSIRO, ACPFG	■	■	■	■			Global
	Rice	Mahyco, AATF	■	■	■	■			Asia
	Soybean	Verdeca	■	■					Americas, Asia
	Corn	-	■	■					Global
	Cotton	Mahyco	■	■	■				Americas, Asia
	Canola	-	■	■	■	■			N. America, Asia
	Sugarcane	US Sugar, SASRI, Mahyco	■	■	■				S. America, Asia
	Sorghum	-	■	■	■				N. America, India, Africa
	Barley	-	■	■	■	■			N. America, Australia
	Turf	Scotts	■	■	■				N. America
	Tree Crops	Arborgen, Futuragene	■	■					Brazil, N. America
	Sugar Beets	-	■	■	■				N. America
	Vegetables	Mahyco	■	■					Asia

Phase: D=Discovery; 1=Proof of Concept; 2=Greenhouse / Early Field Trials; 3=Additional Field Trials / Product Development; 4=Regulatory / Pre-Commercial; 5=Commercialized

Field trial data to date in multiple major commodity crops has shown yield improvements attributable to our NUE trait of greater than 10%. For example, we and Limagrain have independently conducted field trials of NUE in wheat at multiple locations across multiple crop seasons, and the leading NUE wheat line has shown an average yield improvement relative to the control of 10%.

In another example, the International Center for Tropical Agriculture, or CIAT, an independent research organization, has conducted field trials of NUE in a major type of rice for three years (2012, 2013, and 2014) under both lowland (flood irrigated) and upland (rain irrigated) locations. Of the six NUE rice lines tested, two consistently showed significant yield benefits across all field trials and

treatments. The leading line out-yielded the control by an average of 27% over three years for the two locations and for three rates of nitrogen fertilizer in the lowland location. The table below summarizes the average yield increase over three years, relative to the control, for the two lead lines, as reported by CIAT.

NUE Rice Field Trial Results 2012-2014 (increase in grain yield)

Production Environment	Nitrogen Application Rate (% of normally applied N)	NUE Rice vs. Control #1 (% yield increase)	NUE Rice vs. Control #2 (% yield increase)	NUE Rice Mean (% yield increase)
Lowland	0%	25%	24%	**25%**
	50%	23%	29%	**26%**
	100%	26%	25%	**25%**
Upland	50%	27%	34%	**30%**
	Mean	**25%**	**28%**	**27%**

We have also created a methodology to quantify and document changes in greenhouse gas emissions resulting from changes in nitrogen use. This methodology, approved by the Intergovernmental Panel on Climate Change in 2012, is the first of its kind to link crop genetics with carbon emissions. We believe this may encourage the adoption of crops with NUE technology by enabling farmers to further increase revenue through the sale of carbon credits.

Water Use Efficiency (WUE)/Drought Tolerance

Our WUE trait technology enables plants to better tolerate two distinct types of stress: reduced or inconsistent water and severe drought. The WUE trait has been demonstrated to improve crop yield under conditions of episodic water stress and to help crops recover from severe drought conditions. A related but distinct technology, Drought Tolerance, helps plants maintain yields under conditions of prolonged water stress.

In 2012, the United Nations Educational, Scientific, and Cultural Organization, or UNESCO, reported that modern agriculture is highly water intensive, using approximately 70% of world water withdrawals. UNESCO also estimates that future global agricultural water consumption will increase by about 19% by 2050 and could be even higher if crop yields and the efficiency of agricultural production do not improve dramatically. The irregular availability of suitable water is one the leading causes of reduced crop yield globally. Loss due to drought in the United States, as reported to the USDA Risk Management Agency, averaged $4.7 billion from 2009 through 2013 and was $12.9 billion in 2012. Water-limiting conditions can result from prolonged drought, leading to severe reductions in crop yields, or can result from periodic dry conditions, leading to reduced crop yields. Whenever water limitations occur, economic losses and impairment of the food supply result.

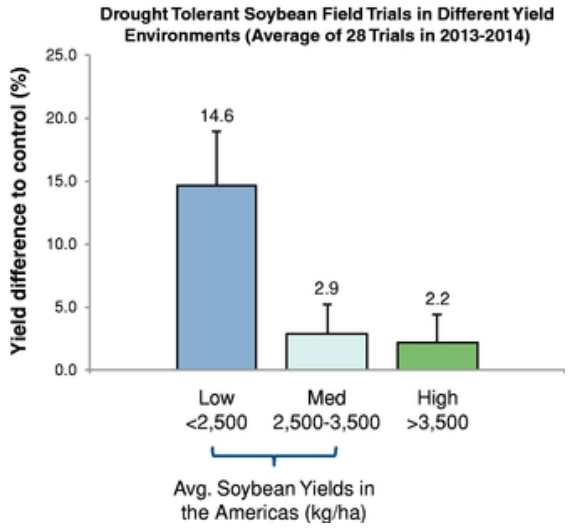
Our WUE trait technology was jointly discovered by researchers at the University of California, Davis and Technion—Israel Institute of Technology. We hold an exclusive, global license to the technology, with sublicense rights, for use in all crops. Target crop markets for WUE technology include most major crops, such as rice, wheat, corn, soybean, sugarcane, cotton, and canola. Target geographies are global, based on regions where water availability can limit productivity in the target crops. Our Drought Tolerance technology was discovered by researchers at National Scientific and Technical Research Council (Argentina), and further developed by Bioceres, S.A. We hold an exclusive license to this technology for use in wheat globally outside of South America. Verdeca, our joint venture with Bioceres, Inc., holds exclusive global rights and is developing and commercializing this technology in soybeans.

Our WUE technology has now been incorporated, or is under development by our commercial partners, in major global and secondary crops, including those shown in the following table. Our Drought Tolerance technology is being applied in wheat, and soybeans with this technology are in the regulatory approval process in Argentina. Specific crops, collaborators, stages of development, and target markets for our WUE and Drought Tolerance technologies are shown in the following table.

Program	Crop	Collaborator(s)	Phase	Key Markets
Water Use Efficiency (WUE) Drought Tolerance (DT)	Wheat (WUE)	Limagrain	D 1 2	Global
	Wheat (DT)	Bioceres	D 1 2 3	Global
	Rice (WUE)	Mahyco	D 1 2	Asia
	Soybean (DT)	Verdeca	D 1 2 3 4	Americas, Asia
	Corn (WUE)	Genective	D 1	Global
	Cotton (WUE)	Mahyco	D 1 2	Americas, Asia
	Canola (WUE)	-	D 1 2	N. America, Asia
	Sugarcane (WUE)	US Sugar, SASRI, Mahyco	D 1	S. America, Asia
	Sorghum (WUE)	-	D 1 2	N. America, India, Africa
	Sugar Beets	SES Vanderhave	D 1	N. America
	Tree Crops (WUE)	Arborgen, Futuragene	D 1 2	Brazil, N. America
	Vegetables (WUE)	Mahyco	D 1	Asia

Phase: D=Discovery; 1=Proof of Concept; 2=Greenhouse / Early Field Trials; 3=Additional Field Trials / Product Development; 4=Regulatory / Pre-Commercial; 5=Commercialized

Greenhouse and field trials of our WUE traits have been completed in agronomic crops such as rice, cotton, peanuts and alfalfa. We are currently working with collaborators in additional crops, including wheat, sugar beets, sugarcane, and multiple tree species. Recent collaborator results in rice show significant yield improvement under water-limited conditions. Our Drought Tolerance technology is most advanced in soybeans under our Verdeca joint venture. Multiple seasons of field trials under reduced yield conditions that represent the average yield of soybean production in North and South America have shown yield improvements relative to controls of up to 14%, with no decrease in yield under optimal conditions, as illustrated in the following chart.



Salinity Tolerance

Our Salinity Tolerance trait allows plants to produce increased yields under conditions of elevated salinity and is applicable to a wide range of crops, including wheat, rice, soybean, cotton, and vegetables. Our salt-tolerant plants have also been demonstrated to bind excess salt from the soil into the plant, potentially providing the benefit of rehabilitating salinized land over time.

The global cost of lost crop yield to salt-induced land degradation is estimated to be $27.3 billion according to the United Nations Natural Resources Forum. Of the current 230.0 million hectares of irrigated land, 45.0 million hectares, or about 20%, are salt-affected. Crops grown under salt-affected conditions may be inhibited in two ways. First, the presence of salt in the soil reduces the ability of the plant to take up water, leading to reductions in growth rate. Second, if excessive amounts of salt enter the plant, there can be injury to the cells, which may cause further reductions in growth. Modern agriculture is highly water intensive and the ability to manage crops in saline environments will reduce agricultural demand on critical fresh water supplies.

Our most advanced Salinity Tolerance trait technology is being developed based on basic research conducted at the University of Toronto, the University of California, Davis, and the National Institute of Agrobiological Sciences (Japan), all of which have granted us exclusive licenses for all crops. We are conducting early stage research on additional salinity tolerance genes under a research funded agreement with the United States Agency for International Development, or USAID.

Target markets for the Salinity Tolerance trait are those areas where water or soil salinity decrease crop yield. Such areas occur globally where irrigation is prevalent, where ground water supplies are salinized due to seawater intrusion, and where soils are salinized due to mineral deposits. Such areas are common in North America, India, China, additional countries in Asia, Australia, and other major crop production countries. Our Salinity Tolerance trait has been licensed to partners for use in rice, wheat, corn, cotton, canola, sugarcane, and vegetable crops. Specific crops, collaborators, stages of development, and target markets for our Salinity Tolerance technologies are shown in the following table.

Program	Crop	Collaborator(s)	Phase	Key Markets
			D 1 2 3 4 5	
Salinity Tolerance (ST)	Wheat	Mahyco		Global
	Rice	Mahyco		Asia
	Cotton	Mahyco		Americas, Asia
	Canola	Mahyco		N. America, Asia
	Sugarcane	Mahyco		S. America, Asia
	Sorghum	-		N. America, India, Africa
	Vegetables	Mahyco		Asia

Phase: D=Discovery; 1=Proof of Concept; 2=Greenhouse / Early Field Trials; 3=Additional Field Trials / Product Development; 4=Regulatory / Pre-Commercial; 5=Commercialized

Development in rice and wheat is the most advanced of these crops, and our collaborators have reported successful trials showing yield increases over control varieties of more than 46% in rice, and up to 36% in wheat, under conditions of salinity stress, as shown in the following charts.

Salinity Tolerant Rice Line	Yield increase over control under salinity stress (%)
A	20%
B	15%
C	16%
D	25%
E	46%
F	10%
Mean	**22%**

Commercial partner field trial in 2012

Salinity Tolerant Wheat Line	Yield increase over control under salinity stress (%)
A	33%
B	17%
C	36%
Mean	**29%**

Commercial partner greenhouse test in 2013 - 2014 growing season

Heat Tolerance

Our Heat Tolerance technology program is carrying out discovery research funded by USAID in collaboration with the International Maize and Wheat Improvement Center, or CIMMYT, and the Indian National Bureau of Plant Genetic Resources, or NBPGR. Our work targets metabolic approaches to reduce the heat sensitivity of starch synthesis in wheat and increase membrane thermostability. We are pyramiding the CIMMYT-identified natural genetic diversity that affects membrane thermostability and induced genetic diversity in starch synthesis, developed by us, in order to improve wheat heat adaptation in a fundamental way.

Among major staple crops, global wheat yields may be the most impacted by climate change, according to a number of climate change models. And while wheat is the most drought-adapted of major crops, improving heat adaptation would make wheat a climate resilient staple. Developing countries are both significant producers and importers of wheat. According to CIMMYT, an estimated 1.2 billion poor people depend on wheat and 81% of wheat in the developing world is produced and consumed in the same country. At the same time, wheat accounts for 43% of food imports in developing countries, underscoring the importance of global wheat trade to food security. CIMMYT estimates that demand for wheat will increase by 60% by 2050 in developing countries. As we saw with the global food price crisis in 2008, poor yields in major wheat exporting countries such as Australia can have a significant impact on global prices.

Wheat has been shown to lose three to four percent of yield per degree Celsius above the optimum daytime temperature of 15° C. Since the 1980s, global wheat productivity is estimated to have been reduced by as much as five percent due to increasing temperature, and wheat yields in South Asia could decline about 50% by 2050. Recent research in India suggests that most crop models have underestimated the impact of extreme heat on yield losses by as much as 50%.

This technology is being developed in collaboration with CIMMYT and NBPGR, under funding provided by USAID and is currently in the discovery stage. The initial target crop for this technology is wheat, where the impacts from heat stress are among the most severe of all major crops. Target commercial geographies are global. It is expected that discoveries under this program are likely to lead to improvements in heat stability of major crops other than wheat as well.

Program	Crop	Collaborator(s)	Phase D	1	2	3	4	5	Key Markets
Heat Tolerance	Wheat	USAID, CIMMYT	■						Global

Phase: D=Discovery; 1=Proof of Concept; 2=Greenhouse / Early Field Trials; 3=Additional Field Trials / Product Development; 4=Regulatory / Pre-Commercial; 5=Commercialized

Herbicide Tolerance

Our Herbicide Tolerance program is currently focused on wheat and we have developed a non-GM source of tolerance to glyphosate, a widely used non-selective herbicide. We believe that the discoveries under this program are likely to result in similar opportunities in other major crops.

According to ISAAA, from 1996 to 2013, herbicide tolerant crops consistently occupied the largest planting area of biotech crops. In 2013 alone, herbicide tolerant crops occupied 99.4 million hectares, or 57%, of the 175.2 million hectares of biotech crops planted globally. For the first 17 years of commercialization (1996 to 2012), benefits from herbicide tolerant crops were valued at $47.7 billion, which accounted for 41% of global biotech crop value. For 2012 alone, herbicide tolerant crops were valued at $6.6 billion or 35% of global biotech crop value.

Our Herbicide Tolerance technology is in Phase 3 of development and was developed using our proprietary non-GM research platform, TILLING, which enabled us to find and further develop valuable rare genes within our wheat genetic diversity collection. This work is fully funded by a collaborator who has the option to obtain a non-exclusive commercial license to this trait in certain countries. We retain the right to further license this technology to additional collaborators in global wheat markets.

Testing results to date show clear tolerance in multiple wheat lines to levels of glyphosate herbicide, which may be sufficient to control many weed species in wheat production. Individual glyphosate tolerant wheat lines are being combined via plant breeding to combine sources of tolerance and create products with increasing levels of tolerance.

Program	Crop	Collaborator(s)	Phase						Key Markets
			D	1	2	3	4	5	
Herbicide Tolerance*	Wheat	Confidential							Global

Phase: D=Discovery; 1=Proof of Concept; 2=Greenhouse / Early Field Trials; 3=Additional Field Trials / Product Development; 4=Regulatory / Pre-Commercial; 5=Commercialized
* Non GM

Agronomic Trait Stacks

Trait stacks are combinations of multiple individual traits. Trait stacks can be made by using conventional plant breeding to cross plants with different traits, and can also be made by combining multiple traits in a molecular stack that is then inserted into a target crop. Our collaborators are generally allowed to combine multiple traits of ours either by breeding or molecular stacks. Deep portfolios of agronomic stress tolerance traits are rare in the industry, and the ability to pyramid multiples of such traits is even rarer. In order to validate the efficacy of particular trait stacks, we carry out our own research and field trials.

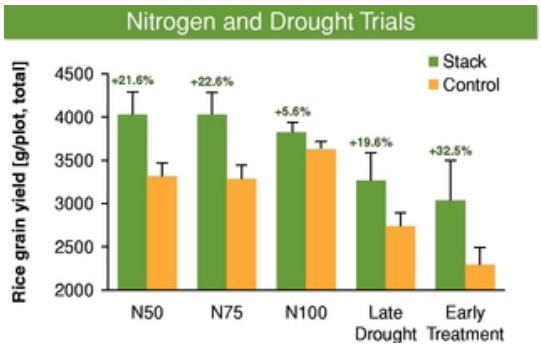
We have developed three molecular trait stacks, and have field-tested them in example crops, as shown in the table below. Efficacy of a trait stack in one crop suggests the probability that the stack will also work in other key crops. For example, our NUE and WUE trait stack is in Phase 2 of development for both wheat and canola and functions in both. The history of single traits functioning in multiple crops, along with the evidence of stacked traits working in more than one crop, suggest that

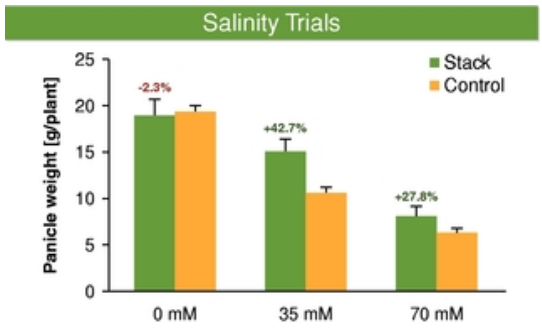
stacked traits are likely to function in multiple crops. Thus, we believe that our trait stacks have market opportunities well beyond the specific demonstration crops and geographies shown in the table.

Program	Crop	Collaborator(s)	Phase D	1	2	3	4	5	Key Markets
TRAIT STACKS									
NUE/WUE/ST	Rice	AATF	■	■	■	■			Asia
NUE/DT	Wheat	Bioceres	■	■	■				Global
NUE/WUE	Wheat	Limagrain	■	■	■				Global
NUE/WUE	Canola	-	■	■	■				N. America, Asia

Phase: D=Discovery; 1=Proof of Concept; 2=Greenhouse / Early Field Trials; 3=Additional Field Trials / Product Development; 4=Regulatory / Pre-Commercial; 5=Commercialized

Our most advanced and tested trait stack—the combination of NUE, WUE, and Salinity Tolerance—has been field tested in rice over multiple seasons. We have tested this trait stack under varying levels of nitrogen, water availability, and salinity. Rice plants with this stack out-yielded control plants by five to 22% under different levels of nitrogen fertilizer, by 19 to 32% under different types of water stress, and by 27 to 42% under high salinity conditions. The table below summarizes the results from a field trial conducted by us in 2012, with similar results obtained in a field trial conducted in 2013.





Agricultural Product Quality Traits

Gamma Linolenic Acid (GLA) Oil

Under the license agreement we have with Abbott, we developed a new source of vegetable oil with very high levels of the fatty acid gamma linolenic acid (GLA). Our GLA safflower oil product has the highest concentration of GLA available in any plant oil at 65%; conventional plant oils range from 10 to 22% GLA. We sell the oil to manufacturers of nutritional supplements, medical foods, and other products.

GLA has multiple clinically-demonstrated nutritional and medical benefits, including anti-inflammation, improved skin condition, and healthy weight management. Multiple parties had expressed commercial interest in incorporating an enhanced GLA oil into their food and medical products, where conventional sources of GLA are not sufficiently concentrated to deliver amounts that are cost and performance effective.

Against a commercial target of 40% GLA concentration, we developed, deregulated, and commercialized GLA safflower oil containing up to 65% GLA concentration in less than six years. This is significantly less than the 13 years it takes, on average, to commercialize a seed using advanced breeding or biotechnology, according to Phillips McDougall.

We produce GLA safflower oil by contracting with farmers in Idaho and process the seed under contract with a manufacturer in California to make refined oil. We sell GLA safflower oil under the brand name Sonova with multiple concentrations and formulations. Our markets are nutritional supplements, medical foods, and pet foods. Our key customers include significant participants in those markets, such as GNC, Lindora Nutrition, and others.

Program	Crop	Collaborator(s)	Phase D	1	2	3	4	5	Key Markets
GLA Oil	Safflower	Abbott							N. America, Asia

Phase: D=Discovery; 1=Proof of Concept; 2=Greenhouse / Early Field Trials; 3=Additional Field Trials / Product Development; 4=Regulatory / Pre-Commercial; 5=Commercialized

Arachidonic Acid (ARA) Oil

Our Arachidonic Acid (ARA) Oil has high levels of the fatty acid ARA, which is a key ingredient in more than 90% of U.S. infant nutrition products. ARA contributes to benefits such as fostering infant eye and brain development. We estimate the global market for ARA at $160 million and believe that our ARA product will cost significantly less than currently available sources of ARA.

Our ARA Oil is being developed under agreements with Abbott and DuPont Pioneer, each of which licensed intellectual property to us for this program. In exchange for licenses to intellectual property, these agreements provide product access rights to Abbott and DuPont Pioneer, as well as certain royalty payments on product sales to third parties.

Our ARA Oil is in Phase 3 of development. We have multiple safflower lines with oil compositions that offer the opportunity of being direct replacements for current sources of ARA in infant nutrition products.

Program	Crop	Collaborator(s)	Phase D	1	2	3	4	5	Key Markets
ARA Oil	Safflower	Abbott, DuPont Pioneer							N. America, Asia

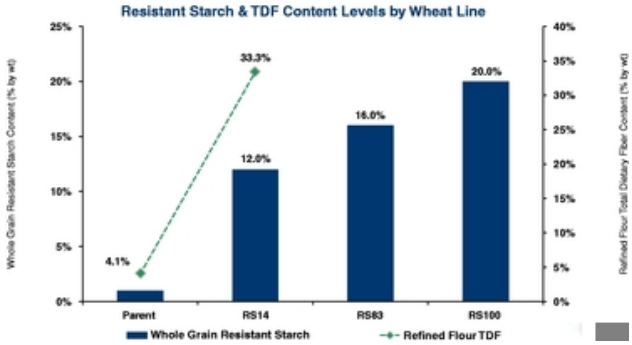
Phase: D=Discovery; 1=Proof of Concept; 2=Greenhouse / Early Field Trials; 3=Additional Field Trials / Product Development; 4=Regulatory / Pre-Commercial; 5=Commercialized

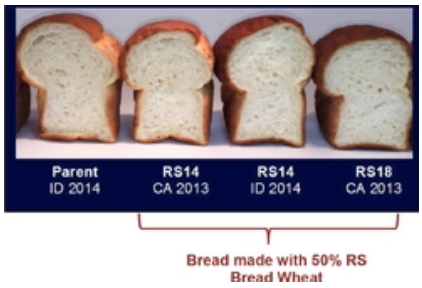
Enhanced Quality Grains

We have multiple programs aimed at developing wheat and other small grains with improved nutritional qualities. One such program generated bread and pasta wheat lines with high levels of resistant starch. Resistant starch increases the fiber content of wheat and reduces glycemic index, which are both desirable nutritional qualities that are important in diabetes mitigation. A second program increases specific quality targets in wheat, and is funded by Ardent Mills, which combines the operations of ConAgra Mills and Horizon Milling, a Cargill-CHS joint venture. A third program, funded by the National Institutes of Health, or NIH, is aimed at reducing gluten in wheat and other grains. All three of these programs utilize our proprietary TILLING platform, and resulting products are non-GM.

Our resistant starch wheat provides a source of wheat with inherently high levels of resistant starch, increasing the fiber content of resulting food products without the need for fiber additives from other sources such as corn, potato and cassava. Resistant starch is a key product in two market segments: dietary fiber additives and modified starch additives. According to MarketsandMarkets, the fiber additives market was estimated to be $2.2 billion in 2013 and the modified starch market was estimated to be $12.8 billion in 2012. Major growth in these markets is being driven by the convenience health food sector and functional foods. Flour from our resistant starch wheat lines has resistant starch levels that are 12 to 20 times higher than the control wheat, and total dietary fiber, or TDF, that is

more than eight times higher than the control. Resistant starch wheat flour has been tested in applications in bread, where loaf quality was comparable to bread made with conventional wheat flour, and pasta, where it had the highest consumer preference rankings in tests carried out by a major consumer products company.





Resistant starch wheat flour is currently being tested in a range of additional bakery products with industrial partners. We have several resistant starch wheat lines that are being evaluated for optimal quality and agronomic characteristics.

The gluten-free market was estimated to be $486.5 million in 2013 by Euromonitor. This figure only includes products that have been formulated to replace wheat flour and does not include products that are naturally gluten free or have undergone minor formulation changes. Consumers in this market are composed of people with celiac disease (approximately 1% of the population), people with non-celiac gluten intolerance (approximately 6% of the population) and people who choose to eat less gluten because they are in households with individuals with a gluten-free diet or choose to eat gluten-free food. Our wheat with reduced gluten will provide options for wheat products in the low gluten product category and additional options for blending wheat flour to meet the U.S. Food and Drug Administration, or FDA, standard for gluten-free products.

Program	Crop	Collaborator(s)	Phase D	1	2	3	4	5	Key Markets
Resistant Starch*	Wheat	-							Global
Grain Quality*	Wheat	Ardent Mills							Global
Low Gluten*	Wheat	-							Global

Phase: D=Discovery; 1=Proof of Concept; 2=Greenhouse / Early Field Trials; 3=Additional Field Trials / Product Development; 4=Regulatory / Pre-Commercial; 5=Commercialized
* Non GM

Post Harvest Quality

Our post harvest quality program for tomatoes has resulted in tomato lines with significantly increased post harvest storage life. These tomato lines were developed using our proprietary TILLING platform and are non-GM. Our early research program was funded by the U.S. Department of Defense, due to their interest in being able to procure quantities of fresh fruit with extended storage life for deployment on board ships and submarines and overseas. The global market for fresh tomatoes is estimated by the FAO at $84.5 billion per year. Our initial collaborator for this product is Bioseed, a

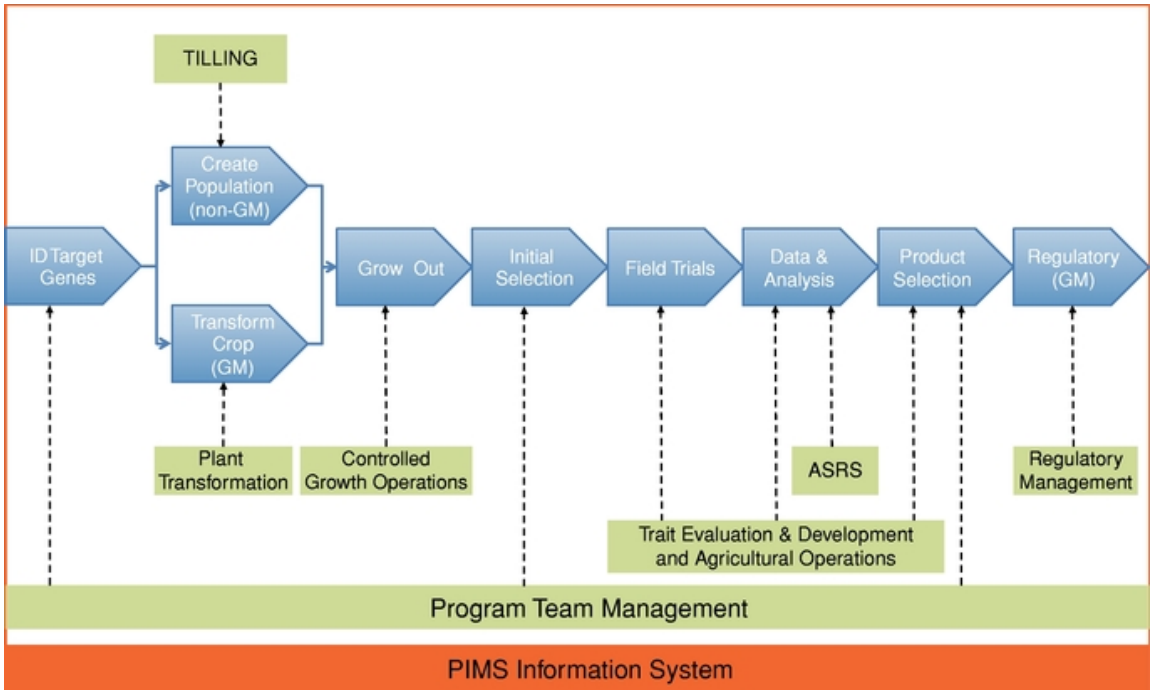
vegetable seed company based in India, and the product is in Phase 4 of development. Additional collaborations in North America are in development.

Program	Crop	Collaborator(s)	Phase D	1	2	3	4	5	Key Markets
Post Harvest Quality*	Tomato	Bioseed							Asia, N. America

Phase: D=Discovery; 1=Proof of Concept; 2=Greenhouse / Early Field Trials; 3=Additional Field Trials / Product Development; 4=Regulatory / Pre-Commercial; 5=Commercialized
* Non GM

Our Product Development Capabilities

The diagram below illustrates the key steps in our technology identification and product development process.



Identification of New Technology Programs

Because our business model is based on leveraging upstream investment in basic research to expand our product development pipeline, we actively seek out and participate in collaborative programs with external partners for the early-stage exploration and identification of promising plant technologies, particularly those related to abiotic stress tolerance in plants. The results of these collaborations directly feed innovation and often drive the progress of our ongoing programs. Some of these key early-stage collaborations include programs with the ARC Centre of Excellence in Plant Cell Walls (Australia), the University of Adelaide (Australia), CIMMYT (Mexico), the University of California, Davis (United States), Tulane University (United States), the University of California, Berkeley (United States), the International Center for Research in Semi-Arid Tropics (India), the Bangladesh Rice Research Institute (Bangladesh), and ICABIOGRAD (Indonesia). Many of these collaborative programs are funded by U.S. government grants that we have secured either ourselves or in connection with our collaboration partners, including grants by USAID, the NIH, the National Science Foundation, and the USDA.

Other early-stage technologies are introduced to us by commercial entities engaged in basic research who may be seeking to partner with us to advance their discoveries to further validation and product development. In some cases, such commercial entities are technology start-ups, and in other cases they include some of the largest companies involved in agricultural and food technology research.

We have a formal team and process for evaluating new technology opportunities. This team has multi-disciplinary membership, and reviews promising new technologies with regard to mission fit, scientific feasibility, intellectual property, business opportunity, and other considerations. Generally, we accept less than 10% of the potential opportunities we evaluate. Once a promising new trait technology has been accepted, we negotiate an agreement with the technology provider that, at a minimum, enables us to further evaluate the technology for a suitable period of time, or, in some cases, secures rights that enable full research and commercial exploitation of the technology.

Technology Evaluation

Our technology program teams include multiple Ph.D.-level scientists who are leaders in their respective fields. These teams contribute to the initial evaluation of new technologies and are responsible for development of technologies brought onboard. Each of our technology programs involves multiple gene, trait, and crop targets, and our process focuses on rapid development of the most promising combinations. In the development of any particular technology, we carry out a series of steps including the direct evaluation of target gene function, and the specific evaluation of results in key representative crop species. While common core scientific services are provided by specialized groups, the technology program team manages overall progress and remains directly involved throughout the development cycle, including by providing scientific and development support to our collaborators.

GM and Non-GM Product Development Platforms

Transformation—GM Traits. For projects involving GM traits, the genetic construct for insertion into plants is designed and built by the relevant program team, and then the gene transfer step is accomplished by our plant transformation functional group. This group consists of six members with more than 100 years of combined experience in plant transformation. The group has developed a complete physical and methodological infrastructure at our laboratory facility in Davis, California to efficiently transfer genetic materials into key crop species. Our plant transformation team has demonstrated transformation capabilities in all primary and some secondary agricultural crops, including rice (japonica, indica, and NERICA types), wheat, corn, canola, cotton, soybean, safflower, barley, sorghum, alfalfa, tomato, and grapes.

Targeting Induced Local Lesions in Genomes (TILLING)—Non-GM Traits. Our proprietary TILLING platform enables us to develop value-added crops without the use of GM methods. The TILLING platform is primarily managed by a dedicated team of scientists at our laboratory in Seattle, Washington. TILLING technology was originally invented by a member of our science team and utilizes specialized laboratory equipment to carry out high-throughput allele screening of DNA samples from genetic diversity populations created in major crops. Our populations include wheat, rice, soybean, canola, tomato, and lettuce. These populations include numerous native and induced gene function alterations, which can be discovered and exploited rapidly at low cost and with minimal regulatory requirements. While the TILLING approach is also practiced elsewhere, we believe that the combination of our specialized background in the technology, highly refined skills in developing and screening genetic diversity plant populations, and proprietary TILLING software makes us the leader in commercial applications of TILLING.

Controlled Growth Operation. Our controlled growth operations group manages our growth chamber facility, where plants transitioning out of the plant transformation group are grown under

precisely controlled conditions, and our greenhouse facility, consisting of 25,928 square feet of high quality greenhouse space, both at our headquarters in Davis, California. The controlled growth operations group uses these facilities to manage plant experiments and grow-outs under rigorously controlled conditions. They also carry out the initial seed increases and first stages of plant breeding for some projects. For certain projects, such as those relating to oil quality and resistant starch wheat, this group also manages crop breeding programs to develop plant varieties for the production of commercial products.

Field Trials and Commercial Production. Our trait evaluation and development group has extensive field and specialized statistical analytical capabilities, and is based in our Davis, California facility and has remote field operations in American Falls, Idaho and Brawley, California. The group also conducts field trials throughout the United States with specialized contractors, and elsewhere globally with our collaborators. This group also works actively with our commercial and joint venture partners to support their field trial execution and data analysis.

Our agricultural operations group manages late-stage and regulatory field trials and, in the case of GLA safflower, commercial crop production. Late-stage field trials are intended to develop extensive data on a limited number of potential commercial plant varieties. These trials may be used to test new varieties developed by our collaborators containing our traits, and to test our own commercial varieties for oil quality and grain quality programs. Similarly, regulatory trials develop data for use in submissions for regulatory review and may involve plant varieties developed by our collaborators or our own oil quality and grain quality programs.

Regulatory Data Generation. Our Analytical Services and Regulatory Science, or ASRS, group, located at our Davis, California facility, develops data for use in product selection and validation, certification of Sonova product specifications, and regulatory submissions. These data are generated from specialized analyses performed internally and externally under contract. The resulting data support regulatory submissions and provide core trait data to our collaborators for use in their crop-specific regulatory applications. The instrument-intensive work of the ASRS group provides automated DNA preparations, genomic blot analyses, lipid profiling, metabolomics, and protein purification services for us and our collaborators.

Biological Materials Inventory and Tracking. Our proprietary Pedigree and Inventory Management System, or PIMS, tracks the genetic, phenotypic, and location information for all of our plant materials. PIMS encompasses genetic elements such as genes and promoters, GM seeds, and plant material received by us, as well as seeds and plants developed by us and used in trait development. The performance of our plant materials is recorded through a variety of laboratory and field observations, and the data are stored within PIMS. The location of all plant materials is tracked throughout the plant life cycle. This includes specific seeds planted within a specific plot of a specific field trial, harvest, seed storage location, and use by, or distribution of plant material to, our collaborators or elsewhere. PIMS interfaces with our Biotechnology Quality Management System, or BQMS, to manage all movement and release of regulated GM plant materials. This ensures that all of our plant materials are accounted for, tracked, and inventoried, which enables us to maintain control over and documentation of all plant materials.

Regulatory Matters

Our regulatory management group provides regulatory services for all of our product development programs, as well as for joint ventures and selected collaborations. These services include establishing protocols, completing regulatory permits as necessary, and monitoring regulatory and stewardship compliance for all products at all stages.

Our regulatory group includes key employees who are directly responsible for leading all regulatory agency interactions and providing tactical and strategic regulatory direction. Our group collectively has more than 70 years of regulatory experience, with nearly 60 years of direct involvement in the development and approvals of GM crops. Members of our regulatory group were responsible for completing the first FDA and USDA deregulation of a GM whole food. The interactions and processes associated with these first USDA and FDA processes established benchmarks for the regulation of GM products that remain applicable today.

In addition to our core regulatory management group, we employ a group of scientists, our ASRS group, dedicated to data generation in support of regulatory filings. Our regulatory management and compliance activities encompass three broad categories: stewardship, authorization, and deregulation. In the United States, these activities are regulated by various government agencies, including the USDA, the FDA, and the U.S. Environmental Protection Agency, or EPA.

Stewardship

Stewardship, or the careful and responsible management of assets, forms the foundation of our regulatory compliance programs associated with GM plants. Our stewardship framework for GM plants is defined by government regulations and related internal policies. The USDA requirements and internal procedures for regulatory stewardship are embodied in our Biotechnology Quality Management System, or BQMS, which was developed by us and approved by the USDA Animal and Plant Health Inspection Service, Biotechnology Regulatory Service.

Our BQMS program was developed to address all conditions required under USDA authority to ensure containment of regulated plant material. The BQMS includes standard operating procedures, or SOPs, recording and reporting forms, instructions for managing all compliance related activities, and training requirements for all individuals handling GM plant materials. SOPs are highly detailed and consider all elements of each relevant activity or process. Each field trial site is accompanied by a field compliance guide and record containing multiple SOPs and associated forms for each activity. For example, a GM wheat trial requires 19 SOPs and associated verification forms.

Our BQMS is audited annually both internally and independently by an auditor trained and supervised by the USDA. Since our BQMS program was first recognized by the USDA in 2011, each annual independent audit has confirmed that our program is functioning as intended. Our BQMS manager has attended BQMS training programs at the request of the USDA to assist in training personnel at other companies, to share our experience and the SOPs that form the basis of our program.

Compliance with the specific parameters of regulatory requirements is only one element of stewardship. Additional activities within each functional group throughout the company are integral to the overall stewardship program. Each of our employees is trained on, and must comply with, relevant stewardship guidelines as defined and described in our BQMS.

Authorization

The USDA Biotechnology Regulatory Service, or BRS, has legal and regulatory authority over the movement and release of GM plants and seeds. "Movement" includes movement of regulated GM plant material between states and the importation of regulated GM plant material from outside the United States. "Release" includes field trials of any size and any other use of regulated GM plant material outside of contained greenhouses.

We have obtained over 180 authorizations from the BRS for the movement, importation or release of GM plants under development. General and specific conditions to maintain containment during all

activities associated with the movement or release are a requirement of each authorization. These conditions are defined and applied in the context of the BQMS.

Deregulation

Our business is subject to regulations related to agriculture, food, and the environment. Plant products produced using GM technology are subject to laws and regulations in countries where the plants are grown and in countries where the GM plant-derived food and feed are consumed by humans or animals. Commodity products utilizing our GM traits may require approvals in multiple countries prior to commercialization, whereas our identity-preserved GM products (for example, GLA safflower and resulting Sonova products) may require approvals only in the limited geographies where the products are marketed and sold. Such products must be appropriately channeled in the food and feed markets to ensure that the products are not exported to geographies where necessary approvals have not been obtained.

U.S. Regulatory Agencies

U.S. Department of Agriculture. We must obtain USDA authorizations and permits in order to conduct the field releases of regulated materials that are necessary to advance the development of GM crops. Obtaining such authorizations and permits is generally routine and delays impacting the planned movement or release of GM material are uncommon. The USDA provides detailed regulations and guidance for obtaining a so-called *"Determination of Deregulated Status,"* which authorizes the commercial and uncontained growing of GM plants. For regulated GM plants, the USDA requires that a company petition the agency to demonstrate that the product is unlikely to pose a risk. Based on the information provided, the USDA prepares an Environmental Assessment, or EA, and/or an Environmental Impact Statement, or EIS, in order to make its determination. These procedures afford the public an opportunity to submit written comments on the draft EA or EIS for consideration by the USDA before the final version of the EA or EIS is published. For any GM plant product, there may be delays or requests for additional information based on the USDA's review or the public comments. Submissions received by the USDA from all applicants in August 2011 and thereafter averaged 27 months to completion; however, the USDA has announced proposed rules intended to significantly shorten this time period.

U.S. Food and Drug Administration. The FDA is responsible for food safety under the Federal Food, Drug and Cosmetic Act. The FDA recommended in its 1992 *Statement of Policy: Foods Derived from New Plant Varieties* that developers of GM plant products consult with the agency about the safety of GM products under development. In 1996, the FDA provided additional guidance to the industry on procedures for these consultations. These procedures require a developer intending to commercialize a food or feed product derived from a GM plant to first meet with the agency to identify and discuss relevant safety, nutritional, and other regulatory issues regarding the product. Subsequently, the developer must submit to the FDA a scientific and regulatory assessment supporting proposed product safety. The FDA evaluates the submission and engages with the developer to resolve any questions, requests for additional data, or other informational requirements. Once the FDA has determined that all requirements have been satisfied, the FDA concludes the consultation process by issuing a letter to the developer acknowledging completion of the consultation process with the addition of the product to the list of completed consultations on the FDA website. The completed consultation acknowledges product safety for use as food and feed. To date, over 150 GM products have completed this process. This process may have delays if the FDA requires additional data and information for its consultation and to resolve any questions the FDA may have. The FDA completed nine consultations in 2013 and 2014, with consultation time periods ranging from 13 to 40 months and averaging 21 months from first submission to conclusion.

Environmental Protection Agency. Certain products may also be regulated by the EPA, including plants that contain a plant-incorporated protectant, such as a pesticides or herbicide, or plants engineered to be treated with industrial chemicals.

International Regulation

Commercialization of GM crops in the United States requires approvals in those jurisdictions into which resulting products will be imported. The laws and regulations for GM plant products are well defined in many commercially significant jurisdictions, including Australia, South America, India, and the European Union, and are evolving in others, such as Africa and China. Typically, our collaborators are responsible for obtaining all regulatory permits and approvals relevant to product development and commercialization in their licensed countries and for generating crop and transformation event-specific data required by jurisdictions of interest. We provide basic safety data on trait expression products in accordance with generally accepted standards and may serve as a regulatory consultant and participate in the design of regulatory data generation protocols and development of regulatory submissions beyond the basic safety data package. In certain countries, we may develop strategic business relationships or employ independent consultants with geography-specific knowledge and expertise to support and obtain required approvals.

Intellectual Property

We rely on patents and other proprietary right protections, including trade secrets and contractual protection of our proprietary know-how and confidential information, to preserve our competitive position.

As of December 31, 2014, we owned or exclusively controlled 115 issued patents and 44 pending patent applications worldwide. As of this date, we owned six and exclusively in-licensed 19 U.S. patents and we owned seven and exclusively in-licensed one pending non-provisional U.S. patent applications relating to our trait technologies and business methods. Also, as of this date, we owned 11 and exclusively in-licensed 79 foreign patents and owned 16 and exclusively in-licensed 20 pending foreign patent applications. With respect to all of the foregoing patent assets, our exclusive licenses afford us control over the prosecution and maintenance of the licensed patents and patent applications. These numbers do not include in-licensed patents for which we either do not have exclusive rights (such as certain enabling technology licenses), or for which we have exclusive rights only in a limited field of use and do not control prosecution and maintenance of the licensed patents.

As of December 31, 2014, we had nine registered trademarks in the United States. As of this date, we also had eight registered trademarks and had one trademark application pending in various other countries.

We also have entered into in-license agreements enabling the use and commercialization of our traits, including NUE, WUE, and Salinity Tolerance, and certain products that we have commercialized or are under development, including GLA safflower oil and ARA safflower oil. Under these licensing arrangements, we are obligated to pay royalty fees on sublicense revenue and net product sales ranging between low single digit percentages and percentages in the mid-teens, subject in certain cases to aggregate dollar caps. The exclusivity and royalty provisions of these agreements are generally tied to the expiration of underlying patents. After the termination of these provisions, we and our collaborators may continue to produce and sell products utilizing the technology under the expired patents. While third parties thereafter may develop products using the technology under the expired patents, in many cases, we have incremental patent rights covering our most important technologies, which we believe mitigate the impact of the expiration of these patents, or the related exclusivity provisions, on our business.

We also have numerous in-licenses relating to enabling technologies utilized in our development programs, such as transformation methods (e.g., Japan Tobacco, DuPont Pioneer), promoters (e.g., Dow, Louisiana State University) and selectable marker technologies (e.g., Bayer). These in-licenses are non-exclusive and include some combination of upfront and annual license fees, milestone fees, and commercial royalty obligations consisting of low single-digit percentages, or in one instance, a low single-digit dollars per acre fee.

Below is a summary of those in-license agreements that we believe are most significant for our product development programs.

University of Alberta. We hold an exclusive license from University of Alberta to the patent portfolio that formed the basis of our NUE program, which began in 2002. In exchange for an upfront license fee and royalties on sublicense revenues and net product sales (which are capped at an aggregate amount in the mid-seven figures), and subject to the University's right to perform academic research using the technology, we exclusively control all research, development, commercialization, and sublicensing of the patented technology globally for all crops.

Blue Horse Labs. In conjunction with a sponsored research and development agreement entered into in 2003, we obtained an exclusive license from Blue Horse Labs, an affiliate entity of our majority stockholder, Moral Compass Corporation, for technology related to several of our development programs. Under the sponsored research and development agreement, Blue Horse Labs has an ownership right in patents covering technology that was developed using Blue Horse Labs funds, including certain NUE and GLA safflower patents. In the corresponding license agreement, in exchange for a single-digit royalty on net revenues and management of all aspects of the patent portfolio, we exclusively control all research, development, commercialization, and sublicensing of the patented technology globally for all crops.

University of California. Our WUE technology was developed under an exclusive option agreement with the University of California, pursuant to which we exercised our right to secure an exclusive license in 2010. In exchange for an upfront license fee, license maintenance fees, and royalties on sublicense revenues and net product sales, we exclusively control all for-profit research, development, commercialization, and sublicensing of the patented technology globally for all crops.

University of Toronto. We hold an exclusive license from University of Toronto to the patent portfolio that forms the basis of our Salinity Tolerance program. In exchange for an upfront license fee, a low single-digit royalty on revenues, and payment of all costs associated with the patent portfolio, and subject to the University's right to use the technology for research and teaching purposes, we exclusively control all for-profit research, development, commercialization, and sublicensing of the patented technology globally for all crops.

Abbott. We entered into a license and development agreement with Abbott in 2003 under which we have been granted limited exclusive rights to Abbott's portfolio of U.S. and foreign patents relating to the development of plant-based sources of GLA, ARA, and essential fatty acids. Under this agreement, we provide Abbott with preferential access to commercial products from our GLA and ARA safflower programs, as well as the right to receive low single-digit royalty payments on product sales to third parties, in exchange for the licenses to Abbott's intellectual property rights.

Key Collaborations

Since our founding in 2002, we have established numerous trait collaborations and have developed deep relationships with industry-leading seed and consumer product companies. Our partnerships with global strategic seed and consumer product players enable us to further participate in the development and commercialization of innovative products that promise to play significant roles in improving global crop efficiency and enhancing human health. The results of these collaborations directly feed

innovation and drive the progress of our ongoing programs. Moreover, the expertise and opportunities created by the collaborations represent important assets to our business. While our collaboration-focused business model has resulted in numerous strategically significant relationships, below is a summary of selected collaborative partnerships that we view as key to the achievement of our near-term and mid-term business objectives.

Mahyco

We have multiple collaborative agreements with Mahyco covering more than 15 programs, using our most advanced traits in multiple major crops crops, and have been working with Mahyco as a key partner since 2007. Our collaborations in NUE rice and salt tolerant rice are in advanced stages of development.

Under our various agreements relating to our NUE, WUE, and Salinity Tolerance traits, Mahyco has exclusive research and commercial rights in all licensed geographies and must timely meet certain diligence milestones in order to maintain their exclusivity. Each of our collaboration agreements with Mahyco includes an upfront technology access fee, technical and regulatory milestone fees, and, once products utilizing our traits are commercialized, we are entitled to receive a portion of the commercial value of seeds sold by Mahyco incorporating our traits. Mahyco is entitled to offset some of these fees against outstanding convertible promissory notes issued by us. Rights to new intellectual property developed under a collaboration agreement are owned by the inventing party or parties.

Vilmorin & Cie (Limagrain)

We selected Limagrain as our strategic partner and collaborator in wheat—the world's largest crop by area grown and the third most valuable at $186.4 billion annual value—due to their position as the leading global breeder and marketer of wheat seeds. In 2009, we executed an agreement with Limagrain under which we partnered to develop and commercialize NUE wheat in all countries of the world except Australia, India, Pakistan, Bangladesh and Sri Lanka. Under our agreement, Limagrain has exclusive research and commercial rights in all licensed geographies except North America and South America, in which we retained co-exclusive rights, and Limagrain must timely meet diligence milestones to maintain exclusivity. Our agreement with Limagrain includes an upfront technology access fee, annual maintenance fees, and technical and regulatory milestone fees, and once an NUE wheat product is commercialized, we are entitled to receive a portion of the commercial value of the trait in the marketplace. Limagrain owns rights to new intellectual property it develops that is based on our NUE technology, but Limagrain has agreed not to assert its rights in any way that limits our ability or our other collaborators' ability to use our NUE technology in crops other than wheat. We and Limagrain have since coordinated with collaborators in Australia to align development efforts in NUE wheat on a global basis.

In 2010, we further expanded our relationship with Limagrain from collaborator to stockholder and joint venture partner. Contemporaneously with Limagrain's $25 million equity investment in our company, we formed Limagrain Cereal Seeds LLC, a joint venture company focused on the development and commercialization of improved wheat seed in North America, of which a U.S. wholly owned subsidiary of Limagrain owns 65% and we own 35%. This joint venture strengthens a close strategic relationship between us and Limagrain, and increases the share of net trait value that we will recognize on traits commercialized in wheat.

As a key strategic partner, Limagrain has a right of first offer to license—on an arm's-length basis—new technologies that we develop or acquire that are applicable to wheat or barley. This right of first offer extends to Limagrain Cereal Seeds for the United States and Canada. Pursuant to the right of first offer, we formed a global collaboration with Limagrain and Limagrain Cereal Seeds in 2011 to develop and commercialize WUE wheat. Our agreement with Limagrain and Limagrain Cereal Seeds

includes an upfront technology access fee, technical and regulatory milestone fees, and, once a product is commercialized, we are entitled to receive a portion of the commercial value of the WUE trait in the marketplace.

Bioceres

In 2012, we partnered with Bioceres, an Argentina-based technology company, to form Verdeca LLC, a U.S.-based joint venture company engaged in the development and deregulation of soybean traits, of which we own 50%. We selected Bioceres as our partner in soybeans—the world's fourth largest crop by area grown and the fourth most valuable at $119 billion annual value—due to their desirable trait portfolio, their presence in key South American markets, and the significant presence of large soybean growers in their ownership structure.

Our joint venture agreement provides for each of the joint venture partners to license its trait technologies to Verdeca for use in soybeans, with product development and regulatory efforts equitably divided and managed by us and Bioceres under standalone service agreements that are executed annually. The first product in the Verdeca pipeline is a drought and abiotic stress tolerance trait that has already completed extensive validation trials and is now in the regulatory phase of development. This trait has been demonstrated to confer a seven to 16% yield advantage over conventional soybeans grown under the same suboptimal conditions. Verdeca's pipeline also includes our NUE and WUE technologies, which are combined in a two-trait stack that will be further stacked with the initial drought and abiotic stress tolerance trait discussed above. Verdeca has successfully negotiated favorable market access in South America through established players and is working on adding market channel partners in the United States, India, and China.

In addition to those agreements with Bioceres directly associated with Verdeca, we also have negotiated exclusive access to Bioceres' drought and abiotic stress tolerance trait for use globally, outside of South America, in wheat. Our agreement with Bioceres provides for sharing of trait value once a product is commercialized.

Scientific Advisory Board

We maintain a scientific advisory board consisting of the members identified below. Our scientific advisory board meets on a quarterly basis and is comprised of industry and academic experts that have extensive experience in the analysis, research and development, and commercialization of biotech plants, including experience relating to discovery, transformation, and field trials. We consult with our scientific advisory board on a variety of matters pertaining to our current and future pipeline of products in development, including, for example, trait selection and development, transformation and TILLING methodologies, field trials, regulatory matters, and intellectual property evaluation.

We currently have scientific advisory board that consists of six members as follows:

Eduardo Blumwald, Ph.D. is a professor at the University of California, Davis. Dr. Blumwald's research program is multidisciplinary in nature, combining physiology, biochemistry, molecular biology, genomics, and proteomics. The general objectives of his work are: (i) the cellular and molecular mechanisms that regulate ion homeostasis in plants; (ii) the cellular and molecular mechanisms mediating the responses of plants to abiotic stress (e.g., salt, drought, and heat); (iii) the biochemical and molecular basis of sugar and acid accumulation in fruits; and (iv) the development of genomic and proteomic resources for the improvement of fruit quality. Dr. Blumwald has worked closely with our scientists from the time of his former position with the University of Toronto.

Vicki Chandler, Ph.D. is Chief Program Officer, Science, at the Gordon and Betty Moore Foundation. She studied biochemistry for her undergraduate and doctoral degrees at the University of California, Berkeley, and the University of California, San Francisco, respectively. She then pursued

postdoctoral research at Stanford University and was on the faculty at the University of Oregon and the University of Arizona. Dr. Chandler's research on paramutation, an epigenetic process, has implications not only for corn, which she used for the majority of her research, but also for animal and human genetics and genetic diseases. Dr. Chandler is president of the Genetics Society of America, a member of the National Academy of Sciences, and a member of the National Science Board. Her many honors include the Presidential Young Investigator Award, Searle Scholar Award, and American Association for the Advancement of Science Fellow. She has served on advisory boards and panels for the National Research Council, National Science Foundation, Department of Energy, and National Institutes of Health. Dr. Chandler has chaired numerous conferences and served on the editorial boards of several journals, including Genetics, Plant Physiology, PNAS, and Science.

Luca Comai, Ph.D. is a professor at the Genome Center in University of California, Davis. Dr. Comai's lab is involved in two areas pertinent to breeding. In the first, they study genome regulation, hybridization, and heterosis responses in chromosome copy number variants and interspecific hybridization. In the second, they develop and make available to the plant community a functional genomic discovery tool called TILLING that allows targeted inactivation of genes in crop plants. The research combines plant genetics and genomics with the use of next-generation sequencing and bioinformatics to identify genes responsible for traits of interest as well as to discover and use natural and induced variation. Dr. Comai is known for his pioneering work creating glyphosate tolerant crops, and as a founding scientist in Calgene Pacific, Targeted Growth, Inc., and Tilligen.

Georges Freyssinet, Ph.D. is recently retired after many years in the plant biotechnology industry in France. He is the former CEO of RhoBio, a joint venture between Rhône-Poulenc Agro and Biogemma, and served as the Scientific Advisor for Life Sciences for the RP Group. Dr. Freyssinet is the former director of plant genomics for Aventis, which was later acquired by BayerCropScience. He joined Biogemma in 2003 to lead their genomic and bioinformatics platform, and in 2006 he joined the Scientific Direction of Groupe Limagrain, serving as Scientific Director from 2008-2011. Dr. Freyssinet is the founder and former CEO of LemnaGene, a biomanufacturing company, and the former CEO of Genective, a joint venture between Groupe Limagrain and KWS. Retired since 2014, he continues his independent consulting activities in plant biotechnology.

Jim Petersen, Ph.D. is Vice President for Research at Limagrain Cereal Seeds, a U.S. joint venture between Groupe Limagrain and our company, where he currently oversees all U.S. breeding operations. Prior to joining Limagrain, Dr. Peterson spent 27 years in public sector wheat research, including 12 years as the Krondstadt Professor of Wheat Breeding and Genetics at Oregon State University. Dr. Peterson served as Chair of the National Wheat Improvement Committee and is a recipient of the Weatherford Award for Entrepreneurship and Innovation from the College of Business at Oregon State University. He is noted for his fundamental research on wheat end-use quality and GxE interactions impacting quality. Dr. Peterson received his B.S. in agronomy from Washington State University and his M.S. and Ph.D. in agronomy and plant breeding from the University of Nebraska.

Peter Quail, Ph.D. is a professor of Plant and Microbial Biology at the University of California, Berkeley where he also serves as Research Director of the Plant Gene Expression Center (U.S. Department of Agriculture/Albany, California). Dr. Quail has been a pioneer in the study of phytochromes, photoreceptor proteins that play a major regulatory role in plant growth and development. Dr. Quail was elected to the National Academy of Sciences in 2004, as a Fellow of the American Association of Science in 2004, and was the recipient of the Stephen Hales Prize, American Society of Plant Biologists, 2008. He received a B.S. and Ph.D. from the University of Sydney, Australia.

Competition

The markets for seed traits and agricultural biotechnology products are highly competitive, and we face significant direct and indirect competition in several aspects of our business. Competition for improving plant genetics comes from conventional and advanced plant breeding techniques, as well as from the development of advanced biotechnology traits. Other potentially competitive sources of improvement in crop yields include improvements in crop protection chemicals, fertilizer formulations, farm mechanization, other biotechnology, and information management. Programs to improve genetics and chemistry are generally concentrated within a relatively small number of large companies, while non-genetic approaches are underway with broader set of companies.

In general, we believe that our competitors generally fall into the following categories:

- *Large Agricultural Biotechnology, Seed, and Chemical Companies:* According to Phillips McDougall, the leading 11 seed and trait companies as a group invested $4.1 billion in seed and trait research and development in 2013. This includes conventional and advanced plant breeding, as well as biotechnology trait development. According to Phillips McDougall, only a limited number of companies have been actively involved in new trait discovery, development, and commercialization: Monsanto, DuPont Pioneer, Syngenta, BASF, Bayer, Dow, KWS, and Genective (a joint venture between KWS and Limagrain). Many of these companies have substantially larger budgets for gene discovery, research, development, and product commercialization than we do. Some of these companies also have substantial resources and experience managing the regulatory process for new GM seed traits. Each of Monsanto, DuPont Pioneer, Syngenta, Dow, and Bayer, which accounted for 85% of the 2013 seed trait research and development spend noted above, also have significant chemical crop protection background and businesses. The trait pipelines of these companies are heavily weighted toward biotic stress traits, although they also have significant programs aimed at development of abiotic stress traits. While these companies have internal programs that may compete with our own, they also seek new traits externally and, as such, some of them either currently are, or may in the future be, our collaborators. In addition, some of these companies are currently among our sources for new trait technologies.

- *Trait Research and Development Companies:* There are a number of companies that specialize in research and development of agricultural yield and product quality traits, and we believe that a dozen or more companies, including Evogene, Ceres, and Keygene, among others, are competitors in our field. We believe that these companies typically focus on a limited number of traits, and do not generally have the product development and regulatory infrastructure necessary to bring traits to market. Therefore, they typically license trait technologies to large industry players with in-house development and regulatory capabilities at a relatively early stage of development.

- *Companies Focused on the Development and Commercialization of Microbial Crop Enhancements:* The use of microbial products to enhance crop performance via application to soil, seed, or to crops directly is an area where increased research and development activity has been underway for the past decade or more. We believe that there are more than 20 companies of varying size working in this space. There have been a number of acquisitions, including Becker Underwood by BASF, and joint collaborations in this space, but multiple independent companies remain, including Verdesian, Rizobacter, Biagro, and Bioconsortia. While these companies could be considered to compete with us as their products seek to improve crop yields, we believe that such products and our traits may be additive, or synergistic, to our future products in terms of increasing crop yields.

- *Companies Focused on Farming Data Management, or Precision Agriculture:* Within the past several years there has been a rapid increase in technologies and companies focused on

acquiring, analyzing, and acting upon data in ways that may improve farm economics via increased crop yield and more efficient management of crop production inputs. Technical approaches include weather prediction and monitoring, high-density field and crop imaging systems, precision field soil and yield mapping, and others. Companies focusing on this space include Trimble, Planet Labs, Ceres Imaging, Blue River, and others. While these products are potentially competitive with us for increasing crop yields, we believe that certain of these products could also be additive or synergistic with our traits.

- *Agricultural Research Universities and Institutions:* Given the global importance of agriculture, numerous agricultural research universities and institutions around the world focus on basic and applied research aimed at increasing crop yield. According to the Agricultural Science and Technology Indicators, global public spending on agricultural research and development in 2008 totaled $31.7 billion, having increased by 22% during the years from 2000 to 2008. Spending in 2008 in high income countries accounted for approximately 51% of the total, while spending in low and middle income countries accounted for 49% of the total. The United States was the largest contributor of public agriculture funding in 2008 with a total investment of $4.8 billion. Most of this publicly funded research is focused on basic research. Many public research programs aim to understand basic biological processes and do not necessarily engage in further development and commercialization of discovered traits. While these programs are potentially competitive with us, we view them primarily as sources of innovation that fit with our business model. We have an established track record of working closely and effectively with public research programs, including a number from the U.S., Canada, Japan, Australia, Spain, Ireland, and elsewhere.

We believe that we are uniquely positioned at the nexus of basic research and commercial product development. Unlike many companies in our space, we generally do not compete in the area of basic research. Our focus is on development and validation and, therefore, we provide a value-added link by which basic research can be brought to market. Public research institutions provide us with a source of innovative new technologies and traits and, while such basic research programs are competitive with in-house programs at the largest seed and technology companies, global public investment in basic research in 2008 at more than $31 billion was more than seven times greater than industry spending in 2013. We believe that these public programs are valuable and sustainable sources of new technologies for us and we have earned a reputation in our industry as a trustworthy and effective partner based on our demonstrated ability to manage the development and regulatory processes for GM seeds and capture additional value for ourselves and our basic research collaborators. While internal programs at the largest seed and technology companies are competitive with ours in some cases, we are technology providers to some of these companies, and we have numerous collaborations with many of them. To remain competitive, we plan to pursue multiple strategies, including further building our pipeline of new technologies from basic research programs, increasing the scope and range of our field testing activities, and continuing to protect our intellectual property rights in key jurisdictions globally.

Research and Development

As of March 31, 2015, we had 49 full-time employees dedicated to research and development, nine of whom are development and field personnel focused on demonstration and research field trials. Our research and development team has technical expertise in molecular biology, biochemistry, genetics and genetic engineering, analytical chemistry, plant physiology, plant virology, molecular pathogenesis, and soil and water science. Our research and development activities are conducted principally at our Davis, California and Seattle, Washington facilities, with ongoing field trials conducted in American Falls, Idaho; Brawley, California; and numerous other locations throughout the United States and at locations managed by our collaborators worldwide. We have made, and will continue to make, substantial

investments in research and development. Our research and development expenses were $8.4 million and $10.0 million in the years ended December 31, 2013 and 2014, respectively.

Employees

As of March 31, 2015, we had 76 full-time employees, of whom 13 hold Ph.D. degrees. Approximately 49 employees are engaged in research and development activities, four in business development, three in regulatory management, and 20 in management, operations, accounting/finance, legal, and administration. We consider our employee relations to be good. None of our employees are represented by a labor union or collective bargaining agreement.

Facilities

Our corporate headquarters are located in Davis, California, in a facility consisting of approximately 20,775 square feet of office, laboratory, and growth chamber space under a lease that expires on June 30, 2015, pursuant to which we have an option to renew the lease for an additional three-year term. This facility accommodates research and development, operations, analytical services, regulatory, and administrative activities. We also lease approximately 4,381 square feet of office and laboratory space in Seattle, Washington, where our team of scientists executes our TILLING technology platform, under a lease that expires on December 31, 2015, with an option to renew for an additional one-year term. Our administrative offices in Phoenix, Arizona consist of 1,913 square feet under a lease that expires on December 31, 2016 and accommodate finance, legal, and other administrative activities, as well as sales and marketing activities for our Sonova products. We also lease greenhouse space and farm land for agricultural use in Northern California as well as farmland in Idaho. We also lease grain bin and office space in Idaho under a lease that expires on March 3, 2019.

We believe that our leased facilities are adequate to meet our current needs and that, if needed, suitable additional or alternative space will be available to accommodate our operations.

Legal Proceedings

We currently are not a party to any material litigation or other material legal proceedings. From time to time, we may be subject to legal proceedings and claims in the ordinary course of business.

MANAGEMENT

The following table provides information regarding our executive officers, directors, and director nominees (ages as of March 31, 2015):

Name	Age	Position
Eric J. Rey	59	President, Chief Executive Officer, and Director
Vic C. Knauf, Ph.D.	63	Chief Scientific Officer
Thomas P. O'Neil	50	Chief Financial Officer
Steven F. Brandwein	59	Vice President of Finance and Administration
Wendy S. Neal	41	Vice President and Chief Legal Officer
Don Emlay	73	Vice President of Regulatory Affairs and Compliance
Roger Salameh	51	Vice President of Business Development
Zhongjin Lu, Ph.D.	49	Vice President of Product Development
Darby E. Shupp	39	Chairman of the Board of Directors
Peter Gajdos	32	Director
Uday Garg	36	Director
James R. Reis	57	Director
Mark W. Wong	65	Director
Matthew A. Ankrum	45	Director Nominee
George F.J. Gosbee	45	Director Nominee
Rajiv Shah, M.D.	42	Director Nominee

Executive Officers

Eric J. Rey is one of our founders and has served as our President and Chief Executive Officer and a director of our company since August 2003. Mr. Rey has managed agricultural research, product development, and commercialization programs for more than 30 years, most of which have focused specifically on food, feed, and industrial products from agricultural biotechnology. Prior to founding our company, Mr. Rey worked as a partner with the Rockridge Group, a management consulting firm focused on the agricultural biotechnology industry. While at Rockridge, Mr. Rey managed the development of strategic partnerships for early-stage companies developing genomic, biopharmaceutical, nutraceutical, crop protection, animal nutrition and health, alternative crop, and industrial products. Prior to his work with Rockridge, Mr. Rey served as Vice President of Operations with Calgene Inc. for 17 years, including two years with Monsanto Company following its acquisition of Calgene. During his 17 years at Calgene and Monsanto, he was responsible for the establishment and management of the company's operational, product development, and agricultural infrastructure. Mr. Rey holds a B.S. in Plant Science from the University of California, Davis. We believe that Mr. Rey is qualified to serve as a member of our board of directors because of his operational and historical expertise gained from serving as our President and Chief Executive Officer. As one of our founders and the longest serving member of our board of directors, we also value his deep understanding of our business as it has evolved over time.

Vic C. Knauf, Ph.D. has served as our Chief Scientific Officer since June 2005. Dr. Knauf has 30 years of experience in agricultural product and technology development. Prior to joining our company, Dr. Knauf founded Anawah, Inc., a food and agricultural research company focused on the development of value-added whole foods, which we acquired in 2005. Before Anawah, Dr. Knauf served as a Director of Monsanto Food and Nutrition Research and Vice President of Research at Calgene, Inc. Dr. Knauf holds a B.S. in Biology from the New Mexico Institute of Mining and Technology and a M.S. and Ph.D. in Microbiology and Immunology from the University of Washington.

Thomas P. O'Neil has served as our Chief Financial Officer since March 2015. From January 2014 to July 2014, Mr. O'Neil served as Chief Financial Officer of Sorbent Therapeutics, Inc., a

biopharmaceutical company. From September 2011 to December 2013, Mr. O'Neil served as a consultant to Sorbent and a variety of health care and technology companies, providing financial planning and operational support. From December 2009 to August 2011, Mr. O'Neil served as Vice President of Finance & Administration of ChemGenex Pharmaceuticals Ltd., a biopharmaceutical company. From March 2007 to May 2009, Mr. O'Neil served as Vice President of Finance & Administration of Nodality, Inc., a biotechnology company. Mr. O'Neil holds a B.A. from Pomona College in International Relations and an M.B.A. from the University of California at Los Angeles.

Steven F. Brandwein has served as our Vice President of Finance and Administration since September 2002 and as our Treasurer since June 2014. He previously served as our Secretary from September 2002 until June 2014. Mr. Brandwein has more than 30 years of business, operations and international finance experience in agricultural biotechnology and a range of other industries. Prior to joining us, Mr. Brandwein served as CFO for Rulebase, Inc., an early-stage software company, where he led the finance, accounting, and human resources functions. Before joining Rulebase, Mr. Brandwein spent more than 10 years as an executive with Dial Corporation, including seven years based in London as the Controller for the company's European finance subsidiaries, and three years as an excise tax auditor with the U.S. Department of the Treasury. Mr. Brandwein holds a B.A. in International Relations from the University of Minnesota and a Masters in International Management from Thunderbird School of Global Management.

Wendy S. Neal has served as our Vice President and Chief Legal Officer since October 2008, and has served as our Secretary since June 2014. Ms. Neal has more than 15 years of experience in intellectual property and business law. Prior to joining our company, Ms. Neal was a partner in the Intellectual Property & Technology group at the law firm of Snell & Wilmer L.L.P. and served as our outside counsel. Prior to joining Snell & Wilmer, Ms. Neal worked with the patent team at GE Aircraft Engines and has served in technical roles at companies such as BP Oil, BP Chemicals, and Henkel Corporation. Ms. Neal has also served as Risk Policy Consultant to the American Institute of Chemical Engineers government relations team. Ms. Neal holds a B.S. in Chemical Engineering and a J.D. from the University of Cincinnati.

Don Emlay has served as our Vice President of Regulatory Affairs and Compliance since June 2004. Mr. Emlay has nearly 40 years of regulatory experience with consumer, industrial, and transgenic plant products. Prior to joining our company, Mr. Emlay was an independent consultant and provided counsel in the areas of research, product development, production, and regulatory procedures. Before his work as a consultant, Mr. Emlay served as Vice President of Regulatory Affairs with Calgene Inc. for 13 years, including three years with Monsanto Company following its acquisition of Calgene. Prior to Calgene and Monsanto, Mr. Emlay worked with Zoecon where he worked exclusively with the EPA in obtaining approvals for the first insect growth regulators to be registered for homeowner and pest control applications. Mr. Emlay holds a B.S. in Entomology from San Jose State University.

Roger Salameh has served as our Vice President of Business Development since November 2003. Mr. Salameh has more than 22 years of executive, managerial, and operations experience in agricultural, biotechnology, and food ingredients businesses. Prior to joining our company, Mr. Salameh was a consultant with Rockridge. Before joining Rockridge, Mr. Salameh served as director of business development at Monsanto Company. Prior to Monsanto, Mr. Salameh served as product manager for Calgene, Inc.'s genetically modified oils business. Mr. Salameh attended New York University where he studied Economics and Political Science.

Zhongjin Lu, Ph.D. has served as our Vice President of Product Development since May 2010. He previously served as our Director of Product Development and Plant Breeding since our inception. Dr. Lu has 30 years of experience in agronomy, crop genetics and breeding, plant physiology, and agricultural biotechnology. Prior to joining our company, Dr. Lu was the Director of Plant Breeding and Senior Scientist at Seaphire International, Inc., a seawater-based agricultural company in Arizona.

Before his work with Seaphire, Dr. Lu worked for Monsanto Company where he was responsible for the project of salicornia genetic improvement for saline agriculture. Prior to Monsanto Company, Dr. Lu was associated with the Jiangsu Academy of Agricultural Sciences. Dr. Lu holds an M.S. in Plant Genetics and Breeding from Nanjing Agricultural University, China, and a Ph.D. in Plant Physiology from Technion—Israel Institute of Technology.

Each executive officer serves at the discretion of our board of directors and holds office until his or her successor is duly elected and qualified or until his or her earlier resignation or removal. There are no family relationships among any of our directors or executive officers.

Non-Employee Directors

Darby E. Shupp has served as chairman of our board of directors since June 2014 and as a director of our company since February 2010, and served as our treasurer from February 2010 until June 2014. Since January 2010, Ms. Shupp has served as Chief Financial Officer of Moral Compass Corporation, an investment company formed by Dr. John Sperling, the founder of Apollo Education Group, Inc. and one of our founders. Since February 2005, Ms. Shupp has been employed by various entities affiliated with Moral Compass Corporation. She previously worked for Deloitte LLP as an Audit Manager serving clients in the business services, manufacturing, and real estate industries. Ms. Shupp has served as a director of Apollo Education Group since March 2011. Ms. Shupp holds a B.S. in Accountancy from Arizona State University and is a Certified Public Accountant. We believe that Ms. Shupp is qualified to serve on our board of directors due to her management, accounting, and operational experience as an executive and director for public and private companies.

Peter Gajdos has served as a director of our company since May 2014. Since November 2014, Mr. Gajdos has served as a managing director and portfolio manager at Presidio Partners, a venture capital investment firm. From July 2013 to November 2014, Mr. Gajdos served as a managing director and portfolio manager at CMEA Capital, a venture capital investment firm. He co-founded AgoraSol LLC, a solar development company, in March 2013 and had an active role at the company from March 2013 until June 2013. From September 2012 to December 2012, Mr. Gajdos was a consultant at Silver Lake Kraftwerk, a technology investment firm. From June 2012 to August 2012, he was an intern at Warburg Pincus, a private equity investment firm. From April 2007 to July 2011, Mr. Gajdos worked as an associate at the Virgin Green Fund, a private equity investment firm. He has served as a director of CNano Technology Limited since August 2013. Mr. Gajdos served on the board of Reel Solar Inc. from September 2013 until its acquisition in April 2014. He holds a B.A. in International Business and Finance from the Kenan-Flagler Business School at the University of North Carolina-Chapel Hill and an M.B.A. from the Wharton School of Business at the University of Pennsylvania. We believe that Mr. Gajdos is qualified to serve as a member of our board of directors because of his extensive experience in the venture capital industry and his knowledge of technology companies. Pursuant to Presidio Partners policy, Mr. Gajdos has notified us that he plans to resign from our board of directors prior to the initial public offering.

Uday Garg has served as a director of our company since June 2014. Mr. Garg founded Mandala Capital, a private equity fund, in 2008 and has served as managing director and a director since its inception. As part of his duties at Mandala, Mr. Garg serves on the boards of various Mandala portfolio companies and affiliated investment vehicles. Previously, Mr. Garg was a portfolio manager at Duet Group, Altima Partners, and Amaranth Advisors. He began his career as an investment banker in the corporate finance and mergers and acquisitions department of Deutsche Bank. He holds a B.S. in Economics with a concentration in Finance from the Wharton School of Business at the University of Pennsylvania. Mr. Garg has considerable experience in the private equity industry and extensive knowledge of the seed business in India, which provides our board of directors a useful perspective on our business strategy in India.

James R. Reis has served as a director of our company since August 2005. He also served as a director of Apollo Group, Inc. from March 2007 to January 2010. Since 2006, Mr. Reis has been employed by and served as Vice Chairman of Gainsco, Inc., an insurance company. Mr. Reis holds a B.S. in Accounting from St. John Fisher College in Rochester, New York and is a Certified Public Accountant (inactive). We believe that Mr. Reis is qualified to serve as a member of our board of directors due to his financial, accounting, and operational expertise from prior experience as an executive and director for public and private technology companies.

Mark W. Wong has served as a director of our company since May 2006. Mr. Wong was the Chief Executive Officer of Renewable Agricultural Energy Corporation, a private ethanol production company, from 2006 to 2007. From 1999 to 2005, Mr. Wong was the founder and Chief Executive Officer of Emergent Genetics, an international seed company sold to Monsanto Company in 2005. Prior to that time, Mr. Wong founded and managed a series of agricultural and biotechnology companies including Big Stone Partners, Agracetus Corporation, and Agrigenetics Corporation. Mr. Wong also worked as an engineer for FMC Corporation and Chemical Construction Corporation. Mr. Wong served as a director of BioFuel Energy Corp., a publicly traded ethanol company, from January 2008 until October 2014, and Chair from March 2010 to October 2014, when it was renamed Green Brick Partners following an acquisition and recapitalization transaction. Mr. Wong holds a B.S. in Chemical Engineering from Lehigh University and a M.B.A. from the Wharton School of Business at the University of Pennsylvania. Mr. Wong brings to our board of directors over 35 years' experience in the biotechnology and seed industries as a founder and manager. His service on a number of private and public company boards also provides an important perspective on corporate governance matters.

Director Nominees

Matthew A. Ankrum will become a director of the company in connection with this offering. In December 2010, Mr. Ankrum co-founded BodeTree LLC, a business-to-business subscription-based web application, where he continues to serve as Chairman of the company. From August 2008 to September 2012, Mr. Ankrum served as the head of strategy for Apollo Education Group, Inc. Prior to these positions, Mr. Ankrum served as a financial analyst and portfolio manager for Janus Capital Management, Lateef Investment Management, and William Blair & Company. Mr. Ankrum holds a B.A. in Finance from the University of Wisconsin, Madison and an M.B.A. from the University of Chicago. We believe Mr. Ankrum is qualified to serve on our board of directors due to his knowledge of technology companies and his management, financial, and operational experience with public and private companies.

George F.J. Gosbee will become a director of the company in connection with this offering. In May 2010, Mr. Gosbee founded the investment firm AltaCorp Capital Inc., where he currently serves as Chief Executive Officer and Chairman of the board of directors. Since 2013, Mr. Gosbee has been a co-owner of the Arizona Coyotes, a National Hockey League team. Prior to founding AltaCorp Capital, Mr. Gosbee founded Capital Global Inc., a global energy investment firm, where he served as President, Chief Executive Officer, and Chairman of the board of directors until its acquisition in 2009. Mr. Gosbee is a director and former Vice Chair of Alberta Investment Management Co, an investment fund. He also served as a director of Chrysler Group LLC from July 2009 to September 2011. He holds a Bachelor of Commerce from the University of Calgary, where he specialized in finance and petroleum land management. We believe Mr. Gosbee is qualified to serve on our board of directors due to his twenty years of experience in corporate finance, investment banking, and global capital markets. This experience will provide our board with valuable insights on financial and strategic planning matters.

Rajiv Shah, M.D. will become a director of the company in connection with this offering. Dr. Shah served as Administrator of the United States Agency for International Development, or USAID, from January 2010 to February 2015. Prior to his appointment at USAID, Dr. Shah served as Undersecretary

and Chief Scientist at the U.S. Department of Agriculture, during which time he created the National Institute for Food and Agriculture. Prior to working in government, Dr. Shah spent eight years at the Bill & Melinda Gates Foundation, where he led efforts in global health, agriculture, and financial services. Dr. Shah holds a B.S. from the University of Michigan, an M.Sc. in Health Economics from the Wharton School of Business at the University of Pennsylvania and an M.D. from the University of Pennsylvania School of Medicine. We believe Dr. Shah is qualified to serve as a member of our board of directors due to his experience in agriculture, government, and regulatory affairs.

Code of Business Conduct and Ethics

Our board of directors has adopted a code of business conduct and ethics that applies to all of our employees, including our Chief Executive Officer, Chief Financial Officer, other executive and senior financial officers, and our directors. Our code of business conduct and ethics will be posted on the investor relations page on our website. We intend to disclose any amendments to these documents, or waivers of their requirements, on our website or in filings under the Securities Exchange Act of 1934, or the Exchange Act, as required by the applicable rules and exchange requirements.

Board of Directors

Our business and affairs are managed under the direction of our board of directors. The number of directors will be fixed by our board of directors, subject to the terms of our amended and restated certificate of incorporation and amended and restated bylaws that will become effective upon the completion of this offering. Upon the completion of this offering, our board of directors will consist of eight directors, six of whom will qualify as "independent" under the listing standards of The NASDAQ Stock Market.

In accordance with our amended and restated certificate of incorporation and our amended and restated bylaws, upon the completion of this offering our board of directors will be divided into three classes with staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Our directors will be divided among the three classes as follows:

- the Class I directors will be George F.J. Gosbee, James R. Reis, and Eric J. Rey, and their terms will expire at the annual meeting of stockholders to be held in 2016;
- the Class II directors will be Matthew A. Ankrum, Rajiv Shah, and Mark W. Wong, and their terms will expire at the annual meeting of stockholders to be held in 2017; and
- the Class III directors will be Uday Garg and Darby E. Shupp, and their terms will expire at the annual meeting of stockholders to be held in 2018.

Any increase or decrease in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors.

This classification of our board of directors may have the effect of delaying or preventing changes in control of our company.

Currently, Ms. Shupp serves on our board of directors as designee of entities affiliated with Moral Compass Corporation, Mr. Garg serves on our board of directors as designee of Mandala Capital, and Mr. Gajdos serves on our board of directors as designee of certain of our preferred stockholders, in each case pursuant to the provisions of a voting agreement among us and certain of our stockholders. The voting agreement will terminate upon completion of this offering. For additional information, see "Certain Relationships and Related Party Transactions—Voting Agreement."

Director Independence

Under the rules of The NASDAQ Stock Market, independent directors must comprise a majority of a listed company's board of directors within a specified period of time after completion of such company's initial public offering. In addition, the rules of The NASDAQ Stock Market require that, subject to specified exceptions, each member of a listed company's audit, compensation, and nominating and governance committees be independent. Under the rules of The NASDAQ Stock Market, a director will only qualify as an "independent" director if, in the determination of that company's board of directors, that director does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

Audit committee members must also satisfy the independence criteria set forth in Rule 10A-3 under the Securities Exchange Act of 1934, as amended, or the Exchange Act. In order to be considered independent for purposes of Rule 10A-3, each member of the audit committee of a listed company may not, other than in his or her capacity as a member of such committee, the board of directors, or any other board committee: (i) accept, directly or indirectly, any consulting, advisory, or other compensatory fees from the listed company or any of its subsidiaries; or (ii) be an affiliated person of the listed company or any of its subsidiaries.

Our board of directors has undertaken a review of its composition, the composition of its committees, and the independence of each director and considered whether any director has a material relationship with us that could compromise his or her ability to exercise independent judgment in carrying out his or her responsibilities. Based on information provided by each director concerning his or her background, employment, and affiliations, including family relationships, our board of directors has determined that each of Matthew A. Ankrum, Uday Garg, George F.J. Gosbee, James R. Reis, Rajiv Shah and Mark W. Wong does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is "independent" as that term is defined under the applicable rules and regulations of the SEC, and the listing standards of The NASDAQ Stock Market. In making these determinations, our board of directors considered the current and prior relationships that each non-employee director has with our company and all other facts and circumstances our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director, and the transactions involving them described in the section titled "Certain Relationships and Related Party Transactions."

Committees of the Board of Directors

Our board of directors has established an audit committee, a compensation committee, and a nominating and governance committee. The composition and responsibilities of each of the committees of our board of directors is described below. Members will serve on these committees until their resignation or until as otherwise determined by our board of directors.

Audit Committee

Effective upon the completion of this offering, our audit committee will consist of Matthew A. Ankrum, George F.J. Gosbee, and James R. Reis, with Mr. Reis serving as audit committee chair. Our board of directors has determined that each of the members of our audit committee satisfies the requirements for independence and financial literacy under the current listing standards of The NASDAQ Stock Market and SEC rules and regulations, including Rule 10A-3. Our board of directors has also determined that Mr. Ankrum and Mr. Reis are each an audit committee financial expert

within the meaning of Item 407(d) of Regulation S-K under the Securities Act of 1933, as amended, or the Securities Act. Our audit committee will be responsible for, among other things:

- selecting a qualified firm to serve as the independent registered public accounting firm to audit our financial statements;
- helping to ensure the independence and performance of the independent registered public accounting firm;
- discussing the scope and results of the audit with the independent registered public accounting firm, and reviewing, with management and the independent registered public accounting firm, our interim and year-end operating results;
- developing procedures for employees to submit concerns anonymously about questionable accounting or audit matters;
- reviewing our policies on risk assessment and risk management;
- reviewing related party transactions; and
- approving all audit and all permissible non-audit services, other than de minimis non-audit services, to be performed by the independent registered public accounting firm.

Our audit committee operates under a written charter that satisfies the applicable rules of the SEC and the listing standards of The NASDAQ Stock Market and that will be available on our website upon completion of this offering. In accordance with and pursuant to Section 10A(i)(3) of the Exchange Act, our board of directors has delegated to Mr. Reis the authority to pre-approve any auditing and permissible non-auditing services to be performed by our registered independent public accounting firm, provided that all such decisions to pre-approve an activity are presented to the full audit committee at its first meeting following any such decision.

Compensation Committee

Effective upon the completion of this offering, our compensation committee will consist of Uday Garg, Rajiv Shah and Mark W. Wong, each of whom is a non-employee member of our board of directors, with Mr. Wong serving as compensation committee chair. Our board of directors has determined that each member of the compensation committee meets the requirements for independence under the listing standards of The NASDAQ Stock Market and SEC rules and regulations, is a non-employee director, as defined pursuant to Rule 16b-3 promulgated under the Exchange Act, and is an outside director, as defined pursuant to Section 162(m) of the Internal Revenue Code of 1986, or the Code. The purpose of our compensation committee is to discharge the responsibilities of our board of directors relating to compensation of our executive officers. Our compensation committee will be responsible for, among other things:

- reviewing, approving and determining, or making recommendations to our board of directors regarding, the compensation of our executive officers;
- administering our stock and equity incentive plans;
- reviewing and approving or making recommendations to our board of directors regarding incentive compensation and equity plans; and
- establishing and reviewing general policies relating to compensation and benefits of our employees.

Our compensation committee will operate under a written charter, to be effective on the date of this offering, that satisfies the applicable rules of the SEC and the listing standards of The NASDAQ Stock Market and that will be available on our website upon completion of this offering.

Nominating and Governance Committee

Effective upon the completion of this offering, our nominating and governance committee will consist of George F.J. Gosbee, Rajiv Shah, and Darby E. Shupp, each of whom is a non-employee member of our board of directors, with Ms. Shupp serving as nominating and governance committee chair. Our board of directors has determined that Mr. Gosbee and Dr. Shah meet the requirements for independence under the listing standards of The NASDAQ Stock Market and SEC rules and regulations. The NASDAQ Stock Market and SEC rules allow an issuer to, among other things, phase in, in connection with an initial public offering, the number of directors on its nominating and governance committee. Under these initial public offering phase-in rules, our nominating and governance committee must have at least one independent member at the time of listing, at least a majority of independent members within 90 days after listing, and all independent members within one year after listing. We plan to change the membership of our nominating and governance committee in the future to maintain compliance with the applicable phase-in requirements. Our nominating and governance committee will be responsible for, among other things:

- identifying, evaluating and selecting, or making recommendations to our board of directors regarding, nominees for election to our board of directors and its committees;
- considering and making recommendations to our board of directors regarding the composition of our board of directors and its committees;
- reviewing and assessing the adequacy of our corporate governance practices and recommending any proposed changes to our board of directors; and
- evaluating the performance of our board of directors and of individual directors.

The nominating and governance committee will operate under a written charter, to be effective upon the closing of this offering, that satisfies the applicable listing requirements and rules of The NASDAQ Stock Market and that will be available on our website upon completion of this offering.

Compensation Committee Interlocks and Insider Participation

None of our executive officers currently serves, or in the past year has served, as a member of the board of directors or compensation committee, or other board committee performing equivalent functions, of any entity that has one or more executive officers serving on our board of directors or compensation committee.

Director Compensation

We currently provide cash compensation to two of our non-employee directors, Mr. Reis and Mr. Wong, which includes an annual retainer of $12,000, $1,200 per meeting for each in-person meeting attended, and $750 per meeting for each telephonic meeting attended. We also have a policy of reimbursing our directors for their reasonable out-of-pocket expenses in connection with their attendance at board and committee meetings. From time to time, we have granted stock options to certain of our non-employee directors as compensation for their services. Mr. Rey, who is also an employee, is compensated for his service as an employee and does not receive any additional compensation for his service on our board of directors.

The following table sets forth information regarding the compensation received by Mr. Reis and Mr. Wong during the fiscal year ended December 31, 2014.

Name	Fees Earned or Paid in Cash ($)(1)	Stock Awards ($)	Option Awards ($)	Non-Equity Incentive Plan Compensation ($)	Nonqualified Deferred Compensation Earnings ($)	All Other Compensation ($)	Total ($)
James R. Reis	$ 19,050	—	—	—	—	—	$ 19,050
Mark W. Wong	17,100	—	—	—	—	—	17,100

(1) Represents the cash annual retainer and the meeting attendance fees earned by the non-employee directors.

Additionally, Mr. Reis and Mr. Wong have received option grants, as reflected in the table below.

Director Name	Option Grant Date	Number of Options Granted(1)	Option Exercise Price Per Share ($)(2)	Option Expiration Date
James R. Reis	5/2/2006	30,000(3)	$ 0.11	12/31/2015
	7/1/2008	40,000(3)	0.27	6/30/2018
	11/1/2009	20,000(3)	0.56	10/31/2019
	1/1/2010	120,000(3)	0.56	12/31/2019
	2/11/2015	20,000(4)	1.80	2/10/2025
Mark W. Wong	5/2/2006	20,000(3)	0.11	12/31/2015
	7/1/2008	40,000(3)	0.27	6/30/2018
	11/1/2009	20,000(3)	0.56	10/31/2019
	1/1/2010	120,000(3)	0.56	12/31/2019
	2/11/2015	20,000(4)	1.80	2/10/2025

(1) All of the options held by Mr. Reis and Mr. Wong were granted under the 2006 Stock Plan.

(2) The exercise price per share of the stock options reflects the fair market value per share of our common stock on the date of grant.

(3) These options vested in 16 equal quarterly installments from the date of grant, subject to the director's continued service through each vesting date. As of December 31, 2013, all of the options were fully vested and immediately exercisable.

(4) These options will vest in full and become exercisable on February 11, 2016, subject to the director's continued service through the vesting date.

Following this offering, we will have a compensation policy applicable to our non-employee directors that is intended to compensate, incentivize, and retain them, consisting of the following:

- *Annual Cash Retainer.* Each non-employee director receives an annual cash retainer in the amount of $40,000 for service on our board of directors. The retainer is payable in arrears in equal quarterly installments (on March 31st, June 30th, September 30th and December 31st), subject to such director's continued service on the last day of the preceding quarter and prorated as necessary to reflect service commencement or termination during the quarter.

- *Initial Option Grant for Board Membership.* On the date a new non-employee director becomes a member of the board (excluding an employee director who ceases to be an employee, but who remains a director), such director is granted an initial option to purchase 60,000 shares of our common stock. This initial option will vest and become exercisable in three equal installments on

each of the first three anniversaries of the date of grant, subject to the director's continued service through each vesting date. The per share exercise price for the initial option shall be equal to the fair market value for a share of our common stock on the date of grant. An employee director who ceases to be an employee, but who remains a director, will not receive an option grant. Each of Messrs. Ankrum and Gosbee and Dr. Shah, who are joining our board in connection with this offering, will receive an initial option grant to purchase 60,000 shares of our common stock with a per share exercise price equal to the initial public offering price, which will vest over three years.

- *Annual Option Grant for Board Membership.* Effective on the date of our annual meeting of stockholders each year after this offering, each non-employee director is granted an annual option to purchase 20,000 shares of our common stock. This annual option will vest and become exercisable on the earlier of (i) the one year anniversary of the date of grant or (ii) the date of our next annual meeting of stockholders, subject to the director's continued service through the vesting date. The per share exercise price for the annual option shall be equal to the fair market value for a share of our common stock on the date of grant.

- *Provisions Applicable to Option Grants.* Each option grant will be subject to the terms and conditions of our 2015 Omnibus Equity Incentive Plan and the terms of each stock option agreement entered into by us with such director. All option grants will be fully vested upon a "change in control" as defined in our 2015 Omnibus Equity Incentive Plan.

- *Chairmanship Fees.* In addition to the fees set forth above, the chairperson of each committee of our board of directors and our board chair will be entitled to receive the following additional annual cash fees (payable quarterly in arrears and prorated for partial service in a quarter) to compensate him or her for the additional responsibilities and duties of the position:

  - Board Chair—$20,000;
  - Audit—$15,000;
  - Compensation—$10,000; and
  - Nominating and Corporate Governance—$7,500.

- *Committee Membership Fees.* In addition to the fees set forth above, each non-employee director that is a member, but not the chairperson, of a committee of our board of directors will be entitled to receive the following additional annual cash fees (payable quarterly in arrears and prorated for partial service in a quarter) to compensate him or her for the additional responsibilities and duties associated with serving on the committee:

  - Audit—$7,500;
  - Compensation—$5,000; and
  - Nominating and Corporate Governance—$3,750.

Further, non-employee directors are reimbursed for the expenses they incur in connection with attending board and committee meetings.

EXECUTIVE COMPENSATION

Overview

The following discussion contains forward-looking statements that are based on our current plans, considerations, expectations, and determinations regarding future compensation programs. The actual amount and form of compensation and the compensation policies and practices that we adopt in the future may differ materially from currently planned programs as summarized below.

As an emerging growth company, we have opted to comply with the executive compensation disclosure rules applicable to "smaller reporting companies," as such term is defined in the rules promulgated under the Securities Act. The compensation provided to our named executive officers for 2013 and 2014 is detailed in the Summary Compensation Table and accompanying footnotes and narrative that follows this section.

Our named executive officers in 2013 and 2014 were:

- Eric J. Rey, our President and Chief Executive Officer;
- Vic C. Knauf, Ph.D., our Chief Scientific Officer; and
- Wendy S. Neal, our Vice President and Chief Legal Officer.

Summary Compensation Table

The following table provides information regarding the total compensation awarded to, earned by, and paid to each of our named executive officers for the fiscal years ended December 31, 2013 and 2014:

Name and Principal Position	Year	Salary ($)(1)	Bonus ($)(2)	Stock Awards ($)(3)	Option Awards ($)(3)	Non-Equity Incentive Plan Compensation ($)(2)	All Other Compensation ($)	Total ($)
Eric J. Rey,	2014	$ 338,057	—	—	$ 108,612	—	—	$ 446,669
President and Chief Executive Officer	2013	333,250	—	—	—	—	—	333,250
Vic C. Knauf,	2014	261,503	—	—	54,306	—	—	315,809
Chief Scientific Officer	2013	235,000	—	—	—	—	—	235,000
Wendy S. Neal,	2014	405,995	—	—	54,306	—	—	460,301
Vice President and Chief Legal Officer	2013	378,216	—	—	—	—	—	378,216

(1) Following this offering, the annual base salaries for Mr. Rey and Dr. Knauf shall be increased to $400,000 and $280,000, respectively.

(2) No bonuses were paid to the named executive officers with respect to the fiscal years ended December 31, 2013 and 2014. In connection with this offering, our named executive officers shall be eligible for annual cash bonuses based on achievement of performance goals to be established by the compensation committee in the future. Initially, the target bonus amounts shall be as follows: (i) 40% of base salary for Mr. Rey; (ii) 35% of base salary for Dr. Knauf; and (iii) 15% of base salary for Ms. Neal.

(3) Amounts shown reflect the aggregate grant date fair value of stock options awarded in fiscal 2014, computed in accordance with FASB ASC Topic 718. The valuation assumptions used in calculating the grant date fair value of the stock options are set forth in note 10 to our consolidated financial

statements included elsewhere in this prospectus. No stock awards or options awards were granted to the named executive officers during the 2013 fiscal year.

Outstanding Equity Awards at Fiscal Year-End

The following table provides information regarding each unexercised stock option held by each of our named executive officers as of December 31, 2014:

	Option Awards			
Name	Number of Securities Underlying Unexercised Options Exercisable	Number of Securities Underlying Unexercised Options Unexercisable	Option Exercise Price ($)	Option Expiration Date
Eric J. Rey	850,000	—	$ 0.11	12/31/2015
	2,500,000	—	0.27	6/30/2018
	550,000	—	0.56	10/31/2019
	750,000	—	0.56	12/31/2019
	500,000	—	3.39	12/31/2020
	75,000	25,000(1)	3.39	12/31/2022
	—	100,000(2)	1.53	10/29/2024
Vic C. Knauf	190,000	—	0.11	12/31/2015
	1,010,000	—	0.27	6/30/2018
	212,000	—	0.56	10/31/2019
	300,000	—	0.56	12/31/2019
	75,000	—	3.39	12/31/2020
	75,000	25,000(1)	3.39	12/31/2022
	—	50,000(2)	1.53	10/29/2024
Wendy S. Neal	200,000	—	0.27	6/30/2018
	125,000	—	0.56	10/31/2019
	200,000	—	0.56	12/31/2019
	75,000	—	3.39	12/31/2020
	75,000	25,000(1)	3.39	12/31/2022
	—	50,000(2)	1.53	10/29/2024

(1) Each of these options was granted with a vesting commencement date of January 1, 2013 and vests in 12 equal quarterly installments following the vesting commencement date such that the award will be fully vested on December 31, 2015, subject to the executive officer's continuous service through each vesting date. Vesting on these options will accelerate in full upon the completion of this offering.

(2) 50% of these options will vest on February 7, 2015 and the remaining 50% vests in 24 equal monthly installments commencing on February 28, 2015 such that the award will be fully vested on January 31, 2017, subject to the executive officer's continuous service through each vesting date. Vesting on these options will not accelerate in connection with this offering.

Agreements with Current Named Executive Officers

Currently, all of our named executive officers are "at-will" employees and none of them have entered into a written employment agreement with us. However, in connection with this offering, we anticipate entering into new offer letters with each of our named executive officers that will set forth each executive officer's title, base salary, and bonus opportunity (each as detailed in the footnotes to the Summary Compensation Table above). The new offer letters will not change the "at-will" nature of

the executive officers' employment. In March 2015, Thomas O'Neil joined us as our Chief Financial Officer. His offer letter provides for an annual base salary of $280,000, a target bonus of 35% of base salary, the grant of an initial option to purchase 250,000 shares of our common stock, which vests over four years, and an additional grant to be made at the time of the initial public offering.

Severance and Change in Control Agreements

In February 2015, our Board approved new severance and change in control agreements, or CIC Agreements, for each of our executive officers, the specific terms of which are discussed below. Each of the CIC Agreements expires by its terms on the third anniversary of the effective date of such agreement, which we expect to be on or around the completion of this offering.

Pursuant to the CIC Agreements, if we terminate an executive's employment with us for a reason other than cause (as defined in the CIC Agreements) or the executive's death or disability (as defined in the CIC Agreements) at any time other than during the twelve month period immediately following a change of control (as defined in the CIC Agreements), then such executive will receive the following severance benefits from the company: (i) severance in the form of base salary continuation for a period of six months (twelve months for Mr. Rey); and (ii) reimbursement for premiums paid for coverage pursuant to the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, or COBRA, for the executive and the executive's eligible dependents for up to six months (twelve months for Mr. Rey).

If during the twelve month period immediately following a change of control (as defined in the CIC Agreements), (x) we terminate an executive's employment with us for a reason other than cause (as defined in the CIC Agreements) or the executive's death or disability (as defined in the CIC Agreements), or (y) an executive resigns from such employment for good reason (as defined in the CIC Agreements), then, in lieu of the above described severance benefits, such executive shall receive the following severance benefits from the company: (i) severance in the form of base salary continuation for a period of twelve months (twenty-four months for Mr. Rey); (ii) reimbursement for premiums paid for coverage pursuant to COBRA, for the executive and the executive's eligible dependents for up to twelve months (twenty-four months for Mr. Rey); and (iii) vesting shall accelerate as to 100% of all of the executive's outstanding equity awards.

An executive's receipt of severance payments or benefits pursuant to a CIC Agreement is subject to the executive signing a release of claims in our favor and complying with certain restrictive covenants set forth in the CIC Agreement.

Each CIC Agreement contains a "better after-tax" provision, which provides that if any of the payments to an executive constitutes a parachute payment under Section 280G of the Code, the payments will either be (i) reduced or (ii) provided in full to the executive, whichever results in the executive receiving the greater amount after taking into consideration the payment of all taxes, including the excise tax under Section 4999 of the Code, in each case based upon the highest marginal rate for the applicable tax.

Pension Benefits

None of our named executive officers participate in or have account balances in qualified or nonqualified defined benefit plans sponsored by us.

Nonqualified Deferred Compensation

We do not maintain any nonqualified defined contribution or deferred compensation plans or arrangements for our named executive officers.

Employee Benefit and Stock Plans

2015 Omnibus Equity Incentive Plan

In 2015, our board of directors approved our 2015 Omnibus Equity Incentive Plan, or the 2015 Plan. The 2015 Plan will become effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, subject to the approval of our stockholders. Our 2015 Plan provides for the grant of incentive stock options, within the meaning of Section 422 of the Code, to our employees and the employees of our subsidiaries, and for the grant of nonstatutory stock options, stock appreciation rights, restricted stock, restricted stock units, performance units, and performance shares to our employees, directors, and consultants and the employees and consultants of our subsidiaries.

The following summary of terms of the 2015 Plan is based on the terms of the 2015 Plan as approved by the board of directors, but the terms are not final until approved by our stockholders.

Authorized Shares. The maximum aggregate number of shares that may be issued under the 2015 Plan is shares of our common stock plus (i) any shares that as of the completion of this offering, have been reserved but not issued pursuant to any awards granted under our 2006 Plan and are not subject to any awards granted thereunder, and (ii) any shares subject to awards under the 2006 Plan that otherwise would have been returned to the 2006 Plan on account of the expiration, cancellation or forfeiture of such awards, with the maximum number of shares to be added to the 2015 Plan pursuant to clauses (i) and (ii) above equal to shares as of . In addition, the number of shares available for issuance under the 2015 Plan will be annually increased on the first day of each of our fiscal years beginning with the 2016 fiscal year, by an amount equal to the least of:

- shares of our common stock;
- 4% of the outstanding shares of our common stock as of the last day of our immediately preceding fiscal year; or
- such other amount as our board of directors may determine.

Shares issued pursuant to awards under the 2015 Plan that we repurchase or that are otherwise forfeited will become available for future grant under the 2015 Plan on the same basis as the award initially counted against the share reserve. In addition, to the extent that an award is paid out in cash rather than shares, such cash payment will not reduce the number of shares available for issuance under the 2015 Plan.

Award Limitations. The following limits apply to any awards granted under the 2015 Plan:

- Options and stock appreciation rights—No employee may be granted within any fiscal year one or more options or stock appreciation rights, which in the aggregate cover more than shares; provided, however, that in connection with an employee's initial service as an employee, an employee's aggregate limit may be increased by shares;
- Restricted stock and restricted stock units—No employee may be granted within any fiscal year one or more awards of restricted stock or restricted stock units, which in the aggregate cover more than shares; provided, however, that in connection with an employee's initial service as an employee, an employee's aggregate limit may be increased by shares; and
- Performance units and performance shares—No employee may receive performance units or performance shares having a grant date value (assuming maximum payout) greater than dollars or covering more than shares, whichever is greater; provided, however, that in connection with an employee's initial service as an employee, an employee may receive performance units or performance shares having a grant date value (assuming maximum payout) of up to an additional amount equal dollars or covering up to shares, whichever is

greater. No individual may be granted more than one award of performance units or performance shares for a performance period.

Plan Administration. The 2015 Plan will be administered by our board of directors, which, at its discretion or as legally required, may delegate such administration to our compensation committee and/or one or more additional committees. In the case of awards intended to qualify as "performance-based compensation" within the meaning of Code Section 162(m), the compensation committee will consist of two or more "outside directors" within the meaning of Code Section 162(m).

Subject to the provisions of our 2015 Plan, the administrator has the power to determine the terms of awards, including the recipients, the exercise price, if any, the number of shares subject to each award, the fair market value of a share of our common stock, the vesting schedule applicable to the awards, together with any vesting acceleration, and the form of consideration, if any, payable upon exercise of the award and the terms of the award agreement for use under the 2015 Plan. The administrator also has the authority, subject to the terms of the 2015 Plan, to amend existing awards, to prescribe rules, and to construe and interpret the 2015 Plan and awards granted thereunder. In addition, the administrator cannot reduce the exercise price of options and initiate an option exchange program, whereby outstanding options are exchanged for options with a lower exercise price, without stockholder approval if the fair market value of such options has declined since the date such options were granted.

Stock Options. The administrator may grant incentive and/or nonstatutory stock options under our 2015 Plan; provided that incentive stock options are only granted to employees. The exercise price of such options must equal at least the fair market value of our common stock on the date of grant. The term of an option may not exceed ten years; provided, however, that an incentive stock option held by a participant who owns more than 10% of the total combined voting power of all classes of our stock, or of certain of our subsidiary corporations, may not have a term in excess of five years and must have an exercise price of at least 110% of the fair market value of our common stock on the grant date. The administrator will determine the methods of payment of the exercise price of an option, which may include cash, shares or other property acceptable to the administrator. Subject to the provisions of our 2015 Plan, the administrator determines the vesting terms of options granted under the 2015 Plan. After the termination of service of an employee, director or consultant, the participant may exercise his or her option, to the extent vested as of such date of termination, for the period of time stated in his or her option agreement. Generally, if termination is due to death or disability, the option will remain exercisable for twelve months. In all other cases, the option will generally remain exercisable for three months following the termination of service. However, in no event may an option be exercised later than the expiration of its term.

Stock Appreciation Rights. Stock appreciation rights may be granted under our 2015 Plan. Stock appreciation rights allow the recipient to receive the appreciation in the fair market value of our common stock between the exercise date and the date of grant. Subject to the provisions of our 2015 Plan, the administrator determines the terms of stock appreciation rights, including when such rights vest and become exercisable and whether to settle such awards in cash or with shares of our common stock, or a combination thereof, except that the per share exercise price for the shares to be issued pursuant to the exercise of a stock appreciation right will be no less than 100% of the fair market value per share on the date of grant.

Restricted Stock. Restricted stock may be granted under our 2015 Plan. Restricted stock awards are grants of shares of our common stock that are subject to various restrictions, including restrictions on transferability and forfeiture provisions. Shares of restricted stock will vest and the restrictions on such shares will lapse in accordance with terms and conditions established by the administrator. Such terms may include, among other things, vesting upon the achievement of specific performance goals determined by the administrator and/or continued service. The administrator, in its sole discretion, may

accelerate the time at which any restrictions will lapse or be removed. Recipients of restricted stock awards generally will have voting and cash dividend rights with respect to such shares upon grant without regard to vesting, unless the administrator provides otherwise. Shares of restricted stock that do not vest for any reason will be forfeited by the recipient and will revert to us.

Restricted Stock Units. Restricted stock units may be granted under our 2015 Plan, which may include the right to dividend equivalents, as determined in the discretion of the administrator. Each restricted stock unit granted is a bookkeeping entry representing an amount equal to the fair market value of one share of our common stock. The administrator determines the terms and conditions of restricted stock units including the vesting criteria, which may include achievement of specified performance criteria or continued service, and the form and timing of payment. The administrator, in its sole discretion, may accelerate the time at which any restrictions will lapse or be removed. The administrator determines in its sole discretion whether an award will be settled in stock, cash, or a combination of both.

Performance Units and Performance Shares. Performance units and performance shares may be granted under our 2015 Plan. Performance units and performance shares are awards that will result in a payment to a participant only if performance goals established by the administrator are achieved and any other applicable vesting provisions are satisfied. The administrator will establish organizational or individual performance goals in its discretion, which, depending on the extent to which they are met, will determine the number and/or the value of performance units and performance shares to be paid out to participants. For purposes of such awards, the performance goals may be one or more of the following, as determined by the administrator: (i) sales or non-sales revenue; (ii) return on revenues; (iii) operating income; (iv) income or earnings including operating income; (v) income or earnings before or after taxes, interest, depreciation, and/or amortization; (vi) income or earnings from continuing operations; (vii) net income; (viii) pre-tax income or after-tax income; (ix) net income excluding amortization of intangible assets, depreciation and impairment of goodwill and intangible assets, and/or excluding charges attributable to the adoption of new accounting pronouncements; (x) raising of financing or fundraising; (xi) project financing; (xii) revenue backlog; (xiii) gross margin; (xiv) operating margin or profit margin; (xv) capital expenditures, cost targets, reductions and savings, and expense management; (xvi) return on assets (gross or net), return on investment, return on capital, or return on stockholder equity; (xvii) cash flow, free cash flow, cash flow return on investment (discounted or otherwise), net cash provided by operations, or cash flow in excess of cost of capital; (xviii) performance warranty and/or guarantee claims; (xix) stock price or total stockholder return; (xx) earnings or book value per share (basic or diluted); (xxi) economic value created; (xxii) pre-tax profit or after-tax profit; (xxiii) strategic business criteria, consisting of one or more objectives based on meeting specified market penetration or market share, completion of strategic agreements such as licenses, funded collaborations, joint ventures, acquisitions, and the like, geographic business expansion, objective customer satisfaction or information technology goals, and/or intellectual property asset metrics; (xxiv) objective goals relating to divestitures, joint ventures, mergers, acquisitions, and similar transactions; (xxv) objective goals relating to staff management, results from staff attitude and/or opinion surveys, staff satisfaction scores, staff safety, staff accident and/or injury rates, compliance headcount, performance management, and completion of critical staff training initiatives; (xxvi) objective goals relating to projects, including project completion timing and/or achievement of milestones, project budget, and technical progress against work plans; (xxvii) key regulatory objectives or milestones; and (xxviii) enterprise resource planning. Any criteria used may be measured, as applicable, (i) in absolute terms, (ii) in relative terms (including, but not limited to, any increase (or decrease) over the passage of time and/or any measurement against other companies or financial or business or stock index metrics particular to us), (iii) on a per share and/or share per capita basis, (iv) against our performance as a whole or against any of our affiliate(s), or a particular segment(s), a business unit(s) or a product(s) of ours or individual project company, (v) on a pre-tax or after-tax basis, and/or (vi) using an actual foreign exchange rate or on a foreign exchange neutral basis. After

the grant of a performance unit or performance share, the administrator, in its sole discretion, may reduce or waive any performance objectives or other vesting provisions for such performance units or performance shares. Performance units shall have an initial dollar value established by the administrator prior to the grant date. Performance shares shall have an initial value equal to the fair market value of our common stock on the grant date. The administrator, in its sole discretion, may pay earned performance units or performance shares in the form of cash, in shares, or in some combination thereof.

Transferability of Awards. Unless the administrator provides otherwise, our 2015 Plan generally does not allow for the transfer of awards and only the recipient of an option or stock appreciation right may exercise such an award during his or her lifetime.

Certain Adjustments. In the event of certain corporate events or changes in our capitalization, to prevent diminution or enlargement of the benefits or potential benefits available under the 2015 Plan, the administrator will make adjustments to one or more of the number and class of shares that may be delivered under the 2015 Plan and/or the number, class and price of shares covered by each outstanding award and the numerical share limits contained in the 2015 Plan.

Dissolution or Liquidation. In the event of our proposed winding up, liquidation, or dissolution, the administrator will notify participants as soon as practicable and all awards will terminate immediately prior to the consummation of such proposed transaction.

Merger or Change in Control. Our 2015 Plan provides that in the event of a merger or change in control (other than a winding up, dissolution, or liquidation), as defined under the 2015 Plan, each outstanding award will be treated as the administrator determines (including assumed, substituted, or cancelled), except that if a successor corporation or its parent or subsidiary does not assume or substitute an equivalent award for any outstanding award, then such award will fully vest, all restrictions on such award will lapse, and all performance goals or other vesting criteria applicable to such award will be deemed achieved at 100% of target levels. In addition, if an option or stock appreciation right is not assumed or substituted in the event of a change in control, the administrator will notify the participant in writing or electronically that the option or stock appreciation right will be exercisable for a period of time determined by the administrator in its sole discretion, and the option or stock appreciation right will terminate upon the expiration of such period. Under our 2015 Plan, an award will be considered assumed if, following the change in control, the award confers the right to purchase or receive, for each share subject to the award immediately prior to the change in control, the consideration (whether stock, cash, or other securities or property) received in the change in control by our common stockholders (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding shares of our common stock). However, if the consideration received in the change in control is not solely common stock of the successor corporation or its parent, the administrator may, with the consent of the successor corporation, provide for the consideration to be received upon the exercise of an option or stock appreciation right or upon the payout of a restricted stock unit, performance unit, or performance share to be solely common stock of the successor corporation or its parent equal in fair market value to the per share consideration received by our common stockholders in the change in control.

Plan Amendment, Termination. Our board of directors has the authority to amend, suspend, or terminate the 2015 Plan provided such action does not impair the existing rights of any participant. Our 2015 Plan will automatically terminate on the tenth anniversary of the effective date of the 2015 Plan, unless we terminate it sooner.

IPO Grants. Immediately following the effective date of the registration statement of which this prospectus is a part, the named executive officers and certain other executives will receive stock option grants under the 2015 Plan, which we call the IPO Options, with the number of shares of our common

stock subject to each IPO Option determined by dividing a fixed dollar amount applicable to each individual by the Black-Scholes value of a share of our common stock as determined on the date of grant. The IPO Options will have a per share exercise price equal to the initial public offering price and shall vest as to 25% of the shares subject to the IPO Option on the 1-year anniversary of the date of grant and as to 1/48 of the shares subject to the IPO Options monthly thereafter, subject to the individual's continued service through each vesting date. The applicable dollar values of the IPO Options for the named executive officers are as follows: (i) $2,070,000 for Mr. Rey; (ii) $496,000 for Dr. Knauf; and (iii) $414,000 for Ms. Neal.

2006 Stock Plan

Our board of directors adopted, and our stockholders approved, our 2006 Stock Plan, or the 2006 Plan, on February 1, 2006. The 2006 Plan was last amended and restated on May 4, 2012. Our 2006 Plan provides for the grant of incentive stock options to our employees and the employees of our affiliates, and for the grant of nonstatutory stock options and stock purchase rights to our employees, directors, and consultants and the employees, directors, and consultants of our affiliates. No new awards will be granted under our 2006 Plan following this offering, but previously granted awards will continue to be subject to the terms and conditions of the 2006 Plan and the stock award agreements pursuant to which such awards were granted.

Authorized Shares. The maximum aggregate number of shares that may be issued under the 2006 Plan is 18,000,000 shares of our common stock. The maximum aggregate number of shares that may be issued pursuant to incentive stock options under the 2006 Plan is 18,000,000 shares of our common stock. As of December 31, 2014, options to purchase 15,039,363 shares of our common stock were outstanding and 2,040,058 shares were available for future grants.

Plan Administration. Our board of directors, or a committee appointed by the board of directors, administers the 2006 Plan and any stock awards granted under the 2006 Plan. The administrator has the power and authority to determine the terms of the awards, including eligibility, the form of agreements for use under the 2006 Plan, the exercise price, the number of shares covered by each such award, the vesting schedule and exercisability of awards, and the form of consideration payable upon exercise. The administrator also has the power and authority to construe and interpret the terms of the 2006 Plan and awards granted pursuant to the 2006 Plan and to allow participants to satisfy their tax withholding obligations by electing to have us withhold shares to be issued upon exercise of an option or pursuant to a stock purchase right. In addition, the administrator has the authority to reduce the exercise price of options if the fair market value of such options has declined since the date such options were granted and initiate an option exchange program, whereby outstanding options are exchanged for options with a lower exercise price.

Stock Options. With respect to all stock options granted under the 2006 Plan, the exercise price of such options must equal at least the fair market value of our common stock on the date of grant. The term of an option may not exceed ten years; provided, however, that an incentive stock option held by a participant who owns more than 10% of the total combined voting power of all classes of our stock, or of certain of our subsidiary corporations, may not have a term in excess of five years and must have an exercise price of at least 110% of the fair market value of our common stock on the grant date. The administrator will determine the methods of payment of the exercise price of an option, which may include cash or other methods of payment acceptable to the administrator. Subject to the provisions of the 2006 Plan, the administrator determines the vesting terms of options granted under the 2006 Plan). After the termination of service of an employee, director or consultant, the participant may exercise his or her option, to the extent vested as of such date of termination, for the period of time stated in his or her option agreement. Unless the terms of the participant's option agreement provide otherwise, in the case of nonstatutory stock options, if the participant's service relationship with

us, or any of our affiliates, ceases for any reason other than disability, death, retirement or cause, the participant may generally exercise any vested options for a period of at least 30 days following the cessation of service and, if a participant's service relationship with us or any of our affiliates ceases due to disability or death, or a participant retires, the participant or legal representative may generally exercise any vested options at any time prior to the expiration of such options. Unless the terms of the participant's option agreement provide otherwise, in the case of incentive stock options, if the participant's service relationship with us, or any of our affiliates, ceases for any reason other than disability, death, retirement, or cause, the participant may generally exercise any vested options for a period of three months following the cessation of service and, if a participant's service relationship with us or any of our affiliates ceases due to disability or death, or a participant retires, the participant or legal representative may generally exercise any vested options for a period of 12 months in the event of disability or death and three months in the event of retirement. In no event may an option be exercised beyond the expiration of its term.

Stock Purchase Rights. Stock purchase rights are rights to purchase shares of our common stock that are either fully vested at grant or will vest in accordance with terms and conditions established by the administrator, in its sole discretion. The administrator will determine the number of shares that the participant may purchase, the price to be paid, and the time in which the participant must accept the offer. The offer must be accepted by execution of a restricted stock purchase agreement in the form determined by the administrator. The purchase price of stock purchased by a participant must not be less than 100% of the fair market value per share on the date of grant. Once a stock purchase right is exercised, the participant has all the rights of a stockholder.

Transferability of Awards. Unless otherwise determined by the administrator, the 2006 Plan generally does not allow for the sale or transfer of awards under the 2006 Plan other than by will or the laws of descent and distribution, and may be exercised during the lifetime of the participant only by such participant. Subject to compliance with all applicable laws, the administrator may in its discretion grant transferable nonstatutory stock options and stock purchase rights in accordance in accordance with the terms set forth in the applicable award agreement.

Certain Adjustments. In the event of certain changes made in our common stock, appropriate adjustments will be made in the number and class of shares that may be delivered under the 2006 Plan and/or the number, class and price of shares covered by each outstanding award and the numerical share limits contained in the 2006 Plan.

Dissolution or Liquidation. In the event of our proposed winding up, liquidation, or dissolution, the administrator will notify participants as soon as practicable and all awards will terminate immediately prior to the consummation of such proposed transaction. The administrator in its discretion may provide for the participant to exercise his or her options 15 days prior to such transaction, including shares that would not otherwise be exercisable, and provide for the lapsing of any repurchase rights with respect to shares purchased upon exercise of an option or stock purchase right.

Merger or Change in Control. In the event of a merger, consolidation, or the sale of substantially all of our assets, the 2006 Plan provides that the outstanding options and stock rights will be treated as set forth in the agreement of merger, consolidation, or asset sale, which shall provide for any of the following: (i) the assumption of the awards by the surviving corporation or its parent; (ii) the continuation of the awards by the company if the company is the surviving corporation; (iii) a cash settlement equal in the case of options to the difference between the amount paid for one share and the exercise price multiplied by the number of shares, vested or unvested or both, subject to the option, and in the case of stock purchase rights, the amount to be paid for one share multiplied by the number of vested or unvested shares determined by the company; or (iv) subject to the consummation of the transaction, the acceleration of the vesting of outstanding stock awards prior to the consummation of

the transaction, with notification to the holders of options that such options shall be exercisable for 15 days from the date of such notice and termination of awards after such period.

Plan Amendment, Termination. Our board of directors may at any time amend, alter, suspend or terminate the 2006 Plan, provided such action does not impair the existing rights of any participant. Our 2006 Plan will terminate in connection with, and contingent upon, the effectiveness of the registration statement of which this prospectus forms a part; provided that the 2006 Plan will continue to govern the terms and conditions of awards originally granted under the 2006 Plan. Following the consummation of our initial public offering, we expect to make future awards under our 2015 Plan.

2015 Employee Stock Purchase Plan

In 2015, our board of directors approved our 2015 Employee Stock Purchase Plan, or the ESPP. The ESPP will become effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, subject to the approval of our stockholders. Our executive officers and all of our other employees will be allowed to participate in our ESPP. In general, we intend to make offerings under the ESPP that qualify under Section 423 of the Code, but may make offerings that are not intended to qualify under Section 423 of the Code to the extent deemed advisable for designated subsidiaries outside the United States. Additionally, we may make separate offerings under the ESPP, each of which may have different terms, but each separate offering will be intended to comply with the requirements of Section 423 of the Code.

The following summary of terms of the ESPP is based on the terms of the ESPP as approved by the board of directors, but the terms are not final until approved by the stockholders.

Authorized Shares. A total of shares of our common stock will be made available for sale under our ESPP. In addition, our ESPP provides for annual increases in the number of shares available for issuance under the ESPP on the first day of each fiscal year beginning with the 2016 fiscal year, equal to the least of:

- shares of our common stock;
- 1% of the outstanding shares of our common stock on the first day of such fiscal year; or
- such other amount as our board of directors may determine.

Plan Administration. Our board of directors or a committee that has been duly authorized by our board of directors has full and exclusive authority to interpret the terms of the ESPP and determine eligibility.

Eligibility. All of our employees are eligible to participate if they are customarily employed by us or any participating subsidiary for more than 20 hours per week and more than five months in any calendar year. However, an employee may not be granted rights to purchase stock under our ESPP if such employee:

- immediately after the grant would own stock possessing 5% or more of the total combined voting power or value of all classes of our capital stock; or
- holds rights to purchase stock under all of our employee stock purchase plans that would accrue at a rate that exceeds $25,000 worth of our stock for each calendar year.

Offerings. Our ESPP is intended to qualify under Section 423 of the Code, and provides for consecutive, non-overlapping six-month offering periods. The offering periods generally start on the first trading day on or after February 1 and August 1 of each year, except for the first such offering period which will commence on the first trading day on or after the effective date of the registration

statement of which this prospectus is a part and will end on February 1, 2016. The administrator may, in its discretion, modify the terms of future offering periods.

Limitations. Our ESPP permits participants to purchase common stock through payroll deductions of up to 15% of their eligible compensation, which includes a participant's regular and recurring straight time gross earnings, payments for overtime, and shift premium, exclusive of payments for incentive compensation, bonuses and other similar compensation. A participant may purchase up to a maximum of 3,000 shares of common stock during each six-month offering period.

Purchase of Stock. Amounts deducted and accumulated by the participant are used to purchase shares of our common stock at the end of each six-month offering period. The purchase price of the shares will be 15% of the lower of the fair market value of our common stock on the first trading day of the offering period or on the last day of the offering period. Participants may end their participation at any time during an offering period, and will be paid their accrued payroll deductions that have not yet been used to purchase shares of common stock. Participation ends automatically upon termination of employment with us.

Withdrawal. During an offering, a participant may cease making contributions and withdraw from the offering by delivering a notice of withdrawal and terminating his or her payroll deductions in such form as we may require. Upon such withdrawal, we will refund accumulated payroll deductions without interest to the employee, and such employee's right to participate in that offering will terminate. An employee's withdrawal from an offering will not affect such employee's eligibility to participate in subsequent offerings under the ESPP.

Transferability. A participant may not transfer rights granted under the ESPP other than by will, the laws of descent and distribution, or as otherwise provided under the ESPP.

Certain Adjustments. In the event of certain corporate events or changes in our capitalization, to prevent diminution or enlargement of the benefits or potential benefits available under the ESPP, the administrator will make adjustments to one or more of the number and class of shares that may be delivered under the ESPP and/or the number, class, and price of shares covered by each outstanding purchase right and the numerical share limits contained in the ESPP.

Dissolution or Liquidation. In the event of our proposed winding up, liquidation, or dissolution, any offering period then in progress will be shortened by setting a new exercise date, and will terminate immediately prior to the consummation of such proposed dissolution or liquidation, unless provided otherwise by the administrator.

Merger or Change in Control. In the event of our merger or change of control, as defined under the ESPP, a successor corporation may assume or substitute each outstanding purchase right. If the successor corporation refuses to assume or substitute for the outstanding purchase rights, the offering period then in progress will be shortened, and a new exercise date will be set. The plan administrator will notify each participant in writing that the exercise date has been changed and that the participant's option will be exercised automatically on the new exercise date unless the participant has already withdrawn from the offering period.

Plan Amendment, Termination. Our ESPP will automatically terminate on the tenth anniversary of the effective date of the ESPP, unless we terminate it sooner. In addition, our board of directors has the authority to amend, suspend, or terminate our ESPP, except that, subject to certain exceptions described in the ESPP, no such action may adversely affect any outstanding rights to purchase stock under our ESPP.

Executive Incentive Bonus Plan

In 2015, our board of directors approved the Executive Incentive Bonus Plan, or the Bonus Plan. The Bonus Plan will become effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part. The purpose of the Bonus Plan is to motivate and reward eligible officers and employees for their contributions toward the achievement of certain performance goals, with the intention that the incentives paid thereunder to certain of our executive officers be deductible during the applicable reliance period under Section 162(m) of the Code and the regulations and interpretations promulgated thereunder.

Administration. The Bonus Plan will be administered by the compensation committee, which shall have the discretionary authority to interpret the provisions of the Bonus Plan, including all decisions on eligibility to participate, the establishment of performance goals, the amount of awards payable under the plan, and the payment of awards.

Performance criteria. Commencing with our 2015 fiscal year, we expect the compensation committee to establish cash bonus targets and corporate performance metrics for a specific performance period (not to exceed months) or fiscal year pursuant to the Bonus Plan. Corporate performance goals may be based on one or more of the following criteria, as determined by our compensation committee: (i) sales or non-sales revenue; (ii) return on revenues; (iii) operating income; (iv) income or earnings including operating income; (v) income or earnings before or after taxes, interest, depreciation, and/or amortization; (vi) income or earnings from continuing operations; (vii) net income; (viii) pre-tax income or after-tax income; (ix) net income excluding amortization of intangible assets, depreciation, and impairment of goodwill and intangible assets and/or excluding charges attributable to the adoption of new accounting pronouncements; (x) raising of financing or fundraising; (xi) project financing; (xii) revenue backlog; (xiii) gross margin; (xiv) operating margin or profit margin; (xv) capital expenditures, cost targets, reductions, and savings and expense management; (xvi) return on assets (gross or net), return on investment, return on capital, or return on stockholder equity; (xvii) cash flow, free cash flow, cash flow return on investment (discounted or otherwise), net cash provided by operations, or cash flow in excess of cost of capital; (xviii) performance warranty and/or guarantee claims; (xix) stock price or total stockholder return; (xx) earnings or book value per share (basic or diluted); (xxi) economic value created; (xxii) pre-tax profit or after-tax profit; (xxiii) strategic business criteria, consisting of one or more objectives based on meeting specified market penetration or market share, completion of strategic agreements such as licenses, funded collaborations, joint ventures acquisitions, and the like, geographic business expansion, objective customer satisfaction or information technology goals, or intellectual property asset metrics; (xxiv) objective goals relating to divestitures, joint ventures, mergers, acquisitions, and similar transactions; (xxv) objective goals relating to staff management, results from staff attitude and/or opinion surveys, staff satisfaction scores, staff safety, staff accident and/or injury rates, compliance, headcount, performance management, or completion of critical staff training initiatives; (xxvi) objective goals relating to projects, including project completion, timing and/or achievement of milestones, project budget, or technical progress against work plans; (xxvii) key regulatory objectives or milestones; and (xxviii) enterprise resource planning. Awards issued to participants who are not subject to the limitations of Code Section 162(m) or awards to participants that are not intended to comply with the requirements of Code Section 162(m) may, in either case, take into account other factors (including subjective factors). Performance goals may differ from participant to participant, performance period to performance period, and from award to award. Any criteria used may be measured, as applicable, (i) in absolute terms, (ii) in relative terms (including, but not limited to, any increase (or decrease) over the passage of time and/or any measurement against other companies or financial or business or stock index metrics particular to us), (iii) on a per share and/or share per capita basis, (iv) against our performance as a whole or against any of our affiliate(s), or a particular segment(s), a business unit(s) or a product(s) of ours or individual project company, (v) on a pre-tax or after-tax basis, and/or (vi) using an actual foreign exchange rate or on a foreign

exchange neutral basis. It is the intent that, starting in 2015, the compensation committee will establish corporate performance metrics that are both aggressive and obtainable and that the executive officers' performance at expected levels will provide the opportunity to achieve a meaningful number of the corporate goals and objectives. Following the end of the performance period, the compensation committee will approve the achievement of the corporate performance metrics and authorize the funding of the cash bonuses for that period.

Limits. Under the Bonus Plan, the maximum award that can be paid to a participant during any performance period is $. The total awards under the Bonus Plan may not exceed $ during any calendar year or $ during the applicable reliance period (within the meaning of Section 162(m)).

Plan Amendment, Termination. The compensation committee may terminate the Bonus Plan at any time, provided such termination shall not affect the payment of any awards accrued under the Bonus Plan prior to the date of the termination. The compensation committee may, at any time, or from time to time, amend or suspend and, if suspended, reinstate, the Bonus Plan in whole or in part; provided, however, that any amendment of the Bonus Plan shall be subject to the approval of our stockholders to the extent required to comply with the requirements of Section 162(m) of the Code, or any other applicable laws, regulations or rules.

401(k) Plan

We maintain a tax-qualified retirement plan that provides eligible U.S. employees with an opportunity to save for retirement on a tax-advantaged basis. Plan participants are able to defer eligible compensation subject to applicable annual Code limits. Each participant's pre-tax contributions are allocated to his or her individual account and are then invested in selected investment alternatives according to the participant's directions. We have the ability to make discretionary contributions to the 401(k) plan but have not done so to date. The 401(k) plan is intended to be qualified under Section 401(a) of the Code with the 401(k) plan's related trust intended to be tax exempt under Section 501(a) of the Code. As a tax-qualified retirement plan, contributions to the 401(k) plan and earnings on those contributions are not taxable to the employees until distributed from the 401(k) plan.

Rule 10b5-1 Sales Plans

Our directors and executive officers may adopt written plans, known as Rule 10b5-1 plans, in which they will contract with a broker to buy or sell shares of our common stock on a periodic basis. Under a Rule 10b5-1 plan, a broker executes trades pursuant to parameters established by the director or executive officer when entering into the plan, without further direction from them. The director or executive officer may amend or terminate the plan in some circumstances. Our directors and executive officers may also buy or sell additional shares outside of a Rule 10b5-1 plan when they are not in possession of material, nonpublic information.

Furthermore, certain of our directors and executive officers hold options to purchase approximately 1.5 million shares of our common stock that will expire on December 31, 2015. A portion of these shares are not subject to the 180-day lock-up described in "Underwriting" and may be sold immediately after this offering by these directors and executive officers solely to cover applicable withholding taxes.

Limitation of Liability and Indemnification of Officers and Directors

Our amended and restated certificate of incorporation, to be effective upon the completion of this offering, will provide that we will indemnify our directors and officers, and may indemnify our employees and other agents, to the fullest extent permitted by the Delaware General Corporation Law,

which prohibits our amended and restated certificate of incorporation from limiting the liability of our directors for the following:

- any breach of their duty of loyalty to our company or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; or
- any transaction from which they derived an improper personal benefit.

Any amendment to, or repeal of, these provisions will not eliminate or reduce the effect of these provisions in respect of any act, omission, or claim that occurred or arose prior to that amendment or repeal. If the Delaware General Corporation Law is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of our directors will be further limited to the greatest extent permitted by the Delaware General Corporation Law.

Our amended and restated bylaws, to be effective upon the completion of this offering, will provide that we will indemnify, to the fullest extent permitted by law, any person who is or was a party or is threatened to be made a party to any action, suit, or proceeding by reason of the fact that he or she is or was one of our directors or officers or is or was serving at our request as a director or officer of another corporation, partnership, joint venture, trust, or other enterprise. Our amended and restated bylaws are expected to provide that we may indemnify to the fullest extent permitted by law any person who is or was a party or is threatened to be made a party to any action, suit, or proceeding by reason of the fact that he or she is or was one of our employees or agents or is or was serving at our request as an employee or agent of another corporation, partnership, joint venture, trust, or other enterprise. Our amended and restated bylaws will also provide that we must advance expenses incurred by or on behalf of a director or officer in advance of the final disposition of any action or proceeding, subject to very limited exceptions.

Further, prior to the closing of this offering, we expect to enter into indemnification agreements with each of our directors, director nominees, and executive officers that may be broader than the specific indemnification provisions contained in the Delaware General Corporation Law. These indemnification agreements will require us, among other things, to indemnify our directors and executive officers against liabilities that may arise by reason of their status or service. These indemnification agreements will also require us to advance all expenses incurred by the directors and executive officers in investigating or defending any such action, suit, or proceeding. We believe that these agreements are necessary to attract and retain qualified individuals to serve as directors and executive officers.

The limitation of liability and indemnification provisions that are expected to be included in our amended and restated certificate of incorporation, amended restated bylaws, and in indemnification agreements that we enter into with our directors, director nominees, and executive officers may discourage stockholders from bringing a lawsuit against our directors and executive officers for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against our directors and executive officers, even though an action, if successful, might benefit us and other stockholders. Further, a stockholder's investment may be harmed to the extent that we pay the costs of settlement and damage awards against directors and executive officers as required by these indemnification provisions. At present, we are not aware of any pending litigation or proceeding involving any person who is or was one of our directors, director nominees, officers, employees, or other agents or is or was serving at our request as a director, director nominee, officer, employee, or agent of another corporation, partnership, joint venture, trust or other enterprise, for which

indemnification is sought, and we are not aware of any threatened litigation that may result in claims for indemnification.

We have obtained insurance policies under which, subject to the limitations of the policies, coverage is provided to our directors and executive officers against loss arising from claims made by reason of breach of fiduciary duty or other wrongful acts as a director or executive officer, including claims relating to public securities matters, and to us with respect to payments that may be made by us to these directors and executive officers pursuant to our indemnification obligations or otherwise as a matter of law.

Certain of our non-employee directors may, through their relationships with their employers or affiliated entities, be insured or indemnified against certain liabilities incurred in their capacity as members of our board of directors. In our indemnification agreements with these non-employee directors, we have agreed that our indemnification obligations will be primary to any such other indemnification arrangements.

The underwriting agreement provides for indemnification by the underwriters of us and our officers, directors, and employees for certain liabilities arising under the Securities Act, or otherwise.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers, or persons controlling our company pursuant to the foregoing provisions, we have been informed that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

In addition to the compensation arrangements, including employment, termination of employment and change in control arrangements, and indemnification arrangements, discussed, when required, in the sections titled "Management" and "Executive Compensation" and the registration rights described in the section titled "Description of Capital Stock—Registration Rights," the following is a description of each transaction since January 1, 2012 and each currently proposed transaction in which:

- we have been or will be a participant;
- the amount involved exceeded or exceeds $120,000; and
- any of our directors, director nominees, executive officers, or holders of more than 5% of our capital stock, or any immediate family member of, or person sharing the household with, any of these individuals, had or will have a direct or indirect material interest.

Series D Preferred Stock Financing

Between March and May 2014, we sold an aggregate of 9,822,283 shares of our Series D preferred stock at a purchase price of $3.36 per share for an aggregate purchase price of approximately $33.0 million.

In this transaction, Mandala Capital and its affiliates purchased 8,918,750 shares of our Series D redeemable convertible preferred stock at an aggregate purchase price of $30.0 million and were issued warrants to purchase 4,459,375 shares of our common stock. Following this sale, Mandala Capital and its affiliates beneficially owned more than 5% of our outstanding capital stock. Uday Garg, a member of our board of directors, is managing director and a member of the board of directors of Mandala Capital and was designated by Mandala Capital to serve on our board of directors as their representative.

Vic C. Knauf, Ph.D., our Chief Scientific Officer, also participated in the Series D Preferred Stock Financing and purchased 3,268 shares of our Series D redeemable convertible preferred stock at an aggregate purchase price of $10,980 and was issued a warrant to purchase 1,634 shares of our common stock.

CMEA Capital and its affiliates also participated in the Series D Preferred Stock Financing and purchased 462,802 shares of our Series D redeemable convertible preferred stock at an aggregate purchase price of $1.6 million and were issued warrants to purchase 231,402 shares of our common stock. These shares were subsequently transferred from CMEA Capital via affiliated party transfer to Presidio Partners 2014, L.P. in November 2014. Peter Gajdos, a member of our board of directors, is a managing director and portfolio manager at Presidio Partners.

All purchasers of our Series D redeemable convertible preferred stock are entitled to specified registration rights. For more information regarding these registration rights, see "Description of Capital Stock—Registration Rights."

Moral Compass Corporation

In July 2012, we executed a term note in the principal amount of $8.0 million with Moral Compass Corporation, which holds more than 5% of our capital stock. Darby E. Shupp, the chairman of our board of directors, is the Chief Financial Officer of Moral Compass Corporation and has beneficial ownership of the shares held by Moral Compass Corporation. As of December 31, 2014, the principal balance outstanding under this term note was $8.0 million. We have paid $1.0 million in aggregate interest under this note through December 31, 2014, with such interest accruing at an annual rate equal to prime plus two percent. In November 2014, we amended this note to change the maturity date to the first to occur of (i) April 1, 2016, (ii) the date of an event of default, or (iii) a date designated by

Moral Compass Corporation no earlier than the 20th day following our completion of an equity financing with gross proceeds to us of at least $50.0 million. In addition, the interest rate on the term loan remained at prime plus 2% through December 31, 2014, after which the rate increased to 11% per annum until maturity.

We executed an additional term note with Moral Compass Corporation in July 2013 in the principal amount of $500,000. The principal balance of $500,000 and accrued interest of $19,000 was repaid in December 2013.

We have a license agreement with Blue Horse Labs, Inc., or BHL, an affiliate of Moral Compass Corporation. Ms. Shupp, the chairman of our board of directors, is the Treasurer of BHL. Royalty fees due to BHL were $161,000 and $21,000 as of December 31, 2013 and 2014, respectively.

Investors' Rights Agreements

We have entered into investors' rights agreements with certain holders of our preferred stock, including entities affiliated with Moral Compass Corporation, Mandala Capital, and Vilmorin & Cie (Limagrain), which each hold more than 5% of our capital stock and of which certain of our directors are affiliated. Pursuant to these agreements, these holders are entitled to rights with respect to the registration of their shares following this offering under the Securities Act. For a more detailed description of these registration rights, see "Description of Capital Stock—Registration Rights."

Co-Sale Agreement

In March 2014, we entered into a co-sale agreement with certain holders of our preferred stock, including entities with which certain of our directors are affiliated and entities affiliated with Mandala Capital. This co-sale agreement grants certain of our investors the right of co-sale with respect to proposed transfers of our securities by certain stockholders. Such rights will terminate upon the completion of this offering.

Voting Agreement

In March 2014, we entered into a voting agreement under which certain holders of our capital stock, including entities with which certain of our directors are affiliated and entities affiliated with Mandala Capital, have agreed to vote their shares on certain matters, including with respect to the election of directors. The voting agreement will terminate upon the completion of this offering and thereafter none of our stockholders will have any special rights regarding the election or designation of members of our board of directors or the voting of our capital stock.

Collaboration Agreements

We have several agreements with Limagrain, which held more than 5% of our capital stock prior to this offering. We have a research and development agreement with Limagrain in wheat for our NUE trait that we entered into in 2009 and a second one in wheat for our WUE trait entered into in 2011. We have received $400,000 from Limagrain under these agreements from January 1, 2012 through December 31, 2014. We further expanded our relationship with Limagrain in 2010, when they made a $25.0 million equity investment in us and we entered into a joint venture focused on the development and commercialization of improved wheat seed in North America, of which a U.S. wholly owned subsidiary of Limagrain owns 65% and we own 35%. See "Business—Key Collaborations" and Note 4 of the notes to our consolidated financial statements for additional information about these arrangements.

Other Transactions

We have granted stock options and other equity awards to our executive officers and certain of our directors. For a description of these options and equity awards, see "Executive Compensation—Outstanding Equity Awards at Fiscal Year-End" and "Management—Director Compensation."

We have not entered into arrangements with any of our executive officers that provide for severance and change in control benefits. However, in connection with the completion of this offering, we anticipate entering into an agreement with each of our named executive officers that may provide for severance or change in control protections, in which case we will disclose the terms of such agreements once finalized.

Indemnification Agreements

We expect to enter into indemnification agreements with each of our directors, executive officers, and certain key employees prior to the completion of this offering. The indemnification agreements and our amended and rested certificate of incorporation and amended and restated bylaws will require us to indemnify our directors and officers to the fullest extent permitted by Delaware law. See "Executive Compensation—Limitation of Liability and Indemnification of Officers and Directors."

Policies and Procedures for Related Party Transactions

Our audit committee charter states that our audit committee is responsible for reviewing and approving in advance any related party transaction, which is a transaction between us and related persons in which the aggregate amount involved exceeds or may be expected to exceed $120,000 in any calendar year and in which a related person has or will have a direct or indirect interest. Our audit committee has adopted policies and procedures for review of, and standards for approval of, such a related party transaction. For purposes of these policies and procedures, a related person is defined as an executive officer, director, or nominee for director, including his or her immediate family members, or a beneficial owner of greater than 5% our common stock, in each case since the beginning of the most recently completed year. Prior to the creation of our audit committee, our full board of directors reviewed related party transactions, with any directors abstaining from matters in which the director had an interest.

We believe that we have executed all of the transactions set forth under the section entitled "Certain Relationships and Related Party Transactions" on terms no less favorable to us than we could have obtained from unaffiliated third parties. It is our intention to ensure that all future transactions between us and our officers, directors, and principal stockholders and their affiliates are approved by the audit committee of our board of directors and are on terms no less favorable to us than those that we could obtain from unaffiliated third parties.

PRINCIPAL STOCKHOLDERS

The following table sets forth information known to us regarding the beneficial ownership of our common stock as of March 31, 2015, as adjusted to reflect the shares of common stock to be issued and sold by us in this offering, assuming no exercise of the underwriters' option to purchase additional shares, for:

- each person, or group of affiliated persons, known to us to beneficially own more than 5% of our common stock;
- each of our named executive officers, directors, and director nominees individually; and
- all of our executive officers, directors, and director nominees as a group.

Beneficial ownership of shares is determined under the rules of the SEC and generally includes any shares over which a person exercises sole or shared voting or investment power. Except as indicated by footnote, and subject to applicable community property laws, we believe each person identified in the table has sole voting and investment power with respect to all shares of common stock beneficially owned by them. The information does not necessarily indicate beneficial ownership for any other purpose, including for purposes of Section 13(d) and 13(g) of the Securities Act.

Applicable percentage ownership before this offering is based on shares of our common stock outstanding as of March 31, 2015, assuming the automatic conversion of all outstanding shares of our preferred stock into an aggregate of shares of common stock effective upon the closing of this offering, including the conversion of each share of our existing preferred stock (other than our Series D preferred stock) into one share of common stock and the conversion of all shares of our Series D preferred stock into shares of common stock based on an assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, as if this conversion had occurred as of December 31, 2014. We have based our calculation of the percentage of beneficial ownership after this offering on shares of our common stock outstanding after the completion of this offering. Shares of our common stock subject to stock options or warrants that are currently exercisable or exercisable within 60 days of December 31, 2014 are deemed to be outstanding and to be beneficially owned by the person holding the stock option or warrant for the purpose of computing the number and percentage ownership of outstanding shares of that person. We did not deem these shares outstanding, however, for the purposes of computing the percentage ownership of any other person. Consequently, the denominator for calculating beneficial ownership percentages may be different for each beneficial owner.

Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o Arcadia Biosciences, Inc., 202 Cousteau Place, Davis, CA 95618.

Name of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned	
		Before the Offering	After the Offering
Named Executive Officers, Directors, and Director Nominees:			
Eric J. Rey(1)	5,287,500	%	
Vic C. Knauf(2)			
Wendy S. Neal(3)	709,375		
Darby E. Shupp(4)	86,061,462		
Peter Gajdos	—	—	
Uday Garg(5)			
James R. Reis(6)	210,000		
Mark W. Wong(7)	200,000		
Matthew A. Ankrum	—		
George F.J. Gosbee	—		
Rajiv Shah	—		
All executive officers, directors, and director nominees as a group (16 persons)(8)			
5% Stockholders:			
Moral Compass Corporation(4)	86,061,462		
Entity affiliated with Mandala Capital(5)			
Vilmorin & Cie(9)	7,375,552		

* Represents beneficial ownership of less than 1% of the outstanding shares of our common stock.

(1) Consists of 5,287,500 shares issuable pursuant to stock options exercisable within 60 days after March 31, 2015.

(2) Consists of (i) 31,250 shares of common stock issuable upon conversion of shares of Series A preferred stock, (ii) shares of common stock issuable upon conversion of shares of Series D preferred stock, (iii) 1,634 shares of common stock issuable upon exercise of a warrant and (iv) 1,896,375 shares issuable pursuant to stock to options exercisable within 60 days after March 31, 2015.

(3) Consists of 709,375 shares issuable pursuant to stock options exercisable within 60 days after March 31, 2015.

(4) Consists of (i) an aggregate of 85,418,605 shares of common stock issuable upon conversion of Series A, Series B, and Series C preferred stock held by Moral Compass Corporation and (ii) 642,857 shares of common stock held by Moral Compass Corporation. Ms. Shupp is a member of our board of directors and is the CFO of Moral Compass Corporation. Moral Compass Corporation is owned by the John G. Sperling 2012 Irrevocable Trusts No. 1, 2, and 3, or the Sperling Trusts. Terri Bishop, Darby Shupp, and Peter Sperling together serve as trustees of the Sperling Trusts and have shared voting and investment power over the shares held by Moral Compass Corporation. The address of the beneficial owner is 4835 E. Exeter Blvd., Phoenix, AZ 85018.

(5) Consists of (i) shares of common stock issuable upon conversion of Series D preferred stock held by Mandala Agribusiness Co-Investments I Limited and (ii) 4,459,375 shares of common stock issuable upon exercise of warrants held by Mandala Agribusiness Co-Investments I Limited. Mr. Garg is a member of our board of directors, managing director, and a member of the board of

directors of Mandala Capital, and a member of the board of directors of Mandala Agribusiness Fund. Mr. Garg, Dominic Redfern, Tej Gujadur, and Sheokumar Gujadur are members of the board of directors of Mandala Agribusiness Fund and exercise shared voting and investment power over the shares owned by Mandala Agribusiness Co-Investments I Limited. The address of the beneficial owner is C/O GFin Corporate Services Ltd., 9th Floor, Orange Tower, Cybercity, Ebene, Mauritius.

(6) Consists of 210,000 shares issuable pursuant to stock options exercisable within 60 days after March 31, 2015.

(7) Consists of 200,000 shares issuable pursuant to stock options exercisable within 60 days after March 31, 2015.

(8) Consists of (i) shares beneficially owned by our current executive officers, directors, and director nominees, (ii) 11,334,500 shares subject to options exercisable within 60 days of March 31, 2015 and (iii) 4,461,009 shares of common stock issuable upon exercise of warrants.

(9) Consists of 7,375,552 shares of common stock held by Vilmorin & Cie. Emmanuel Rougier exercises sole voting and investment power over the shares owned by Vilmorin & Cie. The address of the beneficial owner is 4, quai de la Megisserie, 75001 Paris, France.

DESCRIPTION OF CAPITAL STOCK

General

The following description summarizes certain terms of our capital stock, as they are expected to be in effect upon the completion of this offering. We expect to adopt an amended and restated certificate of incorporation and amended and restated bylaws in connection with this offering, and this description summarizes the provisions that are expected to be included in such documents. Because it is only a summary, it does not contain all the information that may be important to you. For a complete description of the matters set forth in this "Description of Capital Stock," you should refer to our amended and restated certificate of incorporation and amended and restated bylaws and investors' rights agreement, which are or will be included as exhibits to the registration statement of which this prospectus forms a part, and to the applicable provisions of Delaware law.

Upon the completion of this offering, our authorized capital stock will consist of shares of common stock, $0.001 par value per share, and shares of undesignated preferred stock, $0.001 par value per share.

As of December 31, 2014, and assuming the automatic conversion of all outstanding shares of our preferred stock into common stock upon the closing of this offering, there were outstanding:

- shares of our common stock held by approximately stockholders;
- options to purchase 15,039,363 shares of our common stock; and
- warrants to purchase 5,347,591 shares of our common stock.

Common Stock

Dividend Rights

Subject to preferences that may be applicable to our outstanding preferred stock, holders of common stock are entitled to receive ratably such dividends as may be declared by the board of directors out of funds legally available for that purpose. See "Dividend Policy."

Voting Rights

The holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders.

No Preemptive or Similar Rights

The common stock has no preemptive or conversion rights or other subscription rights. The outstanding shares of common stock are, and the shares of common stock to be issued upon completion of this offering will be, fully paid and non-assessable.

Liquidation Rights

In the event of liquidation, dissolution or winding up of the company, the holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities, subject to the prior distribution rights of any outstanding preferred stock.

Preferred Stock

After the completion of this offering, no shares of preferred stock will be outstanding.

Undesignated Preferred Stock

After the closing of this offering, the board of directors will have the authority, without further action by the stockholders, to issue up to shares of preferred stock, $0.001 par value per share, in one or more series. The board of directors will also have the authority to designate the rights, preferences, privileges and restrictions of each such series, including dividend rights, dividend rates, conversion rights, voting rights, terms of redemption, redemption prices, liquidation preferences, and the number of shares constituting any series.

The issuance of preferred stock may have the effect of delaying, deferring or preventing a change in control of the company without further action by the stockholders. The issuance of preferred stock with voting and conversion rights may also adversely affect the voting power of the holders of common stock. In certain circumstances, an issuance of preferred stock could have the effect of decreasing the market price of the common stock. As of the closing of the offering, no shares of preferred stock will be outstanding. We currently have no plans to issue any shares of preferred stock.

Options

As of December 31, 2014, we had outstanding options to purchase an aggregate of 15,039,363 shares of common stock, with a weighted-average exercise price of $0.75, pursuant to our 2006 Stock Plan.

Convertible Notes

In September 2013 and December 2013, we issued convertible notes to Mahyco for an aggregate principal amount of $5.0 million pursuant to a note and warrant purchase agreement, or 2013 Note Agreement. At any time during the five-year term of the notes, Mahyco may convert all or part of the outstanding balance of the note (including principal and accrued but unpaid interest) into our common stock at $4.13 per share. Mahyco has the right to place another $5.0 million of convertible debt with us during the five-year term. If Mahyco places such additional convertible debt with us, Mahyco may convert all or part of such additional outstanding balance of the note (including principal and accrued but unpaid interest) into our common stock at $4.13 per share if such conversion takes place within the first three years of the term. If such conversion takes place in the last two years of the term, Mahyco may convert all or part of the outstanding balance of the note (including principal and accrued but unpaid interest) into our common stock at a price per share equal to 90% of the common stock purchase price in our most recent qualifying financing.

Warrants

As of December 31, 2014, we had warrants outstanding to purchase 5,347,591 shares of common stock.

In connection with the 2013 Note Agreement described above, we issued warrants to Mahyco International Pte Ltd. to purchase 302,665 shares of our common stock at an exercise price of $4.13 per share. These warrants are expected to remain outstanding upon completion of this offering. These warrants will expire on December 11, 2018.

In connection with our Series D preferred stock financing, we issued warrants to the Series D preferred stock purchasers to purchase an aggregate of 4,911,145 shares of our common stock at an exercise price of $4.54 per share. These warrants are expected to remain outstanding upon completion of this offering. These warrants will expire on the later of the fifth anniversary of the warrants' issuance dates, which were March 28, 2014, April 8, 2014, May 5, 2014, May 12, 2014, and May 28, 2014, or the second anniversary of the completion of this offering.

In connection with our Series D preferred stock financing, we issued warrants to Piper Jaffray, a placement agent for our Series D preferred stock financing, to purchase 133,781 shares of our common stock at an exercise price of $3.36 per share. These warrants are expected to remain outstanding upon completion of this offering. These warrants will expire on the later of April 8, 2019, May 5, 2019, and May 12, 2019, respectively, or the second anniversary of the completion of this offering.

Registration Rights

Following the completion of this offering, the holders of an aggregate of shares of our common stock and certain holders of warrants exercisable for shares of our common stock, or their permitted transferees, are entitled to rights with respect to the registration of these shares under the Securities Act. These rights are provided under the terms of two investors' rights agreements between us and the holders of these shares, and include demand registration rights, short-form registration rights and piggyback registration rights.

The registration rights terminate with respect to the registration rights of an individual holder on the earliest to occur of five years following the completion of this offering or such time as all registrable securities held by such holder can be sold in any 90-day period without registration in compliance with Rule 144 of the Act.

Demand Registration Rights

Following this offering, certain holders of our preferred and common stock may request that we effect a registration under the Securities Act covering the public offering and sale of all or part of such registrable securities held by such stockholders. Upon any such demand we must provide notice of such request to all other holders of registrable securities, and then effect the registration of such registrable securities that the initiating holders have requested to register together with all other registrable securities that any other holders of registrable securities have requested to register. Holders of registrable securities may only demand up to a maximum of two registrations per any 12-month period, and are subject to additional limitations described in the investors' rights agreements.

Piggyback Registration Rights

In connection with this offering, holders of registrable securities were entitled to, and the necessary percentage of holders waived, their rights to notice of this offering and to include their registrable securities in this offering. If we register any of our securities for public sale in another offering, including pursuant to any stockholder initiated demand registration, holders of such registrable securities will have the right to include their shares in the registration statement, subject to certain exceptions. The underwriters of any underwritten offering will have the right to limit the number registrable securities to be included in the registration statement, subject to certain restrictions.

Short Form Registration Rights

Following this offering, we may be obligated under our investors' rights agreement to effect a registration on Form S-3 under the Securities Act. At any time after we are qualified to file a registration statement on Form S-3, the holders of such registrable securities may request in writing that we effect a registration on Form S-3 if the proposed aggregate offering price of the shares to be registered by the holders requesting registration is at least $1.0 million, subject to certain exceptions.

Expenses of Registration

We are obligated to pay certain registration expenses related to any demand, company or Form S-3 registration, other than underwriting discounts, selling commissions and transfer taxes (if any), which will be borne by the holders of such registrable securities.

Anti-Takeover Effects of Provisions of the Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Our amended and restated certificate of incorporation and our amended and restated bylaws, which will be in effect upon the completion of this offering, will contain certain provisions that could have the effect of delaying, deterring or preventing another party from acquiring control of us. These provisions and certain provisions of Delaware law, which are summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed, in part, to encourage persons seeking to acquire control of us to negotiate first with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate more favorable terms with an unfriendly or unsolicited acquirer outweigh the disadvantages of discouraging a proposal to acquire us.

Undesignated Preferred Stock

As discussed above, our board of directors will have the ability to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of us. These and other provisions may have the effect of deterring hostile takeovers or delaying changes in control or management of our company.

Limits on Ability of Stockholders to Act by Written Consent or Call a Special Meeting

Our amended and restated certificate of incorporation will provide that our stockholders may not act by written consent, which may lengthen the amount of time required to take stockholder actions. As a result, a holder controlling a majority of our capital stock would not be able to amend our bylaws or remove directors without holding a meeting of our stockholders called in accordance with our bylaws.

In addition, our amended and restated bylaws will provide that special meetings of the stockholders may be called only by the majority of our board of directors. Stockholders may not call a special meeting, which may delay the ability of our stockholders to force consideration of a proposal or for holders controlling a majority of our capital stock to take any action, including the removal of directors.

Requirements for Advance Notification of Stockholder Nominations and Proposals

Our amended and restated bylaws will establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of our board of directors or a committee of our board of directors. These provisions may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed. These provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.

Board Classification

Upon the closing of the offering, our board of directors will be divided into three classes, one class of which is elected each year by our stockholders. The directors in each class will serve three-year terms. For more information on the classified board, see "Management—Board of Directors." A third party may be discouraged from making a tender offer or otherwise attempting to obtain control of us as it is more difficult and time consuming for stockholders to replace a majority of the directors on a classified board.

No Cumulative Voting

Our amended and restated certificate of incorporation and amended and restated bylaws will not permit cumulative voting in the election of directors. Cumulative voting allows a stockholder to vote a portion or all of its shares for one or more candidates for seats on the board of directors. Without cumulative voting, a minority stockholder may not be able to gain as many seats on our board of directors as the stockholder would be able to gain if cumulative voting were permitted. The absence of cumulative voting makes it more difficult for a minority stockholder to gain a seat on our board of directors to influence our board's decision regarding a takeover.

Amendment of Charter and Bylaws Provisions

The amendment of the above provisions of our amended and restated certificate of incorporation will require approval by holders of at least two thirds of our outstanding capital stock entitled to vote generally in the election of directors. The amendment of our bylaws will require approval by the holders of at least two-thirds of our outstanding capital stock entitled to vote generally in the election of directors.

Delaware Anti-Takeover Statute

We will be subject to the provisions of Section 203 of the DGCL regulating corporate takeovers upon our reincorporation as a Delaware corporation prior to the completion of this offering. In general, Section 203 prohibits a publicly held Delaware corporation from engaging, under certain circumstances, in a business combination with an interested stockholder for a period of three years following the date the person became an interested stockholder unless:

- prior to the date of the transaction, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, calculated as provided under Section 203; or
- at or subsequent to the date of the transaction, the business combination is approved by our board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An interested stockholder is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of a corporation's outstanding voting stock. We expect the existence of this provision to have an anti-takeover effect with respect to transactions our board of directors does not approve in advance. We anticipate that Section 203 may also discourage attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

The provisions of Delaware law and the provisions of our amended and restated certificate of incorporation and amended and restated bylaws, as amended upon the completion of this offering, could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they might also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions might also have the effect of

preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders might otherwise deem to be in their best interests.

Transfer Agent and Registrar

Upon the completion of this offering, the transfer agent and registrar for our common stock will be American Stock Transfer & Trust Company, LLC. The transfer agent and registrar's address is 6201 15th Avenue, Brooklyn, NY 11219.

Listing

We have applied to have our common stock listed on The NASDAQ Global Market under the trading symbol "RKDA."

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has not been a public market for shares of our common stock. Future sales of substantial amounts of shares of our common stock, including shares issued upon the exercise or settlement of outstanding options and warrants, in the public market after this offering, or the possibility of these sales occurring, could cause the prevailing market price for our common stock to fall or impair our ability to raise equity capital in the future. As described below, only a limited number of shares of our common stock will be available for sale shortly after this offering due to contractual and legal restrictions on resale. Nevertheless, sales of our common stock in the public market after such restrictions lapse, or the perception that those sales may occur, could adversely affect the prevailing market price at such time and our ability to raise equity capital in the future.

Upon the completion of this offering, based on the number of shares of our capital stock outstanding as of December 31, 2014, and assuming no exercise or settlement of outstanding options or warrants, we will have outstanding an aggregate of approximately shares of common stock. Of these outstanding shares, all shares of common stock to be sold in this offering, plus up to an additional shares if the underwriters exercise in full their option to purchase additional shares, will be freely tradable in the public market without restriction or further registration under the Securities Act, except for any shares that are held by any of our "affiliates," as that term is defined in Rule 144 of the Securities Act.

The remaining shares of our common stock outstanding after this offering are "restricted securities," as such term is defined in Rule 144 under the Securities Act. These were issued and sold by us in private transactions and are eligible for public sale only if registered under the Securities Act or sold in accordance with Rule 144 or Rule 701 under the Securities Act, each of which is discussed below. Holders of substantially all of our equity securities have entered into lock-up agreements with the underwriters under which they have agreed, subject to specific exceptions, not to sell any of our stock for a period of time following the date of this prospectus, as described below. As a result of these agreements, subject to the provisions of Rule 144 or Rule 701, shares will be available for sale in the public market as follows:

- beginning on the date of this prospectus, all shares of our common stock sold in this offering will be immediately available for sale in the public market; and
- beginning 181 days after the date of this prospectus, the remainder of the shares of our common stock will be eligible for sale in the public market from time to time thereafter, subject in some cases to the volume and other restrictions of Rule 144, as described below.

Lock-up Agreements and Market Stand-Off Agreements

We, all of our directors, officers and substantially all of our securityholders have entered into lock-up agreements that generally provide that these holders will not offer, pledge, sell, agree to sell, directly or indirectly, or otherwise dispose of any shares of common stock or any securities convertible into or exchangeable for shares of common stock without the prior written consent of Credit Suisse Securities (USA) LLC and J.P. Morgan Securities LLC for a period of 180 days from the date of this prospectus, subject to certain exceptions. Credit Suisse Securities (USA) LLC and J.P. Morgan Securities LLC may, in their discretion, release any of the securities subject to these lock-up agreements at any time.

In addition to the restrictions contained in the lock-up agreements described above, we have entered into agreements with stockholders that contain certain market stand-off provisions imposing restrictions on the ability of such stockholders to offer, sell, or transfer our equity securities for a period of 180 days following the date of this prospectus.

Rule 144

In general, under Rule 144 as currently in effect, once we have been subject to public company reporting requirements for at least 90 days, a person who is not deemed to have been one of our affiliates for purposes of the Securities Act at any time during the 90 days preceding a sale and who has beneficially owned the shares proposed to be sold for at least six months, including the holding period of any prior owner other than our affiliates, is entitled to sell such shares without complying with the manner of sale, volume limitation or notice provisions of Rule 144, subject to compliance with the public information requirements of Rule 144. If such a person has beneficially owned the shares proposed to be sold for at least one year, including the holding period of any prior owner other than our affiliates, then such person is entitled to sell such shares without complying with any of the requirements of Rule 144.

In general, under Rule 144, as currently in effect, our affiliates or persons selling shares on behalf of our affiliates are entitled to sell upon expiration of the lock-up agreements described above, within any three-month period beginning 90 days after the date of this prospectus, a number of shares that does not exceed the greater of:

- 1% of the number of shares of common stock then outstanding, which will equal approximately shares immediately after this offering; or
- the average weekly trading volume of the common stock during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such sale.

Sales under Rule 144 by our affiliates or persons selling shares on behalf of our affiliates are also subject to certain manner of sale provisions and notice requirements and to the availability of current public information about us.

Rule 701

Rule 701 generally allows a stockholder who purchased shares of our common stock pursuant to a written compensatory plan or contract and who is not deemed to have been an affiliate of our company during the immediately preceding 90 days to sell these shares in reliance upon Rule 144, but without being required to comply with the public information, holding period, volume limitation, or notice provisions of Rule 144. Rule 701 also permits affiliates of our company to sell their Rule 701 shares under Rule 144 without complying with the holding period requirements of Rule 144. All holders of Rule 701 shares, however, are required to wait until 90 days after the date of this prospectus before selling such shares pursuant to Rule 701.

Registration Rights

When this offering is complete, the holders of an aggregate of shares of our common stock, or their transferees, will be entitled to rights with respect to the registration of their shares under the Securities Act. Registration of these shares under the Securities Act would result in these shares becoming freely tradable without restriction under the Securities Act immediately upon the effectiveness of such registration. For a further description of these rights, see "Description of Capital Stock—Registration Rights."

Registration Statement on Form S-8

We intend to file registration statements on Form S-8 under the Securities Act promptly after the completion of this offering to register all of the shares of our common stock issued or reserved for issuance under our 2006 Stock Plan, our 2015 Plan and our ESPP. The registration statements on Form S-8 are expected to become effective immediately upon filing, and shares of our common stock covered by these registration statements will be eligible for sale in the public market, subject to the Rule 144 limitations applicable to affiliates, vesting restrictions and any applicable lock-up agreements and market standoff agreements. For a description of our equity compensation plans, see "Executive Compensation—Employee Benefit and Stock Plans."

MATERIAL U.S. FEDERAL TAX CONSEQUENCES TO NON-U.S. HOLDERS

This section summarizes certain material U.S. federal income tax considerations relating to the ownership and disposition of our common stock sold pursuant to this offering to a "non-U.S. holder" (as defined below). This summary does not provide a complete analysis of all potential tax considerations. The information provided below is based upon provisions of the Code, Treasury regulations promulgated thereunder, administrative rulings and judicial decisions currently in effect. These authorities may change at any time, possibly on a retroactive basis, or the IRS might interpret the existing authorities differently. In either case, the U.S. federal income tax considerations of owning or disposing of our common stock could differ from those described below. As a result, we cannot assure you that the U.S. federal income tax considerations described in this discussion will not be challenged by the IRS or will be sustained by a court if challenged by the IRS.

This summary does not address the tax considerations arising under the alternative minimum tax, the net investment income tax, the laws of any state, local or non-U.S. jurisdiction, or under U.S. federal gift and estate tax laws. In addition, this discussion does not address tax considerations applicable to an investor's particular circumstances or to investors that may be subject to special tax rules, including, without limitation:

- banks, insurance companies, or other financial institutions;
- partnerships or entities or arrangements treated as partnerships or other pass-through entities for U.S. federal income tax purposes (or investors in such entities);
- corporations that accumulate earnings to avoid U.S. federal income tax;
- tax-exempt or governmental organizations or tax-qualified retirement plans;
- real estate investment trusts or regulated investment companies;
- controlled foreign corporations or passive foreign investment companies;
- persons who acquired our common stock pursuant to the exercise of an employee stock option or otherwise as compensation for services;
- dealers in securities or currencies;
- traders in securities that elect to use a mark-to-market method of accounting for their securities holdings;
- persons that own, or are deemed to own, more than 5% of our capital stock (except to the extent specifically set forth below);
- certain former citizens or long-term residents of the United States;
- persons who hold our common stock as a position in a hedging transaction, "straddle," "conversion transaction" or other risk reduction transaction;
- persons who do not hold our common stock as a capital asset within the meaning of Section 1221 of the Code (generally, for investment purposes); or
- persons deemed to sell our common stock under the constructive sale provisions of the Code.

In addition, if a partnership or entity classified as a partnership for U.S. federal income tax purposes is a beneficial owner of our common stock, the tax treatment of a partner in the partnership or an owner of the entity will depend upon the status of the partner or other owner and the activities of the partnership or other entity. Accordingly, this summary does not address U.S. federal income tax considerations applicable to partnerships that hold our common stock, and partners in such partnerships should consult their tax advisors.

INVESTORS CONSIDERING THE PURCHASE OF OUR COMMON STOCK SHOULD CONSULT THEIR OWN TAX ADVISORS REGARDING THE APPLICATION OF THE U.S. FEDERAL INCOME, GIFT AND ESTATE TAX LAWS TO THEIR PARTICULAR SITUATIONS AND THE CONSEQUENCES OF FOREIGN, STATE OR LOCAL LAWS, AND TAX TREATIES.

Non-U.S. Holder Defined

For purposes of this summary, a "non-U.S. holder" is any holder of our common stock, other than an entity taxable as a partnership for U.S. federal income tax purposes that is not:

- an individual who is a citizen or resident of the United States;
- a corporation, or other entity taxable as a corporation for U.S. federal income tax purposes, created or organized under the laws of the United States, any state therein or the District of Columbia or otherwise treated as such for U.S. federal income tax purposes;
- a trust that (1) is subject to the primary supervision of a U.S. court and one or more U.S. persons have authority to control all substantial decisions of the trust or (2) has a valid election in effect under applicable Treasury regulations to be treated as a U.S. person; or
- an estate whose income is subject to U.S. federal income tax regardless of source.

If you are a non-U.S. citizen who is an individual, you may, in many cases, be deemed to be a resident alien, as opposed to a nonresident alien, by virtue of being present in the United States for at least 31 days in the calendar year and for an aggregate of at least 183 days during a three-year period ending in the current calendar year. For these purposes, all the days present in the current year, one-third of the days present in the immediately preceding year, and one-sixth of the days present in the second preceding year are counted. Resident aliens are subject to U.S. federal income tax as if they were U.S. citizens. Such an individual is urged to consult his or her own tax advisor regarding the U.S. federal income tax consequences of the ownership, sale, exchange or other disposition of our common stock.

Distributions

We do not expect to declare or make any distributions on our common stock in the foreseeable future. If we do make any distributions on shares of our common stock, however, such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Distributions in excess of our current and accumulated earnings and profits will constitute a return of capital that is applied against and reduces, but not below zero, a non-U.S. holder's adjusted tax basis in shares of our common stock. Any remaining excess will be treated as gain realized on the sale or other disposition of our common stock. See "—Sale of Common Stock."

Subject to the discussion below regarding the Foreign Account Tax Compliance Act, or FATCA, and backup withholding, any distribution made to a non-U.S. holder on our common stock that is not effectively connected with a non-U.S. holder's conduct of a trade or business in the United States will generally be subject to U.S. withholding tax at a 30% rate. The withholding tax might not apply, however, or might apply at a reduced rate, under the terms of an applicable income tax treaty between the United States and the non-U.S. holder's country of residence. You should consult your tax advisors regarding your entitlement to benefits under a relevant income tax treaty. Generally, in order for us or our paying agent to withhold tax at a lower treaty rate, a non-U.S. holder must certify its entitlement to treaty benefits. A non-U.S. holder generally can meet this certification requirement by providing an IRS Form W-8BEN, W-8BEN-E, any successor form to the IRS Form W-8BEN or W-8BEN-E, or appropriate substitute form to us or our paying agent. If the non-U.S. holder holds the stock through a financial institution or other agent acting on the holder's behalf, the holder will be required to provide appropriate documentation to the agent. The holder's agent will then be required to provide

certification to us or our paying agent, either directly or through other intermediaries. If you are eligible for a reduced rate of U.S. federal withholding tax under an income tax treaty, you may obtain a refund or credit from the IRS of any excess amounts withheld by filing an appropriate claim for a refund with the IRS in a timely manner.

Distributions received by a non-U.S. holder that are effectively connected with a U.S. trade or business conducted by the non-U.S. holder, and, if required by an applicable income tax treaty between the United States and the non-U.S. holder's country of residence, are attributable to a permanent establishment maintained by the non-U.S. holder in the United States, are not subject to such withholding tax. To obtain this exemption, a non-U.S. holder must provide us with an IRS Form W-8ECI properly certifying such exemption. Such effectively connected distributions, although not subject to U.S. withholding tax, are generally taxed at the same graduated rates applicable to U.S. persons, net of certain deductions and credits. In addition to the graduated tax described above, distributions received by corporate non-U.S. holders that are effectively connected with a U.S. trade or business of the corporate non-U.S. holder may also be subject to a branch profits tax equal to 30% of its effectively connected earnings and profits for the taxable year, as adjusted for certain items, although an applicable income tax treaty between the United States and the non-U.S. holder's country of residence might provide for a lower rate.

Sale of Common Stock

Subject to the discussion below regarding FATCA and backup withholding, non-U.S. holders will generally not be subject to U.S. federal income tax on any gains realized on the sale, exchange or other disposition of common stock unless:

- the gain (1) is effectively connected with the conduct by the non-U.S. holder of a U.S. trade or business and (2) if required by an applicable income tax treaty between the United States and the non-U.S. holder's country of residence, is attributable to a permanent establishment (or, in the case of an individual, a fixed base) maintained by the non-U.S. holder in the United States (in which case the special rules described below apply);

- the non-U.S. holder is an individual who is present in the United States for 183 days or more in the taxable year of the sale, exchange or other disposition of our common stock, and certain other requirements are met (in which case the gain would be subject to a flat 30% tax, or such reduced rate as may be specified by an applicable income tax treaty, which may be offset by U.S.-source capital losses, even though the individual is not considered a resident of the United States); or

- the rules of the Foreign Investment in Real Property Tax Act, or FIRPTA, treat the gain as effectively connected with a U.S. trade or business.

The FIRPTA rules may apply to a sale, exchange or other disposition of our common stock if we are at the time of the disposition, or were within the shorter of the five-year period preceding the disposition and the non-U.S. holder's holding period, a "U.S. real property holding corporation," or USRPHC. In general, we would be a USRPHC if interests in U.S. real property comprised at least half of the value of our business assets. If we are or become a USRPHC, as long as our common stock is regularly traded on an established securities market, such common stock will be treated as U.S. real property interests subject to the FIRPTA rules only if a non-U.S. holder actually owns or constructively holds more than 5% of our outstanding common stock.

If any gain from the sale, exchange or other disposition of common stock, (1) is effectively connected with a U.S. trade or business conducted by a non-U.S. holder and (2) if required by an applicable income tax treaty between the United States and the non-U.S. holder's country of residence, is attributable to a permanent establishment (or, in the case of an individual, a fixed base) maintained by such non-U.S. holder in the United States, then the gain generally will be subject to U.S. federal

income tax at the same graduated rates applicable to U.S. persons, net of certain deductions and credits. If the non-U.S. holder is a corporation, under certain circumstances, that portion of its earnings and profits that is effectively connected with its U.S. trade or business, subject to certain adjustments, generally would be subject to a "branch profits tax." The branch profits tax rate is equal to 30% of its effectively connected earnings and profits for the taxable year, as adjusted for certain items, although an applicable income tax treaty between the United States and the non-U.S. holder's country of residence might provide for a lower rate.

Backup Withholding and Information Reporting

The Code and the Treasury regulations require those who make specified payments to report the payments to the IRS. Among the specified payments are dividends and proceeds paid by brokers to their customers. The required information returns enable the IRS to determine whether the recipient properly included the payments in income. This reporting regime is reinforced by "backup withholding" rules. These rules require the payors to withhold tax from payments subject to information reporting if the recipient fails to cooperate with the reporting regime by failing to provide his taxpayer identification number to the payor, furnishing an incorrect identification number, failing to report interest or dividends on his U.S. tax returns, or failing to otherwise establish an exemption to these rules. The backup withholding rate is currently 28%. The backup withholding rules do not apply to payments to corporations, whether domestic or foreign, provided that they establish such exemption.

Payments to non-U.S. holders of dividends on common stock generally will not be subject to backup withholding, and payments of proceeds made to non-U.S. holders by a broker upon a sale of common stock will not be subject to information reporting or backup withholding, in each case so long as the non-U.S. holder certifies its nonresident status (and we or our paying agent do not have actual knowledge or reason to know the holder is a U.S. person or that the conditions of any other exemption are not, in fact, satisfied) or otherwise establishes an exemption. The certification procedures to claim treaty benefits described under "Distributions" above will generally satisfy the certification requirements necessary to avoid the backup withholding tax. We must report annually to the IRS any dividends paid to each non-U.S. holder and the tax withheld, if any, with respect to these dividends. Copies of these reports may be made available to tax authorities in the country where the non-U.S. holder resides.

Backup withholding is not an additional tax. Any amounts withheld from a payment to a holder of common stock under the backup withholding rules can be credited against any U.S. federal income tax liability of the holder and may entitle the holder to a refund from the IRS, provided that the required information is furnished to the IRS in a timely manner.

Foreign Account Tax Compliance Act (FATCA)

FATCA imposes U.S. federal withholding tax of 30% on certain types of U.S. source "withholdable payments" (including dividends and the gross proceeds from the sale or other disposition of U.S. stock) to foreign financial institutions, which are broadly defined for this purpose, and other non-U.S. entities that fail to comply with certain certification and information reporting requirements regarding U.S. account holders or owners of such institutions or entities. The obligation to withhold under FATCA applies to any dividends on our common stock and is currently expected to apply to gross proceeds from the disposition of our common stock paid after December 31, 2016. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this paragraph. Non-U.S. holders should consult their own tax advisors regarding the possible implications of FATCA on their investment in our common stock.

THE PRECEDING DISCUSSION OF U.S. FEDERAL INCOME TAX CONSIDERATIONS IS FOR GENERAL INFORMATION ONLY. IT IS NOT TAX ADVICE. EACH PROSPECTIVE INVESTOR SHOULD CONSULT ITS OWN TAX ADVISOR REGARDING THE PARTICULAR U.S. FEDERAL, STATE, LOCAL AND NON-U.S. TAX CONSEQUENCES OF PURCHASING, HOLDING AND DISPOSING OF OUR COMMON STOCK, INCLUDING THE CONSEQUENCES OF ANY PROPOSED CHANGE IN APPLICABLE LAWS.

UNDERWRITING

Under the terms and subject to the conditions contained in an underwriting agreement dated , we have agreed to sell to the underwriters named below, for whom Credit Suisse Securities (USA) LLC and J.P. Morgan Securities LLC are acting as representatives, the following respective numbers of shares of common stock:

Underwriter	Number of Shares
Credit Suisse Securities (USA) LLC	
J.P. Morgan Securities LLC	
Piper Jaffray & Co.	
Total	

The underwriting agreement provides that the underwriters are obligated to purchase all the shares of common stock in the offering if any are purchased, other than those shares covered by the option to purchase additional shares described below. The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may be increased or the offering may be terminated.

We have granted to the underwriters a 30-day option to purchase on a pro rata basis up to additional shares at the initial public offering price less the underwriting discounts and commissions.

The underwriters propose to offer the shares of common stock initially at the public offering price on the cover page of this prospectus and to selling group members at that price less a selling concession of $ per share. After the initial public offering the underwriters may change the public offering price and selling concession to broker-dealers.

The following table summarizes the compensation we will pay:

	Per Share		Total	
	Without Option to Purchase Additional Shares	With Option to Purchase Additional Shares	Without Option to Purchase Additional Shares	With Option to Purchase Additional Shares
Underwriting discounts and commissions paid by us	$	$	$	$

We estimate that our total expenses for this offering, excluding the underwriting discounts and commissions, will be approximately $. We have also agreed to reimburse the underwriters for certain FINRA-related expenses incurred by them in connection with this offering in an amount up to $.

The underwriters have informed us that they do not expect sales to accounts over which the underwriters have discretionary authority to exceed 5% of the shares of common stock being offered.

We have agreed that we will not offer, sell, contract to sell, pledge or otherwise dispose of, directly or indirectly, or file with the Securities and Exchange Commission a registration statement under the Securities Act relating to, any shares of our common stock or securities convertible into or exchangeable or exercisable for any shares of our common stock, or publicly disclose the intention to make any offer, sale, pledge, disposition or filing, without the prior written consent of Credit Suisse Securities (USA) LLC and J.P. Morgan Securities LLC for a period of 180 days after the date of this prospectus, except issuances pursuant to the exercise of employee stock options outstanding on the date hereof.

Our officers, directors and substantially all of our existing securityholders have agreed that they will not offer, sell, contract to sell, pledge or otherwise dispose of, directly or indirectly, any shares of our common stock or securities convertible into or exchangeable or exercisable for any shares of our common stock, enter into a transaction that would have the same effect, or enter into any swap, hedge or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership of our common stock, whether any of these transactions are to be settled by delivery of our common stock or other securities, in cash or otherwise, or publicly disclose the intention to make any offer, sale, pledge or disposition, or to enter into any transaction, swap, hedge or other arrangement, without, in each case, the prior written consent of Credit Suisse Securities (USA) LLC and J.P. Morgan Securities LLC for a period of 180 days after the date of this prospectus, subject to limited exceptions.

We have agreed to indemnify the underwriters against liabilities under the Securities Act, or contribute to payments that the underwriters may be required to make in that respect.

We have applied to list the shares of common stock on The NASDAQ Global Market under the symbol "RKDA."

Prior to this offering, there has been no public market for our common stock. The initial public offering price will be determined by negotiations between us and the representatives of the underwriters. In determining the initial public offering price, we and the representatives of the underwriters expect to consider a number of factors including:

- the information set forth in this prospectus and otherwise available to the representatives;
- our prospects and the history and prospects for the industry in which we compete;
- an assessment of our management;
- our prospects for future earnings;
- the general condition of the securities markets at the time of this offering;
- the recent market prices of, and demand for, publicly traded common stock of generally comparable companies; and
- other factors deemed relevant by the underwriters and us.

Neither we nor the underwriters can assure investors that an active trading market will develop for our common shares, or that the shares will trade in the public market at or above the initial public offering price.

In connection with the offering the underwriters may engage in stabilizing transactions, over-allotment transactions, syndicate covering transactions, penalty bids and passive market making in accordance with Regulation M under the Exchange Act.

- Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum.
- Over-allotment involves sales by the underwriters of shares in excess of the number of shares the underwriters are obligated to purchase, which creates a syndicate short position. The short position may be either a covered short position or a naked short position. In a covered short position, the number of shares over-allotted by the underwriters is not greater than the number of additional shares that they have the option to purchase. In a naked short position, the number of shares involved is greater than the number of additional shares that they have the option to purchase. The underwriters may close out any covered short position by either exercising their option to purchase additional shares and/or purchasing shares in the open market.
- Syndicate covering transactions involve purchases of the common stock in the open market after the distribution has been completed in order to cover syndicate short positions. In determining

the source of shares to close out the short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase additional shares through their option. If the underwriters sell more shares than could be covered by the option to purchase additional shares, a naked short position, the position can only be closed out by buying shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there could be downward pressure on the price of the shares in the open market after pricing that could adversely affect investors who purchase in the offering.

- Penalty bids permit the representatives to reclaim a selling concession from a syndicate member when the common stock originally sold by the syndicate member is purchased in a stabilizing or syndicate covering transaction to cover syndicate short positions.

- In passive market making, market makers in the common stock who are underwriters or prospective underwriters may, subject to limitations, make bids for or purchases of our common stock until the time, if any, at which a stabilizing bid is made.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of the common stock. As a result the price of our common stock may be higher than the price that might otherwise exist in the open market. These transactions may be effected on The NASDAQ Global Market or otherwise and, if commenced, may be discontinued at any time.

A prospectus in electronic format may be made available on the web sites maintained by one or more of the underwriters, or selling group members, if any, participating in this offering and one or more of the underwriters participating in this offering may distribute prospectuses electronically. The representatives may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the underwriters and selling group members that will make internet distributions on the same basis as other allocations.

Certain of the underwriters and their affiliates have provided in the past to us and our affiliates and may provide from time to time in the future certain commercial banking, financial advisory, investment banking and other services for us and such affiliates in the ordinary course of their business, for which they have received and may continue to receive customary fees and commissions. In addition, from time to time, certain of the underwriters and their affiliates may effect transactions for their own account or the account of customers, and hold on behalf of themselves or their customers, long or short positions in our debt or equity securities or loans, and may do so in the future.

Piper Jaffray & Co. acted as placement agent in connection with our Series D preferred stock financing, under which we sold shares between March and May 2014, and received as compensation a cash fee of $2.0 million and warrants to purchase 133,781 shares of our common stock at an exercise price of $3.36 per share, expiring on April 8, 2019, May 5, 2019, and May 12, 2019, respectively.

Selling Restrictions

General

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus.

This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

United Kingdom

This document is only being distributed to and is only directed at (i) persons who are outside the United Kingdom or (ii) to investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the "Order") or (iii) high net worth entities, and other persons to whom it may lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons"). The securities are only available to, and any invitation, offer or agreement to subscribe, purchase or otherwise acquire such securities will be engaged in only with, relevant persons. Any person who is not a relevant person should not act or rely on this document or any of its contents.

European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a "Relevant Member State"), from and including the date on which the European Union Prospectus Directive (the "EU Prospectus Directive") was implemented in that Relevant Member State (the "Relevant Implementation Date") an offer of securities described in this prospectus may not be made to the public in that Relevant Member State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the EU Prospectus Directive, except that, with effect from and including the Relevant Implementation Date, an offer of securities described in this prospectus may be made to the public in that Relevant Member State at any time:

- to any legal entity which is a qualified investor as defined under the EU Prospectus Directive;
- to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150 natural or legal persons (other than qualified investors as defined in the EU Prospectus Directive); or
- in any other circumstances falling within Article 3(2) of the EU Prospectus Directive, provided that no such offer of securities described in this prospectus shall result in a requirement for the publication by us of a prospectus pursuant to Article 3 of the EU Prospectus Directive.

For the purposes of this provision, the expression an "offer of securities to the public" in relation to any securities in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the securities to be offered so as to enable an investor to decide to purchase or subscribe for the securities, as the same may be varied in that Member State by any measure implementing the EU Prospectus Directive in that Member State. The expression "EU Prospectus Directive" means Directive 2003/71/EC (and any amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State) and includes any relevant implementing measure in each Relevant Member State, and the expression "2010 PD Amending Directive" means Directive 2010/73/EU.

Hong Kong

The shares may not be offered or sold by means of any document other than (i) in circumstances that do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong), or (ii) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap.571, Laws of Hong Kong) and any rules made thereunder, or (iii) in other circumstances that do not result in the document being a "prospectus" within the meaning of the

Companies Ordinance (Cap.32, Laws of Hong Kong), and no advertisement, invitation or document relating to the shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), that is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted under the laws of Hong Kong) other than with respect to shares that are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap.571, Laws of Hong Kong) and any rules made thereunder.

Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore, or the SFA, (ii) to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 by a relevant person that is: (a) a corporation (which is not an accredited investor) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and where each beneficiary of which is an accredited investor, shares, debentures and units of shares and debentures of that corporation or the beneficiaries' rights and interest in that corporation or trust shall not be transferable for six months after that corporation or that trust has acquired the shares under Section 275 except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA; (2) where no consideration is given for the transfer; or (3) by operation of law.

Switzerland

This document, as well as any other material relating to the shares of our common stock, which are the subject of the offering contemplated by this prospectus, does not constitute an issue prospectus pursuant to Article 652a of the Swiss Code of Obligations. The shares will not be listed on the SIX Swiss Exchange and, therefore, the documents relating to the shares, including, but not limited to, this document, do not claim to comply with the disclosure standards of the listing rules of the SIX Swiss Exchange and corresponding prospectus schemes annexed to the listing rules of the SIX Swiss Exchange.

The shares are being offered in Switzerland by way of a private placement, i.e., to a small number of selected investors only, without any public offer and only to investors who do not purchase the shares with the intention to distribute them to the public. The investors will be individually approached by us from time to time.

Notice to Residents of Canada

The distribution of the shares in Canada is being made only in the provinces of Ontario and Quebec on a private placement basis such that the shares may be sold only to purchasers resident in those provinces purchasing as principal that are both "accredited investors" as defined in National Instrument 45-106 *Prospectus and Registration Exemptions* and "permitted clients" as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the shares must be made in accordance with an exemption from the prospectus requirements and in compliance with the registration requirements of applicable securities laws.

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by Orrick, Herrington & Sutcliffe LLP, San Francisco, California. Certain legal matters in connection with this offering will be passed upon for the underwriters by Cooley LLP, San Francisco, California.

EXPERTS

The consolidated financial statements as of December 31, 2014 and 2013 and for each of the two years in the period ended December 31, 2014 included in this prospectus have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report appearing herein. Such consolidated financial statements have been so included in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-1, including exhibits and schedules filed with the registration statement, of which this prospectus is a part, under the Securities Act with respect to the shares of common stock we propose to sell in this offering. This prospectus does not contain all of the information set forth in the registration statement and exhibits and schedules to the registration statement. For further information with respect to our company and the shares of common stock to be sold in this offering, reference is made to the registration statement, including the exhibits and schedules thereto. Statements contained in this prospectus as to the contents of any contract or other document referred to in this prospectus are not necessarily complete and, where that contract or other document has been filed as an exhibit to the registration statement, each statement in this prospectus is qualified in all respects by the exhibit to which the reference relates. Copies of the registration statement, including the exhibits and schedules to the registration statement, may be examined without charge at the public reference room of the SEC, 100 F Street, N.E., Room 1580, Washington, DC 20549. Information about the operation of the public reference room may be obtained by calling the SEC at 1-800-SEC-0300. Copies of all or a portion of the registration statement can be obtained from the public reference room of the SEC upon payment of prescribed fees. Our SEC filings, including our registration statement, are also available to you, free of charge, on the SEC's website at http://www.sec.gov.

As a result of this offering, we will become subject to the information and reporting requirements of the Exchange Act and, in accordance with this law, will file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other SEC information will be available for inspection and copying at the SEC's public reference facilities and the website referred to above. We also maintain a website at http://www.arcadiabio.com. When this offering is complete, you may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not part of this prospectus or the registration statement of which it forms a part.

ARCADIA BIOSCIENCES, INC.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders of
Arcadia Biosciences, Inc.
Davis, California

We have audited the accompanying consolidated balance sheets of Arcadia Biosciences, Inc. and its subsidiary (the "Company") as of December 31, 2014 and 2013, and the related consolidated statements of operations, redeemable and convertible preferred stock and stockholders' deficit, and cash flows for each of the two years in the period ended December 31, 2014. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of Arcadia Biosciences, Inc. and subsidiary at December 31, 2014 and 2013, and the results of their operations and their cash flows for each of the two years in the period ended December 31, 2014, in conformity with accounting principles generally accepted in the United States of America.

/s/ Deloitte & Touche LLP

Phoenix, Arizona
April 3, 2015

Arcadia Biosciences, Inc.

Consolidated Balance Sheets

(In thousands, except share and per share amounts)

	As of December 31,		Pro Forma Stockholders' Equity As of December 31, 2014
	2013	2014	(unaudited)
ASSETS			
Current assets:			
Cash and cash equivalents	$ 2,835	$ 16,571	
Accounts receivable	649	1,042	
Amounts due from related parties	100	—	
Unbilled revenue	275	380	
Inventories—current	450	424	
Prepaid expenses and other current assets	258	278	
Total current assets	4,567	18,695	
Property and equipment, net	941	728	
Inventories—noncurrent	2,536	2,149	
Investment in equity method investee	932	—	
Cost method investment	500	500	
Other noncurrent assets	66	2,817	
TOTAL ASSETS	$ 9,542	$ 24,889	
LIABILITIES, REDEEMABLE AND CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT			
Current liabilities:			
Accounts payable and accrued expenses	$ 2,513	$ 3,197	
Amounts due to related parties	197	56	
Promissory notes—current	955	1,055	
Convertible promissory notes	3,613	4,551	
Unearned revenue—current	1,074	830	
Derivative liabilities related to convertible promissory notes	1,192	1,580	
Total current liabilities	9,544	11,269	
Promissory notes—noncurrent	1,924	869	
Note payable to related party	8,000	8,000	
Unearned revenue—noncurrent	4,371	3,636	
Other noncurrent liabilities	3,000	3,000	
Total liabilities	26,839	26,774	
Commitments and contingencies *(Note 8)*			
Redeemable convertible preferred stock, no par value—10,553,770 authorized as of December 31, 2014; 9,822,283 issued and outstanding as of December 31, 2014; aggregate liquidation preferences of $35,254 as of December 31, 2014 shares authorized, shares issued and outstanding, pro forma (unaudited)	—	34,098	$ —
Convertible preferred stock, no par value—94,586,346 shares authorized as of December 31, 2014: 93,540,163 issued and outstanding as of December 31, 2014; aggregate liquidation preferences of $93,540 as of December 31, 2014 shares authorized, shares issued and outstanding, pro forma (unaudited)	—	48,783	—
Stockholders' deficit:			
Convertible preferred stock, no par value—94,586,346 shares authorized as of December 31, 2013 and 2014: 93,540,163 issued and outstanding as of December 31, 2013 and 2014; aggregate liquidation preferences of $93,540 as of December 31, 2013 and 2014 shares authorized, shares issued and outstanding, pro forma (unaudited)	—	—	—
Common stock, no par value—135,000,000 shares authorized as of December 31, 2013 and 140,000,000 shares authorized as of December 31, 2014, 8,226,236 and 8,296,131 issued and outstanding as of December 31, 2013 and 2014; shares authorized, shares issued and outstanding, pro forma (unaudited)	—	—	—
Additional paid-in capital	78,334	29,204	112,085
Accumulated deficit	(95,631)	(113,970)	(113,970)
Total stockholders' deficit	(17,297)	(84,766)	$ (1,885)
TOTAL LIABILITIES, REDEEMABLE AND CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT	$ 9,542	$ 24,889	

See accompanying notes to consolidated financial statements.

Arcadia Biosciences, Inc.

Consolidated Statements of Operations

(In thousands, except share and per share amounts)

	Year Ended December 31,	
	2013	2014
Revenues:		
Product	$ 1,102	$ 355
License	1,625	2,325
Contract research and government grants	3,751	4,302
Total revenues (which includes $144 and $191 from related parties—Note 15)	6,478	6,982
Operating expenses:		
Cost of product revenues	673	1,997
Research and development	8,404	10,012
Selling, general and administrative	7,967	10,126
Total operating expenses	17,044	22,135
Loss from operations	(10,566)	(15,153)
Interest expense	(626)	(1,394)
Other income (expense), net	5	(597)
Loss before income taxes and equity in loss of unconsolidated entity	(11,187)	(17,144)
Income tax provision	(167)	(263)
Equity in loss of unconsolidated entity	(1,841)	(932)
Net loss	(13,195)	(18,339)
Accretion of redeemable convertible preferred stock to redemption value	—	(3,738)
Net loss attributable to common stockholders	$ (13,195)	$ (22,077)
Net loss per share attributable to common stockholders, basic and diluted	$ (1.61)	$ (2.68)
Weighted-average number of shares used in per share calculations, basic and diluted	8,213,544	8,245,129
Pro forma net loss per share attributable to common stockholders, basic and diluted (unaudited)		$
Weighted-average number of shares used in pro forma per share calculations, basic and diluted (unaudited)		

See accompanying notes to consolidated financial statements.

Arcadia Biosciences, Inc.
Consolidated Statements of Redeemable and Convertible Preferred Stock and Stockholders' Deficit
(In thousands, except share amounts)

	Redeemable Convertible Preferred Stock		Convertible Preferred Stock		Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount			
Balance—January 1, 2013	—	$ —	—	$ —	93,540,163	$ —	8,187,736	$ —	$ 76,752	$ (82,436)	$ (5,684)
Exercise of stock options	—	—	—	—	—	—	38,500	—	17	—	17
Stock-based compensation	—	—	—	—	—	—	—	—	1,278	—	1,278
Issuance of common stock warrants	—	—	—	—	—	—	—	—	287	—	287
Net loss	—	—	—	—	—	—	—	—	—	(13,195)	(13,195)
Balance—December 31, 2013	—	—	—	—	93,540,163	—	8,226,236	—	78,334	(95,631)	(17,297)
Exercise of stock options	—	—	—	—	—	—	69,895	—	19	—	19
Preferred stock reclassification	—	—	93,540,163	48,783	(93,540,163)	—	—	—	(48,783)	—	(48,783)
Stock-based compensation	—	—	—	—	—	—	—	—	976	—	976
Issuance of preferred stock, net of issuance costs of $194	9,822,283	30,360	—	—	—	—	—	—	—	—	—
Issuance of common stock warrants	—	—	—	—	—	—	—	—	2,396	—	2,396
Accretion of redeemable convertible preferred stock to redemption value	—	3,738	—	—	—	—	—	—	(3,738)	—	(3,738)
Net loss	—	—	—	—	—	—	—	—	—	(18,339)	(18,339)
Balance—December 31, 2014	9,822,283	$34,098	93,540,163	$48,783	—	$ —	8,296,131	$ —	$ 29,204	$ (113,970)	$ (84,766)

See accompanying notes to consolidated financial statements.

Arcadia Biosciences, Inc.

Consolidated Statements of Cash Flows

(In thousands)

	Year Ended December 31,	
	2013	2014
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (13,195)	$ (18,339)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	391	358
Loss (gain) on disposal of equipment	(3)	3
Equity in loss of unconsolidated entity	1,841	932
Loss related to amendment of Bioceres funding agreement	—	1,450
Stock-based compensation	1,278	976
Common stock warrants issued for services	—	93
Change in fair value of derivative liabilities related to convertible promissory notes	—	611
Accretion of debt discount	90	468
Changes in operating assets and liabilities:		
Accounts receivable	7	(393)
Amounts due from related parties	—	100
Unbilled revenue	203	(105)
Inventories	(525)	412
Prepaid expenses and other current assets	146	(27)
Other noncurrent assets	(32)	8
Accounts payable and other accrued expenses	421	(216)
Amounts due to related parties	40	(140)
Unearned revenue	(407)	(978)
Net cash used in operating activities	(9,745)	(14,787)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Cost method investment in Bioceres	(500)	(1,450)
Proceeds from sale of property and equipment	—	7
Purchases of property and equipment	(100)	(148)
Net cash used in investing activities	(600)	(1,591)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Capital lease payments	(45)	(72)
Payments for deferred offering costs	—	(1,594)
Proceeds from issuance of common stock	17	19
Proceeds from issuance of redeemable convertible preferred stock and common stock warrants, net of issuance costs	—	32,845
Payments on issuance fees on promissory notes	(22)	—
Proceeds from notes payable and common stock warrants	8,100	—
Payments on notes payable and convertible promissory notes	(220)	(1,084)
Proceeds from notes payable to related party	500	—
Payments on notes payable to related party	(500)	—
Net cash provided by financing activities	7,830	30,114
NET (DECREASE) INCREASE IN CASH AND CASH EQUIVALENTS	(2,515)	13,736
CASH AND CASH EQUIVALENTS—Beginning of period	5,350	2,835
CASH AND CASH EQUIVALENTS—End of period	$ 2,835	$ 16,571
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:		
Cash paid for interest	$ 514	$ 736
Cash paid for income taxes	$ 85	$ 103
NONCASH INVESTING AND FINANCING ACTIVITIES:		
Deferred offering costs included in accounts payable and accrued expenses	$ —	$ 1,165
Laboratory equipment acquired under a capital lease	$ 117	$ —
Accretion of redeemable convertible preferred stock	$ —	$ 3,738

See accompanying notes to consolidated financial statements.

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements

1. Organization, Description of Business and Liquidity

Arcadia Biosciences, Inc. (the "Company"), was incorporated in the state of Arizona in 2002 and maintains its headquarters in Davis, California, with additional facilities in Seattle, Washington; Phoenix, Arizona; and American Falls, Idaho. The Company was reincorporated in Delaware in March 2015.

The Company pursues agriculture-based biotechnology business opportunities that improve the environment and human health. The Company is an agricultural biotechnology trait company with an extensive and diversified portfolio of late-stage crop productivity and product quality traits addressing multiple crops that supply the global food and feed markets. Its traits are focused on high-value enhancements that increase crop yields by enabling plants to more efficiently manage environmental and nutrient stresses, and that enhance the quality and value of agricultural products.

In February 2012, the Company formed Verdeca LLC ("Verdeca", see Note 5), which is jointly owned with Bioceres, Inc. ("Bioceres USA"), a U.S. wholly owned subsidiary of Bioceres, S.A. ("Bioceres"), an Argentine corporation. Bioceres is an agricultural investment and development cooperative. Verdeca was formed to develop and deregulate soybean varieties using both partners' agricultural technologies.

The accompanying financial statements have been prepared assuming the Company will continue as a going concern, which contemplates, among other things, the realization of assets and satisfaction of liabilities in the ordinary course of business. The Company has not yet achieved profitability. As of December 31, 2013 and 2014, the Company had an accumulated deficit of $95.6 million and $114.0 million, respectively, and expects to incur losses for the next several years. Since its inception, the Company has funded its operations primarily with the net proceeds from private placements of equity and debt securities, as well as proceeds from the sale of its products and payments under license agreements, contract research agreements and government grants. As of December 31, 2013 and 2014, the Company had cash and cash equivalents of $2.8 million and $16.6 million. In the first half of 2014, the Company received net proceeds of $32.8 million from its Series D redeemable convertible preferred stock offering. Management believes existing cash should be sufficient to fund its operations through December 31, 2015. In addition, the Company may, if necessary, institute cost cutting measures and can extend the maturity date on its $8.0 million loan in order to allow existing cash to fund operations for more than one year from the date of this report. Furthermore, the Company is in the process of exploring financing with various lenders. The Company expects to incur additional losses related to the continued development and expansion of its business, including research and development, seed production and operations, and sales and marketing. There is no assurance that profitable operations will be achieved or if achieved can be sustained on a continued basis.

2. Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

The consolidated financial statements include the accounts of the Company and Verdeca LLC. All intercompany balances and transactions have been eliminated in consolidation. The Company prepares its consolidated financial statements in conformity with accounting principles generally accepted in the United States of America, or U.S. GAAP, and with the rules of the Securities and Exchange Commission. The Company uses a qualitative approach in assessing the consolidation requirement for variable interest entities ("VIEs"). This approach focuses on determining whether the Company has the power to direct the activities of the VIE that most significantly affect the VIE's economic performance

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

and whether the Company has the obligation to absorb losses, or the right to receive benefits, that could potentially be significant to the VIE. For all periods presented, the Company has determined that it is the primary beneficiary of Verdeca, which is a VIE. The Company evaluates its relationships with the VIEs upon the occurrence of certain significant events that affect the design, structure or other factors pertinent to the primary beneficiary determination.

Unaudited Pro Forma Stockholders' Equity

The pro forma stockholders' equity as of December 31, 2014 is presented as though all of the Company's outstanding convertible preferred stock had converted into shares of common stock upon the completion of an initial public offering ("IPO") of the Company's common stock.

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions in the Company's consolidated financial statements and notes thereto. Significant estimates and assumptions made by management included the determination of the provision for income taxes, costs to complete government grants and research contracts, and the development period of revenue-generating technologies. Management bases its estimates on historical experience and on various other market-specific and relevant assumptions that management believes to be reasonable under the circumstances. Actual results could differ from those estimates.

Cash and Cash Equivalents

The Company considers any liquid investments with a stated maturity of three months or less at purchase to be cash equivalents. Cash and cash equivalents consist of cash on deposit with banks. The Company limits cash investments to financial institutions with high credit standings; therefore, management believes that there is no significant exposure to any credit risk in the Company's cash and cash equivalents. However, as of December 31, 2013 and 2014, a substantial portion of the Company's cash in depository accounts is in excess of the federal deposit insurance limits.

Accounts Receivable

Accounts receivable represents amounts owed to the Company from product sales, licenses and contract research and government grants. The carrying value of the Company's receivables represents estimated net realizable values. The Company generally does not require collateral and estimates any required allowance for doubtful accounts based on historical collection trends, the age of outstanding receivables, and existing economic conditions. If events or changes in circumstances indicate that specific receivable balances may be impaired, further consideration is given to the collectability of those balances and the allowance is recorded accordingly. Past-due receivable balances are written off when the Company's internal collection efforts have been unsuccessful in collecting the amounts due. The Company had no amounts reserved for doubtful accounts at December 31, 2013 and 2014 as the Company expected full collection of the accounts receivable balances as of each of these dates.

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

Customer Concentration

Significant customers are those that represent greater than 10% of the Company's total revenues or gross accounts receivable balance at each respective balance sheet date.

Customers representing greater than 10% of accounts receivable were as follows (in percentages):

	As of December 31,	
	2013	2014
Customer A	73	94
Customer B	13	—

Customers representing greater than 10% of total revenues were as follows (in percentages):

	For Year Ended December 31,	
	2013	2014
Customer A	23	29
Customer C	11	—
Customer D	26	36

Property and Equipment

Property and equipment acquisitions are recorded at cost. Provisions for depreciation are calculated using the straight-line method over the following average estimated useful lives of the assets:

	Years
Laboratory equipment	5
Software and computer equipment	3
Furniture and fixtures	7
Vehicles	5
Leasehold improvements	2-10*

* Leasehold improvements are depreciated over the shorter of the estimated life of the asset or the remaining life of the lease.

Deferred Offering Costs

Deferred offering costs, which consist of direct incremental legal, consulting, banking and accounting fees relating to the anticipated initial public offering ("IPO"), are capitalized. The deferred offering costs will be offset against IPO proceeds upon the consummation of the offering. In the event the offering is terminated, deferred offering costs will be expensed. The Company has recorded $2.8 million of deferred offering costs in other noncurrent assets on the consolidated balance sheet as of December 31, 2014. No amounts were deferred as of December 31, 2013.

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

Impairment of Long-Lived Assets

The Company evaluates if events and circumstances have occurred that indicate the remaining estimated useful life of long-lived assets and identifiable intangible assets may warrant revision or that the remaining balance of these assets may not be recoverable. In evaluating for recoverability, the Company estimates the future undiscounted cash flows expected to result from the use of the assets and their eventual disposition. In the event that the balance of any asset exceeds the future undiscounted cash flow estimate, impairment is recognized based on the excess of the carrying amounts of the asset above its estimated fair value. As of December 31, 2013 and 2014, there was no impairment of the Company's long-lived assets.

Stock-Based Compensation

The Company measures its stock-based compensation awards made to employees and directors based on the estimated fair values of the awards and recognizes the compensation expense over the requisite service period. The Company has selected the Black-Scholes option-pricing model to estimate the fair value of its stock-based awards and compensation expense is recognized using the straight-line method. Stock-based compensation expense is based on the value of the portion of stock-based compensation awards that is ultimately expected to vest. As such, the Company's stock-based compensation expense is reduced for the estimated forfeitures at the date of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

The Company accounts for compensation expense related to stock options granted to non-employees based on the fair values estimated using the Black-Scholes model. Stock options granted to non-employees are remeasured at each reporting date until the award is vested.

Income Taxes

The Company uses the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on the differences between the financial reporting and the tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. A valuation allowance is provided when it is more likely than not that some portion or all of a deferred tax asset will not be realized.

Net Loss per Share

Basic net loss per share, which excludes dilution, is computed by dividing the net loss attributable to common stockholders by the weighted-average number of shares of common stock outstanding during the period. Diluted net loss per share reflects the potential dilution that could occur if securities or other contracts to issue common stock, such as stock options, convertible promissory notes, convertible preferred stock, redeemable convertible preferred stock and warrants, result in the issuance of common stock which share in the losses of the Company. Certain potential shares of common stock have been excluded from the computation of diluted net loss per share as their effect would be anti-dilutive. Such potentially dilutive shares are excluded when the effect would be to reduce the loss per share. The Company's convertible preferred stock are considered to be participating securities as they are entitled to participate in undistributed earnings with shares of common stock. Due to net

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

losses, there is no impact on earnings per share calculation in applying the two-class method since the participating securities have no legal requirement to share in any losses.

Unaudited Pro Forma Net Loss per Share

Pro forma basic and diluted net loss per share attributable to common stockholders has been computed to give effect to the conversion of all outstanding shares of the redeemable convertible preferred stock and the convertible preferred stock upon the closing of an IPO.

Revenue Recognition

Revenue is generated through product sales, license agreements, contract research agreements, and government grants. The Company recognizes revenue when the following criteria have been met: persuasive evidence of an arrangement with the customer exists; price and terms of the arrangement are fixed or determinable; delivery of the product has occurred or the service has been performed in accordance with the terms of the arrangement; and collectability is reasonably assured.

For revenue agreements with multiple-element arrangements, such as license and contract agreements, the Company analyzes the arrangements to determine whether the deliverables can be separated or whether they must be accounted for as a single unit of accounting. This determination is generally based on whether any deliverable has stand-alone value to the customer. This analysis also establishes a selling price hierarchy for determining how to allocate arrangement consideration to identified units of accounting. When deliverables are separable, consideration received is allocated to the separate units of accounting based on the relative selling price method and the appropriate revenue recognition principles are applied to each unit. The selling price used for each unit of accounting is based on estimated selling price as neither vendor-specific nor third-party evidence is available. When the Company determines that an arrangement should be accounted for as a single unit of accounting, it must determine the period over which the performance obligations will be performed and revenue will be recognized over the performance period.

Product Revenues

Product revenues consist of sales of gamma linolenic acid ("GLA") safflower oil (i.e., SONOVA® brand GLA safflower oil). Product revenues are recognized once passage of title has occurred, contractually specified acceptance criteria have been met, and all other revenue recognition criteria have been met. Shipping and handling costs charged to customers are recorded as revenues and included in cost of product revenues at the time the sale is recognized.

License Revenues

The Company's license agreements generally includes up-front, nonrefundable license fees, annual license fees, and subsequent milestone payments. Upon commercialization of a product utilizing a licensed technology, the Company receives certain value-sharing payments associated with the incremental revenue attributable to the licensed technology.

The Company has determined that, at the inception of each license agreement, there is only one deliverable for the license for, access to, and assistance with the development of the specified intellectual property. The up-front nonrefundable license fees are recognized as revenue proportionally

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

over the development period, which approximates the expected efforts by the Company. The development period is estimated based upon factors such as traits, nature of crops and geographies, which are used to establish the initial deferral period. The Company continually reviews such estimates based on progress toward product commercialization. If the deferral period estimate changes, the amount of revenue recognized during the period is adjusted to reflect the updated deferred balances as of the current period-end. The annual license fees are payable at the end of the annual period and such fees are not required to be paid if the agreement is cancelled prior to the due date. Therefore, the annual license fees are only recognized when they become due.

The Company's license agreements generally include contingent milestone payments in the development life cycle of the related technology, such as achievement of specific technological targets, successful results from field trials, filing for approval with regulatory agencies, approvals granted by regulatory agencies and commercial launch of a product utilizing the licensed technology. The Company evaluates whether each milestone is substantive and at risk at the time the agreement is executed. This evaluation includes an assessment of whether (a) the consideration is commensurate with either (i) the entity's performance to achieve the milestone or (ii) the enhancement of the value of the delivered item(s) as a result of a specific outcome resulting from the entity's performance to achieve the milestone; (b) the consideration relates solely to past performance; and (c) the consideration is reasonable relative to all of the deliverables and payment terms within the arrangement. The Company generally considers non-refundable milestones that the Company expects to be achieved as a result of the Company's efforts during the period of the Company's performance obligations under the license agreement to be substantive and recognizes them as revenue upon the achievement of the milestone, assuming all other revenue recognition criteria are met.

Once a product containing one or more of the Company's traits is commercialized, the Company is entitled to receive a portion of the incremental revenue that the trait generates for its commercial partner. These value-sharing payments will be recorded on the accrual basis when results are reliably measurable, collectability is reasonably assured, and all other revenue recognition criteria are met.

Contract Research Revenues

Contract research revenues consist of amounts earned from performing contracted research activities for third parties. Activities performed are related to breeding programs or the genetic engineering of plants and are subject to an executed agreement. Generally, fees for research and development activities are recognized as the services are performed over the performance period, as specified in the respective agreements, assuming all other revenue recognition criteria are met.

Similar to the license agreements, under the contract research agreements, once a product containing one or more of the Company's traits is commercialized, the Company is entitled to receive a portion of the incremental revenue that the trait generates for its commercial partner. These value-sharing payments will be recorded on the accrual basis when results are reliably measurable, collectability is reasonably assured, and all other revenue recognition criteria are met.

Government Grant Revenues

The Company generates revenue from grant payments received from government entities for research and development activities over a contractually defined period. Revenues from government

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

grants are recognized in the period during which the related costs are incurred, provided that the conditions under which the government grants were provided have been met.

Revenues from government entities accounted for approximately 44% and 50% of the Company's total revenue recognized for the years ended December 31, 2013 and 2014, respectively.

Unearned Revenue

The Company defers revenue to the extent that cash received in conjunction with a license agreement, contract or grant exceeds the revenue recognized in accordance with Company policies.

Research and Development Expenses

Research and development expenses consist of costs incurred in the discovery, development, and testing of the Company's product candidates. These expenses consist primarily of employee salaries and benefits, stock-based compensation, fees paid to subcontracted research providers, fees associated with in-licensing technology, royalty agreements, land leased for field trials, chemicals and supplies and other external expenses. These costs are expensed as incurred. Additionally, as disclosed in Note 8, the Company is required from time to time to make certain milestone payments in connection with the development of technologies. These milestone payments are expensed at the time the milestone is achieved and deemed payable.

SONOVA® GLA Safflower Oil Inventory

Proprietary safflower plants are grown, producing seed with a high-GLA content. This seed is used for subsequent plantings or processed, and sold as GLA oil. Amounts inventoried consist primarily of fees paid to contracted cooperators to grow the crops and costs to process and store harvested seed. Inventory costs are tracked on a lot-identified basis, valued at the lower of cost or market, and are included as cost of product revenues when sold. The Company provides for inventory reserves when conditions indicate that the selling price may be less than cost due to physical deterioration, obsolescence, changes in price levels, or other factors. Additionally, the Company provides reserves for excess and slow-moving inventory on hand that is not expected to be sold to reduce the carrying amount of excess slow-moving inventory to its estimated net realizable value. The reserves are based upon estimates about future demand from the Company's customers and distributors and market conditions. The Company had inventory reserves of $0 and $1.7 million as of December 31, 2013 and 2014. During the year ended December 31, 2014, the Company recorded a reserve of $1.7 million against inventory primarily as a result of changes in conditions of specific customers and regulatory delays related to the use of its Sonova products by certain new industries.

The inventories—current line item in the balance sheet consists of the cost of oil inventory forecasted to be sold in the next 12 months, as of the balance sheet date. The inventories—noncurrent line item consists of oil and seed inventory expected to be used in production or sold beyond the next 12 months, as of the balance sheet date.

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

Raw materials inventories consist primarily of seed production costs incurred by our contracted cooperators. Finished goods inventories consist of GLA oil that is available for sale. Inventories consist of the following (in thousands):

	As of December 31,	
	2013	2014
Raw Materials	$ 1,179	$ 1,004
Finished Goods	1,807	1,569
Inventories	$ 2,986	$ 2,573

Investment in Unconsolidated Entity

The equity method is used to account for the Company's investment in Limagrain Cereal Seeds LLC ("LCS"), an unconsolidated entity over which the Company exercises significant influence, but does not have a controlling interest. Under the equity method, the Company's share of the unconsolidated entity's loss is included in equity method loss in the statements of operations. See Note 4 for further discussion. No distributions were received in the years ended December 31, 2013 and 2014. As of December 31, 2014, the Company's investment in LCS has been reduced to $0 as a result of its equity method loss pick-up.

The Company regularly reviews each of its investments for impairment by determining if the investment has sustained an other-than-temporary decline in its value, in which case the investment is written down to its fair value by a charge to earnings. Factors that are considered by the Company in determining whether an other-than-temporary decline in value has occurred include (i) the market value of the investment in relation to its cost basis, (ii) the financial condition of the investment, and (iii) the Company's intent and ability to retain the investment for a sufficient period of time to allow for recovery of the market value of the investment. As of December 31, 2013, there was no impairment of the Company's equity method investment.

Cost Method Investment

Investments in equity securities of companies in which the Company holds less than 20% voting interest and on which the Company does not have the ability to exercise significant influence are accounted for under the cost method.

Contingent Liability Related to the Anawah Acquisition

On June 15, 2005, the Company completed its agreement and plan of merger and reorganization with Anawah, Inc. ("Anawah" or "Sellers"), to purchase the Sellers' food and agricultural research company through a stock purchase. Pursuant to the merger with Anawah, and in accordance with the FASB Statement No. 141, *Business Combinations*, which was applicable at the time of the acquisition, the Company incurred a contingent liability not to exceed $5.0 million. This liability represents amounts to be paid to Anawah's previous stockholders for cash collected on revenue recognized by the Company upon commercial sale of certain specific products developed using technology acquired in the purchase. As of December 31, 2010, the Company ceased activities relating to three of the six Anawah

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

product programs and, as a result, reduced the contingent liability to $3.0 million. The Company believes the contingent liability is appropriate as it continues to pursue three development programs using this technology.

Fair Value of Financial Instruments

Fair value accounting is applied for all financial assets and liabilities and non-financial assets and liabilities that are recognized or disclosed at fair value in the consolidated financial statements on a recurring basis (at least annually). Assets and liabilities recorded at fair value in the consolidated financial statements are categorized based upon the level of judgment associated with the inputs used to measure their fair value. Hierarchical levels, which are directly related to the amount of subjectivity, associated with the inputs to the valuation of these assets or liabilities are as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the Company can access at the measurement date.
- Level 2 inputs are observable inputs other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3 inputs are unobservable inputs for the asset or liability.

The carrying values of the Company's financial instruments, including cash equivalents, accounts receivable, and accounts payable, approximated their fair values due to the short period of time to maturity or repayment.

The carrying values of the Company's promissory notes, convertible promissory notes, and notes payable approximate their fair values for the years ended December 31, 2013 and 2014 as the market rates currently available to the Company and other assumptions have not changed significantly.

The Company's Level 3 liabilities measured and recorded on a recurring basis consist of derivative liabilities related to the convertible promissory note (see Note 7). The following table sets forth a summary of the changes in the fair value and other adjustments of these derivative liabilities (in thousands):

Balance at December 31, 2012	$ —
Fair value of derivative liabilities	1,192
Balance at December 31, 2013	1,192
Change in fair value and other adjustments	388
Balance at December 31, 2014	$ 1,580

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

Recent Accounting Pronouncements

In April 2014, the Financial Accounting Standards Board, or FASB, issued Accounting Standards Update (ASU) ASU 2014-08, *Presentation of Financial Statements (Topic 205) and Property, Plant, and Equipment (Topic 36)*, which amends the definition of a discontinued operation in ASC 205-20 and requires entities to provide additional disclosures about disposal transactions that do not meet the discontinued-operations criteria. The revised guidance will change how entities identify and disclose information about disposal transactions under U.S. GAAP. The ASU applies to all entities and is effective for annual periods beginning after December 15, 2014 and interim periods thereafter, with early adoption permitted. The Company does not anticipate that the adoption of this ASU will materially change the presentation of its consolidated financial statements.

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers*, which requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. The ASU will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective. The new standard will be effective for the Company on January 1, 2017, which is the effective date for public companies. Non-public entities have an additional one year to adopt this standard. Early application is not permitted. The standard permits the use of either the retrospective or cumulative effect transition method. The Company is evaluating the effect that ASU 2014-09 will have on its consolidated financial statements and related disclosures. The Company has not yet selected a transition method nor has it determined the effect of the standard on its ongoing financial reporting.

In August 2014, the FASB issued ASU 2014-15, *Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern*, which provides guidance on determining when and how to disclose going-concern uncertainties in the consolidated financial statements. The new standard requires management to perform interim and annual assessments of an entity's ability to continue as a going concern within one year of the date the consolidated financial statements are issued. An entity must provide certain disclosures if "conditions or events raise substantial doubt about the entity's ability to continue as a going concern." The ASU applies to all entities and is effective for annual periods ending after December 15, 2016, and interim periods thereafter, with early adoption permitted. The Company does not anticipate a material change to its consolidated financial statements upon the adoption of this ASU. However, it will be required to evaluate and determine if further disclosure is necessary at each balance sheet date.

In February 2015, the FASB issued ASU 2015-02, *Consolidation (Topic 810): Amendments to the Consolidation Analysis*. The amendments significantly change the consolidation analysis required under U.S. GAAP. Reporting entities will need to reevaluate all their previous consolidation conclusions. The Company does not anticipate that the adoption of this ASU will materially change the presentation of its consolidated financial statements.

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

3. Property and Equipment, Net

Property and equipment, net, consisted of the following (in thousands):

	As of December 31,	
	2013	2014
Laboratory equipment	$ 2,608	$ 2,697
Software and computer equipment	415	465
Furniture and fixtures	151	151
Vehicles	188	188
Leasehold improvements	1,882	1,882
Assets under construction	27	—
Property and equipment, gross	5,271	5,383
Less accumulated depreciation and amortization	(4,330)	(4,655)
Property and equipment, net	$ 941	$ 728

The Company acquired laboratory equipment during 2013 under a capital lease. This equipment has a gross value of $117,000 and accumulated depreciation expense of $39,000 and $117,000 as of December 31, 2013 and 2014, respectively. This equipment is included in property and equipment and related depreciation is included in depreciation expense.

Depreciation and amortization expense is $391,000 and $358,000 for the years ended December 31, 2013 and 2014, respectively.

4. Investment in Unconsolidated Entity

Limagrain Cereal Seeds LLC

The Company owns a 35% ownership position in LCS. The remaining 65% of LCS is owned by Vilmorin & Cie ("Limagrain"), a major global producer and marketer of field crop and vegetable seeds, through its wholly owned subsidiary, Vilmorin USA ("VUSA"). LCS improves and develops new wheat and barley varieties utilizing genetic and breeding resources, as well as advanced technologies from Limagrain and the Company. Funding for LCS comes from an initial pro rata equity investment from each partner and with subsequent financing in the form of debt from VUSA. As of December 31, 2014, the debt balance was $13.5 million with a maturity date of January 15, 2015. The maturity date was extended to April 15, 2015 and an additional $1.0 million was funded by VUSA, also due April 15, 2015. While it is the Company's expectation that VUSA will provide LCS with additional debt financing as needed, should additional capital in the form of equity be necessary to support the operations of LCS, the Company has the option to fund its pro rata share of such cash or elect to have its ownership percentage diluted.

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Investment in Unconsolidated Entity (Continued)

Summarized condensed financial information related to the unconsolidated entity, accounted for using the equity method is as follows (in thousands):

	As of and for the year ended December 31,	
	2013	2014
Assets:		
Current assets	$ 750	$ 1,614
Non-current assets	10,685	10,368
Total assets	11,435	11,982
Liabilities and equity:		
Current liabilities	9,035	15,080
Equity of Arcadia Biosciences, Inc.(1)	932	(993)
Equity of VUSA	1,468	(2,105)
Total liabilities and equity	$ 11,435	$ 11,982
Revenue	$ 2,576	$ 2,671
Gross profit	1,380	1,696
Loss from continuing operations	(5,201)	(5,301)
Net loss	(5,259)	(5,499)
Arcadia Biosciences, Inc.'s share of pretax loss(2)	(1,841)	(932)

(1) As of December 31, 2013, the Company's investment exceeded its proportionate share of the net assets of the unconsolidated entity by $91,000. This difference is not amortized. As of December 31, 2014 the investment balance has been reduced to $0.

(2) The Company's share of the pretax loss is recorded as an equity method loss in the statements of operations.

5. Variable Interest Entity

In February 2012, the Company formed Verdeca LLC, which is jointly owned with Bioceres, Inc. ("Bioceres"), a U.S. wholly owned subsidiary of Bioceres, S.A., an Argentine corporation. Bioceres, S.A. is an agricultural investment and development company owned by approximately 230 shareholders, including some of South America's largest soybean growers. Verdeca was formed to develop and deregulate soybean varieties using both partners' agricultural technologies.

Both the Company and Bioceres incur expenses in support of specific activities agreed, as defined by joint work plans, which apply fair market value to each partner's activities. Unequal contributions of services are equalized by the partners through cash payments. Verdeca is not the primary obligor for these activities performed by the Company or Bioceres. An agreement executed in conjunction with the formation of Verdeca specifies that if Bioceres determines it requires cash to fund its contributed services (subject to certain annual limits), Bioceres, S.A. may elect to sell shares of its common stock to the Company for an amount not exceeding $5.0 million in the aggregate over a four-year period. The Company determined that its commitment to purchase common stock in Bioceres, S.A. as a means to provide capital to Verdeca resulted in a de facto agency relationship between the Company and Bioceres. The Company considers qualitative factors in assessing the primary beneficiary which include

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

5. Variable Interest Entity (Continued)

understanding the purpose and design of the VIE, associated risks that the VIE creates, activities that could be directed by the Company, and the expected relative impact of those activities on the economic performance of the VIE. Based on an evaluation of these factors, the Company concluded that it is the primary beneficiary of Verdeca.

As a result of the agreement to fund future contributions by Bioceres, the Company purchased common stock of Bioceres, S.A. in the amount of $500,000 in January 2013, which is included in the cost method investment on the balance sheet as of December 31, 2013. Additional common stock purchases were made in the amount of $700,000 in January 2014, $250,000 in April 2014, and $500,000 in August 2014. The Company's remaining maximum commitment to purchase stock in Bioceres, S.A. under the original funding agreement amounted to $2.0 million for 2014 and $1.2 million for 2015. In September 2014, the Company and Bioceres, S.A. entered into an agreement to reduce the annual commitment for 2014 to $500,000 from the original $2.0 million and to eliminate the 2015 commitment amount of $1.2 million. In consideration for these amendments, the Company surrendered 1,832 shares of Bioceres, S.A. held by the Company. The Company recorded an expense of $1.5 million related to this agreement, which is classified as research and development expense in the consolidated statement of operations for the year ended December 31, 2014.

In addition, the Company has a right to require Bioceres, S.A. to repurchase any shares of common stock then owned by the Company upon the occurrence of certain events specified in the agreement, and similarly, Bioceres, S.A. has the right to require the Company to sell back any shares of common stock owned by the Company under certain circumstances. Management has evaluated the carrying value of its investment in Bioceres and has determined there has been no impairment.

Under the terms of the joint development agreement, the Company has incurred direct expenses and allocated overhead in the amount of $1.2 million and $1.0 million for the years ended December 31, 2013 and 2014, respectively.

6. Accounts Payable and Accrued Expenses

Accounts payable and accrued expenses consisted of the following (in thousands):

	As of December 31,	
	2013	2014
Accounts payable—trade	$ 220	$ 244
Payroll and benefits	1,098	864
Accrued offering costs	—	1,165
Research and development	623	227
Royalty fees	175	231
Accrued interest on notes payable	19	10
Consulting	48	101
Rent and utilities	82	27
Legal	13	7
Capital lease obligation	72	—
Accrued withholding taxes	83	147
Other	80	174
Total accounts payable and accrued expenses	$ 2,513	$ 3,197

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

7. Debt

Long-term Debt

Long-term debt consisted of the following (in thousands):

	As of December 31,	
	2013	2014
Note payable to related party	$ 8,000	$ 8,000
Promissory note	2,879	1,924
Total	10,879	9,924
Less current portion	(955)	(1,055)
Long-term portion	$ 9,924	$ 8,869

In July 2012, a 36-month $8.0 million term note was executed with Moral Compass Corporation ("MCC"), the Company's largest stockholder (see Note 15), and is subordinate to the promissory notes and convertible promissory notes. The interest rate on the loan is prime plus 2%, with interest paid monthly in arrears. The principal is due in full at maturity in July 2015. On November 10, 2014, the Company and MCC entered into an amendment to the $8.0 million term loan under which the maturity date was amended to the first to occur of the following dates: (i) April 1, 2016, (ii) the date of an Event of Default, or (iii) a date designated by MCC, by notice to the Company, no earlier than the 20th day following consummation by the Company of an equity financing with gross proceeds to the Company of at least $50 million. In addition, the interest rate remains at prime plus 2% through December 31, 2014, and was amended to be 11% per annum thereafter until maturity. The balance of the note, inclusive of accrued interest, was approximately $8.0 million as of December 31, 2013 and 2014. Accrued interest of $36,000 and $36,000 are recorded in amounts due to related parties on the balance sheet as of December 31, 2013 and 2014, respectively.

Promissory notes were executed with an unrelated party in August 2013 and November 2013 in the amounts of $2.0 million and $1.1 million, respectively. The interest rate on the notes is 10% with principal and interest due in 36 equal monthly installments over the course of the three-year terms. Monthly principal and interest on the $2.0 million note is $65,000 and the three-year term ends in August 2016. Monthly principal and interest on the $1.1 million note is $35,000 and the three-year term ends in November 2016. The balance of the promissory notes, inclusive of accrued interest, was $1.9 million as of December 31, 2014.

In addition, in July 2013, the Company entered into a short-term loan agreement for $500,000 with MCC. The interest rate on the loan is 7.5%. The principal and related interest were paid in full in December 2013. Interest expense related to this loan was $19,000 in the year ended December 31, 2013.

Convertible Promissory Notes

A note and warrant purchase agreement was executed in September 2013, with Mahyco International Pte Ltd., ("Mahyco"), a licensee of the Company's technologies. The Company issued two notes under this agreement in the amounts of $500,000 in September 2013 and $4.5 million in December 2013, both of which are subordinate to the promissory notes. The interest on the notes is prime plus 2%, compounded monthly over the course of the five-year term ending September and

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

7. Debt (Continued)

December 2018, respectively, and is payable on the maturity date. At any time during the term, the lender may convert all or part of the outstanding balance of the note (including principal and accrued but unpaid interest) into common stock of the Company at $4.13 per share.

At its option, Mahyco may offset future fee payments to the Company against the outstanding balance of the note (including principal and accrued but unpaid interest). Mahyco has the right to demand immediate settlement of a portion of the outstanding balance of the convertible promissory note, the amount of which shall be mutually agreed by the Company and the lender prior to such settlement. The Company recorded a derivative liability for the initial fair value of the settlement obligation. The derivative liability is valued using the binomial lattice option-pricing method. The lender has the right, at its option, to place another $5.0 million of convertible debt with the Company during the five-year term. The Company recorded a derivative liability for the initial fair value of the Company's obligation to issue the additional $5.0 million of convertible promissory notes. The derivative liability was valued using the Monte Carlo simulation method. Changes in the fair value of the derivative liabilities are recorded to other income (expense), net in the consolidated statement of operations.

The Company also issued to the lender a warrant to purchase 302,665 shares of common stock at an exercise price of $4.13. The warrant was issued in December 2013, vested immediately and remains exercisable throughout the five-year term. The fair value of the common stock warrant on the date of issuance was estimated using an option-pricing valuation model. The Company allocated the gross proceeds to the derivative liabilities based on their initial fair values and the remainder of the proceeds to the convertible promissory note and warrants on a relative fair value basis. The amount allocated to the common stock warrant was recorded as a debt discount to be amortized as interest expense over the estimated term of the loan agreement using the effective interest rate method. The Company recognized interest expense related to the convertible promissory note of $91,000 and $725,000 for the years ended December 31, 2013 and 2014.

Minimum principal payments on the Company's outstanding debt, consisting of the term note, promissory notes and the convertible promissory notes, as of December 31, 2014 are as follows (in thousands):

	As of December 31, 2014
2015	$ 1,055
2016	8,869
2017	—
2018	4,871
Total	$ 14,795

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

8. Commitments and Contingencies

Leases

The Company leases office and laboratory space, greenhouse space, grain storage bins, warehouse space, and equipment under operating lease agreements having initial lease terms ranging from three to five years, including certain renewal options available to the Company at market rates. The Company also leases land for field trials on a short-term basis. Future minimum payments under non-cancelable operating leases in effect as of December 31, 2014, are presented below (in thousands):

Years Ending December 31,	Amounts
2015	$ 623
2016	137
2017	94
Total future minimum payments under non-cancelable operating leases	$ 854

The Company acquired laboratory equipment under a capital lease during 2013. The remaining payments under the capital lease totaled $74,000 as of December 31, 2013, $72,000 of which was principal and $2,000 of which was interest. All amounts were paid as of December 31, 2014, and the Company subsequently purchased the equipment.

Rent expense under all operating leases totaled $1.3 million and $1.0 million for the years ended December 31, 2013 and 2014, respectively.

Legal Matters

From time to time, in the ordinary course of business, the Company may become involved in certain legal proceedings. As of December 31, 2013 and 2014, the Company was not involved in any legal proceedings.

Contracts

The Company has entered into contract research agreements with unrelated parties that require the Company to pay certain funding commitments. The initial terms of these agreements range from one to three years in duration and in certain cases are cancelable.

The Company licenses certain technologies via executed agreements ("In-Licensing Agreements") that are used to develop and advance the Company's own technologies. The Company has entered into various In-Licensing Agreements with related and unrelated parties that require the Company to pay certain license fees, royalties, and/or milestone fees. In addition, certain royalty payments ranging from 2% to 15% of net revenue amounts as defined in the In-Licensing Agreements will be due.

There is no minimum payment for non-cancelable annual license fees due during the year ended December 31, 2014. Royalties on licensed revenue accrued as of December 31, 2013 and 2014, were $336,000 and $252,000, respectively. Royalties are included within research and development on the consolidated statements of operations.

Milestone payments are contingent upon the successful development or implementation of various technologies. Payments for milestones yet to be achieved total $2.1 million as of December 31, 2014. The timing of the payments is not determinable at this time pending research and development

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

8. Commitments and Contingencies (Continued)

currently in progress; however, no significant payments were made during the years ended December 31, 2013 and 2014.

The Company could be adversely affected by certain actions by the government as it relates to government contract revenue received in prior years. Government agencies, such as the Defense Contract Audit Agency routinely audit and investigate government contractors. These agencies review a contractor's performance under its agreements; cost structure; and compliance with applicable laws, regulations, and standards. The agencies also reviews the adequacy of, and a contractor's compliance with, its internal control systems and policies, including the contractor's purchasing, property, estimating, compensation, and management information systems. While the Company's management anticipates no adverse result from an audit, should any costs be found to be improperly allocated to a government agreement, such costs will not be reimbursed, or if already reimbursed, may need to be refunded. If an audit uncovers improper or illegal activities, civil and criminal penalties and administrative sanctions, including termination of contracts, forfeiture of profits, suspension of payments or fines, and suspension or prohibition from doing business with the government could occur. In addition, serious reputational harm or significant adverse financial effects could occur if allegations of impropriety were made against the Company. There are no current audits relating to government grant revenues in process.

9. Common Stock and Redeemable and Convertible Preferred Stock

Common Stock

As of December 31, 2014, the Company had reserved the following shares of common stock, on an as-converted basis, for future issuance as follows:

Series A convertible preferred stock	67,063,127
Series B convertible preferred stock	16,890,690
Series C convertible preferred stock	9,586,346
Series D redeemable convertible preferred stock	9,822,283
Stock option plan:	
Options outstanding	15,039,363
Options available for future grants	2,040,058
Total	120,441,867

Redeemable and Convertible Preferred Stock

Convertible preferred stock as of December 31, 2013 consisted of the following:

	Shares Authorized	Shares Issued and Outstanding	Net Carrying Value	Aggregate Liquidation Preference
		(In thousands, except share data)		
Series A	68,000,000	67,063,127	$ 23,324	$ 67,063
Series B	17,000,000	16,890,690	15,202	16,891
Series C	9,586,346	9,586,346	10,257	9,586
Total convertible preferred stock	94,586,346	93,540,163	$ 48,783	$ 93,540

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

9. Common Stock and Redeemable and Convertible Preferred Stock (Continued)

Redeemable and convertible preferred stock as of December 31, 2014 consisted of the following:

	Shares Authorized	Shares Issued and Outstanding	Net Carrying Value	Aggregate Liquidation Preference
		(In thousands, except share data)		
Series A	68,000,000	67,063,127	$ 23,324	$ 67,063
Series B	17,000,000	16,890,690	15,202	16,891
Series C	9,586,346	9,586,346	10,257	9,586
Series D	10,553,770	9,822,283	34,098	36,503
Total redeemable and convertible preferred stock	105,140,116	103,362,446	$ 82,881	$ 130,043

On March 28, 2014, the Company entered into an agreement with certain investors to issue 9,822,283 shares of its Series D redeemable convertible preferred stock at an original issue price of $3.36 per share, and closings that were scheduled to be completed within 90 days from the initial close. The holders of the Series D redeemable convertible preferred stock also received warrants for the purchase of an aggregate of 4,911,145 shares of common stock, with an exercise price of $4.54 per share, and exercisable at any time within five years from the date of issuance. The warrants issued to Series D redeemable convertible preferred stock are freestanding instruments that has been classified within equity. The proceeds from the issuance of the Series D redeemable convertible preferred stock and common stock warrants have been allocated based on their relative fair values. The resulting discount from the issuance of the common stock warrants have been adjusted against the Series D redeemable convertible preferred stock with a corresponding increase in additional paid-in capital. The Company incurred direct and incremental issuance costs of approximately $0.2 million related to the Series D redeemable convertible preferred stock. The Company recorded the proceeds from Series A, Series B and Series C convertible preferred stock and Series D redeemable convertible preferred stock, net of issuance costs and common stock warrants issued.

The Company also incurred transaction costs for an advisor of approximately $2.1 million, which includes a warrant for the purchase of 133,781 shares of common stock issued to the advisor with a fair value of approximately $0.1 million. This common stock warrant has an exercise price of $3.36 per share, is exercisable anytime within five years from the date of issuance and is recorded within the Company's equity. As these transaction costs are not considered direct issuance costs, the $2.1 million is included in selling, general and administrative expenses for the year ended December 31, 2014.

In connection with the issuance of the Series D redeemable convertible preferred stock and the resulting amendment to the Articles of Incorporation, the Company reclassified the Series A, Series B and Series C convertible preferred stock outside of stockholders' deficit because, in the event of certain deemed liquidation events that are not solely within its control, the shares would become redeemable at the option of the holders. The Company did not adjust the carrying values of the Series A, Series B, Series C convertible preferred stock to the liquidation values of such shares, since a liquidation event was not probable at any of the balance sheet dates. Subsequent adjustments to increase or decrease the carrying values to the ultimate liquidation values will be made only if and when it becomes probable that such a liquidation event will occur.

As the Series D convertible preferred stock is redeemable at the request of the holder on or after the eight-year anniversary from the original issuance date, the Company classified the Series D

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

9. Common Stock and Redeemable and Convertible Preferred Stock (Continued)

redeemable convertible preferred stock outside of stockholders' deficit because of the date certain redemption that is not within the control of the Company. The Company accretes the carrying value of the Series D redeemable convertible preferred stock to the redemption amount on the eighth anniversary using the interest method through periodic charges to additional paid-in capital, which amounted to $3.7 million for the year ended December 31, 2014. The redemption amount is the greater of (i) two times the original issue price of the Series D redeemable convertible preferred stock plus accrued and unpaid dividends through the redemption date, or (ii) the fair market value of the Series D redeemable convertible preferred stock. The redemption value also includes dividends which are payable in arrears upon redemption and aggregate to $97.0 million over the redemption period of eight years. The redemption amount of outstanding Series A, Series B and Series C convertible stock is equal to its liquidation value, or $1.00 per share.

Significant provisions of the redeemable and convertible preferred stock are as follows:

Liquidation Preferences—In the event of liquidation, dissolution, or winding-up (Liquidation Event), a merger, sale or a change in control (Deemed Liquidation Event), or an IPO of the Company (other than a Qualified IPO, as such term is defined below), each holder of Series D redeemable convertible preferred stock will be entitled to receive an initial liquidation amount of $3.36 per share plus accrued and unpaid dividends, which accrue and compound annually until paid ("Accrued Dividends"), before any payment shall be made, or any assets distributed, with respect to any Series A, Series B, or Series C convertible preferred stock or any common stock. Next, each holder of Series D redeemable convertible preferred stock will be entitled to receive, out of the assets of the Company, a liquidation amount of $3.36 per share and each holder of Series A, Series B, and Series C convertible preferred stock will be entitled to receive, out of the assets of the Company, a liquidation amount of $1.00 per share and, except that in the case of an IPO other than a Qualified IPO, only the holders of Series D redeemable convertible preferred stock will receive a liquidation amount. Finally, holders of common stock will receive a ratable portion of any assets remaining following the liquidation payments to holders of preferred stock described above.

If, under the initial liquidation allocation described above, there is a shortfall in the amount to be paid to the holders of the Series D redeemable convertible preferred stock, then all assets of the Company will be distributed on a pro rata basis among all of the outstanding shares of Series D redeemable convertible preferred stock. If, under the subsequent liquidation allocation described above, there is a shortfall in the amount to be paid to the holders of preferred stock, then all assets of the Company will be distributed on a pro rata basis among all of the outstanding shares of preferred stock. A "Qualified IPO" is an IPO that meets certain requirements as to the Company's pre-money valuation, percentage of the Company capital stock that is sold in the offering, and the gross proceeds from the offering to the Company.

In the event of a Qualified IPO, each holder of Series D redeemable convertible preferred stock will be entitled to receive Accrued Dividends in the form of, at the Company's election, a cash payment or shares of common stock.

Voting Rights—All holders of preferred stock and common stock shall have the right to one vote on all matters concerning stockholders, including, but not limited to, the right to vote for members of the board of directors.

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

9. Common Stock and Redeemable and Convertible Preferred Stock (Continued)

Conversion Rights—The holders of preferred stock are subject to certain optional and mandatory conversion rights. (i) Optional Conversion Rights: Each share of Series A, Series B and Series C convertible preferred stock shall be convertible into common stock at any time at the option of the holder thereof. Such conversion will be on a share-for-share basis, one fully paid and non-assessable share of common stock for each share of preferred stock. Each share of Series D redeemable convertible preferred stock shall be convertible into common stock at any time at the option of the holder subject to certain adjustments to the conversion price based on future issuances of common stock. (ii) Mandatory Conversion Rights: At such time as the Company completes a firm commitment underwritten initial public offering of any class of its common stock pursuant to a registration statement filed subject to the Securities Act of 1933, each share of the Series A, Series B and Series C convertible preferred stock, will automatically be converted into common stock on a share-for-share basis. The conversion price for each share of the Series D redeemable convertible preferred stock will be subject to certain adjustments based on the pre-money valuation of the Company at the conclusion of a Qualified IPO, as defined in the agreements.

Subscription Rights—In the event that the Company issues new shares of stock to any party, the holders of preferred stock and certain holders of common stock carry the right to purchase additional shares of any such future stock issuance such that their existing ownership allocation remains intact. Any additional shares purchased by the existing stockholders would be at the same price as any other stockholders at that time. This right will not apply to shares of the Company's common stock issued in connection with the IPO and will terminate upon the consummation of the IPO.

Dividends—The holders of record of shares of Series D redeemable convertible preferred stock are entitled to a 15% dividend that accrues annually until the five-year anniversary of the issuance date and a 20% dividend that accrues annually thereafter. Such dividends on the Series D redeemable convertible preferred stock are payable upon a liquidation event, an IPO of the Company, in the case of a redemption of the Series D redeemable convertible preferred stock, or if declared by the board of directors, at its discretion. Cumulative dividends (undeclared and unpaid) totaled $3.5 million ($0.35 per share) as of December 31, 2014. The Series A, Series B, and Series C convertible preferred stockholders are not entitled to receive dividends, except as the board of directors may declare in its discretion, provided that upon such declaration, each share of preferred stock outstanding shall receive a dividend at least equal, per share, to any cash dividend paid to any holders of common stock. In the event of a declaration of dividends by the board of directors, the Company's note holders have rights restricting the payment until the note holders are paid in full.

Redemption—The Series D redeemable convertible preferred stock shall be redeemed at the option of the holders at any time on or after the eight-year anniversary or at the option of the Company, at any time on or after the four-year anniversary. The redemption amount shall be the greater of (i) two times the original issue price of the Series D redeemable convertible preferred stock plus accrued and unpaid dividends through the redemption date, or (ii) the fair market value of the Series D redeemable convertible preferred stock.

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

10. Stock-Based Compensation

2006 Stock Incentive Plan

In 2006, the Company authorized the 2006 Stock Plan ("2006 Plan"), which provides for the granting of stock options to executives, employees, and other service providers. The 2006 Plan was adopted on May 2, 2006, with an effective date of January 1, 2006, and, as amended, provides for 18,000,000 shares to be authorized under the Plan. The options typically vest over a four-year service period and have a contractual period of 10 years. Unvested options automatically become exercisable if the Company undertakes an initial public offering or other changes in control, as defined in the option agreements.

A summary of activity under the Plan is as follows (in thousands, except exercise price and remaining contractual life data):

		Options Issued and Outstanding			
	Share Available for Grant	Shares Underlying Options	Weighted-Average Exercise Price	Aggregate Intrinsic Value	Weighted Average Remaining Contractual Term (in years)
Outstanding—January 1, 2013	2,320,996	14,866,820	$ 0.72	$ 39,651	6.01
Granted	—	—	—		
Exercised	—	(38,500)	0.45		
Cancelled	97,050	(97,050)	1.41		
Outstanding—December 31, 2013	2,418,046	14,731,270	$ 0.72	$ 39,346	5.00
Granted	(500,000)	500,000	1.53		
Exercised	—	(69,895)	0.28		
Cancelled	122,012	(122,012)	0.89		
Outstanding—December 31, 2014	2,040,058	15,039,363	$ 0.75	$ 12,499	4.20
Options vested and exercisable—December 31, 2014		14,359,663	$ 0.69	$ 12,499	3.96
Options vested and expected to vest—December 31, 2014		15,021,799	$ 0.74	$ 12,499	4.00

Aggregate intrinsic value represents the difference between the exercise price of the options and the estimated fair value of the Company's common stock determined by the board of directors for each of the respective periods. The intrinsic value of options exercised was $113,000 and $74,000 for the years ended December 31, 2013 and 2014, respectively.

The estimated grant date fair value of options vested was $1.3 million and $976,000 during the years ended December 31, 2013 and 2014, respectively.

As of December 31, 2014, there was $720,000 of unrecognized compensation cost related to unvested stock-based compensation grants that will be recognized over the weighted-average remaining recognition period of 1.53 years.

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

10. Stock-Based Compensation (Continued)

In determining the fair value of the stock-based awards, the Company uses the Black-Scholes option-pricing model and assumptions discussed below. Each of these inputs is subjective and generally requires significant judgment to determine.

Expected Term—The expected term is the estimated period of time outstanding for stock options granted and was estimated based on historical, as well as anticipated future, exercise activity.

Expected Volatility—Since the Company is privately held and does not have any trading history for its common stock, the expected volatility was estimated based on the average volatility for comparable publicly traded biotechnology companies over a period equal to the expected term of the stock option grants. When selecting comparable publicly traded biotechnology companies on which it has based its expected stock price volatility, the Company selected companies with comparable characteristics to it, including enterprise value, risk profiles, position within the industry, and with historical share price information sufficient to meet the expected life of the stock-based awards. The historical volatility data was computed using the daily closing prices for the selected companies' shares during the equivalent period of the calculated expected term of the stock-based awards. The Company will continue to apply this process until a sufficient amount of historical information regarding the volatility of its own stock price becomes available.

Risk-Free Interest Rate—The risk-free interest rate is based on the interest rate of U.S. Treasuries of comparable maturities on the date the options were granted.

Expected Dividend—The expected dividend yield is based on the Company's expectation of future dividend payouts to common stockholders.

The fair value of stock option awards to employees was estimated at the date of grant using a Black-Scholes option-pricing model with the following weighted-average assumption:

	Year Ended December 31,	
Assumptions	2013	2014
Expected term (years)	—	5.50
Expected volatility	—%	129%
Risk-free interest rate	—%	1.75%
Expected dividend yield	—%	—%

No employee stock options were granted during the year ended December 31, 2013. The weighted-average, estimated grant-date fair value of employee stock options granted during the year ended December 31, 2014 was $1.08. The Company recorded expenses related to stock options to nonemployees of $227,000 and $2,000 for the years ended December 31, 2013 and 2014, respectively.

11. Retirement Benefits

The Company has a 401(k) retirement plan (the "Plan") available for participation by all regular full-time employees who have completed three months of service with the Company. The Company established the Plan in 2008. The Plan provides for a discretionary matching contribution equal to 50% of the amount of the employee's salary deduction, not to exceed 3% of the salary per employee. Highly compensated employees are excluded from receiving any discretionary matching contribution. Employees' rights to employer contributions vest on the one-year anniversary of their date of employment. The Company has the option to make discretionary matching contributions. The Company did not make discretionary matching contributions during the years ended December 31, 2013 or 2014.

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

12. Income Taxes

The components of loss before income taxes are as follows:

	Year Ended December 31,	
	2013	2014
Domestic	$ (13,028)	$ (18,076)
Foreign	—	—
Loss before income taxes	$ (13,028)	$ (18,076)

The components of the provision for income taxes for the years ended December 31, 2013 and 2014 are as follows (in thousands):

	Year Ended December 31,	
	2013	2014
Current:		
Federal	$ —	$ —
State	1	2
Foreign	166	261
Total current tax expense	167	263
Deferred:		
Federal	—	—
State	—	—
Foreign	—	—
Total deferred tax benefit	—	—
Total tax expense	$ 167	$ 263

The Company operates in only one federal jurisdiction, the United States. The following is a reconciliation of the statutory federal income tax rate to the Company's effective tax rate is as follows:

	Year Ended December 31,	
	2013	2014
Expected income tax provision at the federal statutory rate	34.0%	34.0%
State taxes, net of federal benefit	4.0%	4.6%
Change in valuation allowance	(36.4)%	(34.7)%
Nondeductible expenses	(0.5)%	(3.4)%
Withholding taxes	(1.3)%	(1.4)%
Other	(1.1)	(0.5)%
Income tax provision	(1.3)%	(1.4)%

The total income tax expense for the years ended December 31, 2013 and 2014 was $167,000 and $263,000 and is comprised of current, foreign taxes withheld by governmental agencies outside of the United States.

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

12. Income Taxes (Continued)

purposes, net operating loss carryforwards ("NOLs"), and other tax credits. Significant components of the Company's deferred tax assets are as follows (in thousands):

	As of December 31,	
	2013	2014
Deferred tax assets:		
Net operating loss carryforwards	$ 30,496	$ 35,227
Unearned revenue	2,122	1,741
Stock-based compensation	1,451	1,971
Accrued payroll and benefits	228	221
Derivative instrument	465	616
Research and development credits	—	75
Capital loss carryover	—	18
Fixed asset basis difference	177	196
Inventory reserve	—	680
Charitable contributions	7	8
Total deferred tax assets	34,946	40,753
Deferred tax liabilities:		
Convertible note discount	(556)	(188)
Joint venture basis difference	(75)	—
Less valuation allowance	(34,315)	(40,565)
Net deferred tax assets	$ —	$ —

Realization of the deferred tax assets is dependent upon future taxable income, if any, the amount and timing of which are uncertain. Accordingly, the net deferred tax assets has been offset by a valuation allowance. The net valuation allowance increased by $4.6 million and $6.3 million during the years ended December 31, 2013 and 2014, respectively.

At December 31, 2014, the Company had federal and state NOLs aggregating approximately $98.1 million and $77.2 million, respectively. These federal NOLs will begin to expire in 2020 and these state NOLs will begin to expire in 2015, if not utilized. The Company's deferred tax asset at December 31, 2014 does not include $0.1 million of excess tax deductions from employee stock option exercises included in its NOLs. The Company's stockholders' deficit will be decreased by up to $0.1 million if and when the Company ultimately realizes these excess tax benefits. The Company evaluates its NOLs on an ongoing basis to determine if they may be limited by the Internal Revenue Code (IRC) Section 382. The Company has determined its federal NOLs at December 31, 2014 are subject to IRC Section 382 limitations. Of the $98.1 million generated, $7.2 million will not be available to be utilized within the carryforward period.

The Company evaluates deferred tax assets, including the benefit from NOLs, to determine if a valuation allowance is required. Such evaluation is based on consideration of all available evidence using a "more likely than not" standard with significant weight being given to evidence that can be objectively verified. This assessment considers, among other matters, the nature, frequency, and severity of current and cumulative losses; forecasts of future profitability; the length of statutory carryforward periods; the Company's experience with operating losses; and tax-planning alternatives. The significant piece of objective negative evidence evaluated was the cumulative loss incurred over the three-year

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

12. Income Taxes (Continued)

period ended December 31, 2014. Given this evidence and the expectation to incur operating losses in the foreseeable future, a full valuation allowance has been recorded against net deferred tax asset. The Company will continue to maintain a full valuation allowance against the entire amount of its net deferred tax asset, until such time as the Company has determined that the weight of the objectively verifiable positive evidence exceeds that of the negative evidence and it is likely that the Company will be able to utilize all of its net deferred tax asset relating to its federal and state NOL carryforwards. Although the Company has established a full valuation allowance on its net deferred tax asset, it has not forfeited the right to carryforward tax losses up to 20 years and apply such tax losses against taxable income in such years, thereby reducing its future tax obligations. The Company is subject to taxation in the United States and various state jurisdictions. As of December 31, 2014, the Company's tax years for 2004 through 2014 are generally subject to examination by the tax authorities.

On January 1, 2009, the Company adopted the provisions of ASC 740 related to accounting for uncertain tax positions and concluded there were no such positions associated with the Company requiring accrual of a liability. As of December 31, 2014, the Company has not accrued for any such positions. The Company is currently not under audit for federal or state purposes. The Company does not expect a significant change to occur within the next 12 months.

13. Net Loss per Share and Unaudited Pro Forma Net Loss per Share

Basic net loss per share is calculated by dividing net loss attributable to common stockholders by the weighted-average number of common shares outstanding during the period and excludes any dilutive effects of stock-based awards and warrants. Diluted net loss per share attributable to common stockholders is computed giving effect to all potentially dilutive common shares, including common stock issuable upon exercise of stock options and warrants and conversion of convertible promissory notes, redeemable convertible preferred stock and convertible preferred stock. As the Company had net losses for the years ended December 31, 2013 and 2014, all potentially dilutive common shares were determined to be anti-dilutive.

The following table sets forth the computation of net loss per share attributable to common stockholders (in thousands, except share and per share amounts):

	Year Ended December 31,	
	2013	2014
Numerator:		
Net loss attributable to common stockholders	$ (13,195)	$ (22,077)
Denominator:		
Weighted-average number of shares used in per share calculations, basic and diluted	8,213,544	8,245,129
Net loss per share attributable to common stockholders, basic and diluted	$ (1.61)	$ (2.68)

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

13. Net Loss per Share and Unaudited Pro Forma Net Loss per Share (Continued)

Potentially dilutive securities that were not included in the diluted per share calculations because they would be anti-dilutive were as follows:

	Year Ended December 31,	
	2013	2014
Convertible preferred stock	93,540,163	93,540,163
Redeemable convertible preferred stock	—	9,822,283
Options to purchase common stock	14,731,270	15,039,363
Warrants to purchase common stock	302,665	5,347,591
Convertible notes	1,215,572	1,232,601
Total	109,789,670	124,982,001

The Company has presented unaudited pro forma basic and diluted net loss per share attributable to common stockholders, which has been computed to give effect to the conversion of all shares of redeemable convertible preferred stock and convertible preferred stock into shares of common stock as if such conversion had occurred as of the beginning of the period presented. The terms of the Series D preferred stock provide that the ratio at which each share of Series D preferred stock automatically converts into shares of common stock in connection with the initial public offering is dependent upon the initial public offering price of the common stock. The number of shares of common stock to be issued upon the automatic conversion of all outstanding shares of Series D preferred stock is based on an assumed initial public offering price of $, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus. The following table sets forth the computation of the Company's pro forma basic and diluted net loss per share attributable to common stockholders (in thousands, except per share amounts):

	Year Ended December 31, 2014
Net loss attributable to common stockholders	$ (18,339)
Accretion of redeemable convertible preferred stock to redemption value	(3,738)
Pro forma net loss attributable to common stockholders, basic and diluted	$ (22,077)
Weighted-average number of shares used in per share calculations, basic and diluted	8,245,129
Pro forma adjustment to reflect assumed conversion of:	
Redeemable convertible preferred stock	
Convertible preferred stock	93,540,163
Weighted-average number of shares used in pro forma per share calculations, basic and diluted	
Pro forma net loss per share attributable to common stockholders, basic and diluted	$

14. Segment and Geographic Information

Management has determined that it has one business activity and operates in one segment as it only reports financial information on an aggregate and consolidated basis to its Chief Executive Officer, who is the Company's chief operating decision maker.

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

14. Segment and Geographic Information (Continued)

Revenues based on the location of the customers, are as follows (in percentages):

	Year Ended December 31,	
	2013	2014
United States	64%	66%
India	24%	29%
Africa	7%	—%
Belgium	2%	1%
France	2%	3%
Other	1%	1%
Total	100%	100%

15. Related-Party Transactions

The Company's related parties include MCC and Blue Horse Labs, Inc. ("BHL"), and Limagrain. BHL is deemed a related party as a result of its existing contractual relationship with the Company and that a Director of the Company also serves as the Treasurer of BHL and as an Officer and Director of MCC, the Company's controlling stockholder.

Transactions with related parties are reflected in the consolidated financial statements under amounts due to or from related parties and notes payable to related party. Outlined below are details of agreements between the Company and its related parties:

A term note was executed with MCC in July 2012 for $8.0 million (see Note 7). The principal balance is included in the December 31, 2013 and 2014 balance sheets as notes payable to related party and the related accrued interest is included in amounts due to related parties. An additional term note was executed with MCC in July 2013 for $500,000. The principal balance and $19,000 of interest was repaid in December 2013.

Under a license agreement executed in 2003 and amended in 2009, BHL receives a single-digit royalty from the Company when revenue has been collected for certain intellectual property such as GLA, NUE monocot among others that has been licensed to third parties. Royalty fees due to BHL were $161,000 and $21,000 as of December 31, 2013 and 2014, respectively, and are included in the balance sheets as amounts due to related parties.

License agreements were executed with Limagrain, a stockholder of the Company, in September 2009 and February 2011. The agreements license certain of the Company's traits to Limagrain and include up-front license fees, annual license fees, milestone fees and value-sharing payments. The Company recognized $144,000 and $191,000 of revenue under these agreements in the years ended December 31, 2013 and 2014, respectively. The amounts due from Limagrain were $100,000 and $0 as of December 31, 2013 and 2014, respectively.

In addition to the investment in LCS as described in Note 4, Limagrain purchased 7,375,552 shares of the Company's common stock in April 2010 and owns 7% of the Company on an as-converted basis as of December 31, 2014.

Arcadia Biosciences, Inc.

Notes to Consolidated Financial Statements (Continued)

16. Subsequent Events

In connection with the issuance of the consolidated financial statements for the years ended December 31, 2013 and 2014, the Company has evaluated subsequent events through April 3, 2015, the date the consolidated financial statements were issued.

In February 2015, the Company's board of directors approved the grant of options to purchase an aggregate of 980,000 shares of common stock with an exercise price of $1.80 per share to employees.

In March 2015, the Company's board of directors approved the grant of an option to purchase an aggregate of 250,000 shares of common stock with an exercise price of $1.80 per share to an employee.

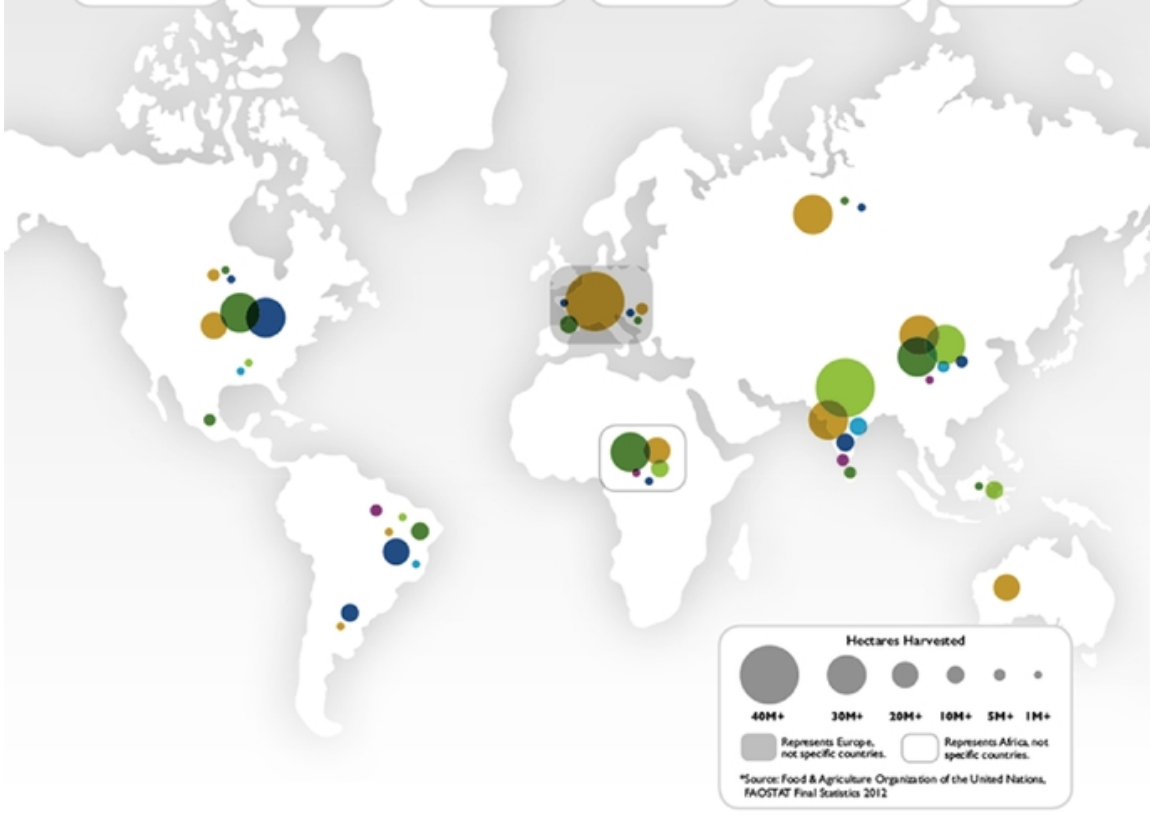
In March 2015, the Company completed its reincorporation in the State of Delaware from the State of Arizona (the "Reincorporation"). In connection with the Reincorporation, each outstanding share of, or option or warrant to purchase, capital stock of the Arizona corporation was exchanged for an equivalent share of, or option or warrant to purchase, capital stock of the Delaware corporation. The shares were exchanged such that stockholders received one share of the Company's Delaware capital stock, par value $0.001 per share, for each share of the Company's Arizona capital stock, no par value. The Reincorporation will not result in any material change in the business, management, assets, liabilities, or net worth of the Company.

Important Global Crops

Arcadia BIOSCIENCES

According to the Food & Agriculture Organization of the United Nations, the six crops listed below accounted for more than $1 trillion/year in global farm revenues as of 2012.*

WHEAT	CORN	RICE	SOYBEAN	COTTON	SUGARCANE
					
LEADERS BY HARVEST AREA:	LEADERS BY HARVEST AREA:	LEADERS BY HARVEST AREA:	LEADERS BY HARVEST AREA:	LEADERS BY HARVEST AREA:	LEADERS BY HARVEST AREA:
EUROPE	CHINA	INDIA	US	INDIA	BRAZIL
INDIA	US	CHINA	BRAZIL	CHINA	INDIA
CHINA	AFRICA	INDONESIA	ARGENTINA	US	CHINA
RUSSIA	EUROPE	AFRICA	INDIA	BRAZIL	AFRICA



*Source: Food & Agriculture Organization of the United Nations, FAOSTAT Final Statistics 2012


Arcadia
BIOSCIENCES

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth the costs and expenses, other than underwriting discounts and commissions, payable by us in connection with the sale of common stock being registered. All amounts are estimates except the SEC registration fee, FINRA filing fee and The NASDAQ Global Market listing fee.

	Amount to be Paid
SEC registration fee	$ 10,023
FINRA filing fee	13,438
The NASDAQ Global Market listing fee	125,000
Printing and engraving expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Blue Sky qualification fees and expenses	*
Transfer Agent and Registrar fees	*
Miscellaneous fees and expenses	*
Total	*

* To be filed by amendment.

Item 14. Indemnification of Directors and Officers

On completion of this offering, the Registrant's amended and restated certificate of incorporation will contain provisions that eliminate, to the maximum extent permitted by the General Corporation Law of the State of Delaware, the personal liability of the Registrant's directors and executive officers for monetary damages for breach of their fiduciary duties as directors or officers. The Registrant's amended and restated certificate of incorporation and bylaws will provide that the Registrant must indemnify its directors and executive officers and may indemnify its employees and other agents to the fullest extent permitted by the General Corporation Law of the State of Delaware.

Sections 145 and 102(b)(7) of the General Corporation Law of the State of Delaware provide that a corporation may indemnify any person made a party to an action by reason of the fact that he or she was a director, executive officer, employee or agent of the corporation or is or was serving at the request of a corporation against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection with such action if he or she acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of an action by or in right of the corporation, no indemnification may generally be made in respect of any claim as to which such person is adjudged to be liable to the corporation.

The Registrant has entered into indemnification agreements with its directors and executive officers, in addition to the indemnification provided for in its amended and restated certificate of incorporation and bylaws, and intends to enter into indemnification agreements with any new directors and executive officers in the future.

The Registrant has purchased and intends to maintain insurance on behalf of each and any person who is or was a director or officer of the Registrant against any loss arising from any claim asserted against him or her and incurred by him or her in any such capacity, subject to certain exclusions.

The Underwriting Agreement (Exhibit 1.1 hereto) provides for indemnification by the underwriters of the Registrant and its executive officers and directors, and by the Registrant of the underwriters, for certain liabilities, including liabilities arising under the Securities Act.

Item 15. Recent Sales of Unregistered Securities

Since January 1, 2012, the Registrant issued the following unregistered securities:

Preferred Stock Issuances

From March 2014 through May 2014, the Registrant sold to accredited investors in a series of closings an aggregate of 9,822,283 shares of our Series D preferred stock at a per share price of $3.36, for aggregate consideration of approximately $33.0 million.

In connection with the Series D preferred stock financing, from March 2014 through May 2014, the Registrant issued to accredited investors warrants to purchase an aggregate of 4,911,145 shares of its common stock at an exercise price of $4.54 per share.

In connection with the Series D preferred stock financing, from March 2014 through May 2014, the Registrant issued to its placement agent, an accredited investor, warrants to purchase 133,781 shares of its common stock at an exercise price of $3.36 per share as partial consideration for their services.

Convertible Notes and Warrant Issuances

From September 2013 through December 2013, the Registrant issued convertible notes to an accredited investor in the principal amount of $5.0 million.

In December 2013, the Registrant issued to an accredited investor a warrant to purchase 302,665 shares of its common stock at an exercise price of $4.13 per share.

2006 Stock Plan-Related Issuances

Since January 1, 2012, the Registrant granted its directors, employees, consultants and other service providers options to purchase an aggregate of 2,444,400 shares of common stock under its 2006 Stock Plan at exercise prices ranging from $1.53 to $3.39 per share. The Registrant has issued and sold an aggregate of 132,708 shares of its common stock upon exercise of stock options granted pursuant to the 2006 Stock Plan, for an aggregate purchase price of $39,469.

A placement agent was used in connection with the Series D preferred stock financing described above. Otherwise, no underwriters were involved in the foregoing sales of securities. The issuances of the securities described above were deemed to be exempt from registration under the Securities Act in reliance on Section 4(a)(2) of the Securities Act, or Regulation D promulgated thereunder, as transactions by an issuer not involving a public offering, or Regulation S of the Securities Act or Rule 701 promulgated under 3(b) of the Securities Act as transactions pursuant to compensation benefits plans and contracts relating to compensation.

Item 16. Exhibits and Financial Statement Schedules

(a) Exhibits

Number	Description
1.1	Form of Underwriting Agreement.
3.1	First Amended and Restated Certificate of Incorporation of the Registrant, as currently in effect.
3.2	Form of Amended and Restated Certificate of Incorporation of the Registrant, to be in effect upon the completion of this offering.
3.3	Amended and Restated Bylaws of the Registrant, as currently in effect.

Number	Description
3.4	Form of Amended and Restated Bylaws of the Registrant, to be in effect upon the completion of this offering.
4.1	Form of common stock certificate of the Registrant.
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4.3*	Amended and Restated Investors' Rights Agreement dated April 30, 2010 among the Registrant and certain holders of its capital stock.
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10.4†*	License Agreement dated February 14, 2002 between the Registrant and The University of Toronto Innovations Foundation.
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10.7*	Form of Indemnification Agreement between the Registrant and each of its Officers and Directors.
10.8*	2006 Stock Plan, as amended and restated, and form of agreement thereunder.
10.9*	2015 Omnibus Equity Incentive Plan and forms of agreement thereunder.
10.10*	2015 Employee Stock Purchase Plan and form of agreement thereunder.
10.11*	Term Loan Agreement dated July 23, 2012 between the Registrant and Moral Compass Corporation, as amended.
10.12*	Office Lease dated March 17, 2003 between the Registrant and Buzz Oates LLC as successor to Marvin L. Oates, Trustee of the Marvin L. Oates Trust, as amended.
10.13†*	Cooperative Agreement dated September 30, 2008 between the Registrant and the United States Agency for International Development, as amended.
10.14†*	Cooperative Agreement dated October 11, 2012 between the Registrant and the United States Agency for International Development, as amended.
10.15*	Executive Incentive Bonus Plan.
10.16*	Director Compensation Policy.

Number	Description
10.17	Form of Executive Officer Offer Letter.
10.18	Form of Severance and Change in Control Agreement.
10.19	Offer Letter, dated February 25, 2015, between the Registrant and Thomas P. O'Neil.
21.1*	List of Subsidiaries.
23.1	Consent of Deloitte & Touche LLP.
23.2**	Consent of Orrick, Herrington & Sutcliffe LLP (included in Exhibit 5.1).
24.1*	Power of Attorney.
99.1*	Consent of Phillips McDougall.
99.2	Consent of Director Nominee.
99.3	Consent of Director Nominee.
99.4	Consent of Director Nominee.

* Previously filed.

** To be filed by amendment.

† Confidential treatment has been requested with respect to certain portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.

(b) Financial Statement Schedules

Schedules not listed above have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes thereto.

Item 17. Undertakings

The undersigned registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreements certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act, and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer, or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Amendment No. 1 to Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Davis, State of California on April 3, 2015.

ARCADIA BIOSCIENCES, INC.

By: /s/ ERIC J. REY

Eric J. Rey
President, Chief Executive Officer and Director

Pursuant to the requirements of the Securities Act of 1933, this Amendment No. 1 to Registration Statement has been signed by the following persons in the capacities and on the dates indicated:

Signature	Title	Date
/s/ ERIC J. REY Eric J. Rey	President, Chief Executive Officer and Director (Principal Executive Officer)	April 3, 2015
/s/ THOMAS P. O'NEIL Thomas P. O'Neil	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	April 3, 2015
* Peter Gajdos	Director	April 3, 2015
* Darby E. Shupp	Director	April 3, 2015
* Uday Garg	Director	April 3, 2015
* James R. Reis	Director	April 3, 2015
* Mark W. Wong	Director	April 3, 2015

*By: /s/ ERIC J. REY
Eric J. Rey
Attorney-In-Fact

EXHIBIT INDEX

Number	Description
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* Previously filed.

** To be filed by amendment.

† Confidential treatment has been requested with respect to certain portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.

Exhibit 1.1

[Insert Number of Shares]

Arcadia Biosciences, Inc.

Common Stock

UNDERWRITING AGREEMENT

, 2015

Credit Suisse Securities (USA) LLC
J.P. Morgan Securities LLC,
As Representatives of the Several Underwriters,
c/o Credit Suisse Securities (USA) LLC,
Eleven Madison Avenue,
New York, N.Y. 10010-3629

Dear Sirs:

1. *Introductory*. Arcadia Biosciences, Inc., a Delaware corporation ("**Company**"), agrees with the several Underwriters named in Schedule A hereto ("**Underwriters**") to issue and sell to the several Underwriters [·] shares ("**Firm Securities**") of its common stock, par value $0.001 per share ("**Securities**"), and also proposes to issue and sell to the Underwriters, at the option of the Underwriters, an aggregate of not more than [·] additional shares ("**Optional Securities**") of its Securities as set forth below. The Firm Securities and the Optional Securities are herein collectively called the "**Offered Securities**."

2. *Representations and Warranties of the Company*. The Company represents and warrants to, and agrees with, the several Underwriters that:

(a) *Filing and Effectiveness of Registration Statement; Certain Defined Terms*. The Company has filed with the Commission (as defined below) a registration statement on Form S-1 (No. 333-202124) covering the registration of the Offered Securities under the Act (as defined below), including a related preliminary prospectus or prospectuses. At any particular time, this initial registration statement, in the form then on file with the Commission, including all information contained in the registration statement (if any) filed pursuant to Rule 462(b) and then deemed to be a part of the initial registration statement, and all 430A Information (as defined below) and all 430C Information (as defined below), that in any case has not then been superseded or modified, shall be referred to as the "**Initial Registration Statement**." The Company may also have filed, or may file with the Commission, a Rule 462(b) registration statement covering the registration of Offered Securities. At any particular time, this Rule 462(b) registration statement, in the form then on file with the Commission, including the contents of the Initial Registration Statement incorporated by reference therein and including all 430A Information and all 430C Information, that in any case has not then been superseded or modified, shall be referred to as the "**Additional Registration Statement**."

As of the time of execution and delivery of this Agreement, the Initial Registration Statement has been declared effective under the Act and is not proposed to be amended. Any Additional Registration Statement has or will become effective upon filing with the Commission pursuant to Rule 462(b) and is not proposed to be amended. The Offered Securities all have been or will be duly registered under the Act pursuant to the Initial Registration Statement and, if applicable, the Additional Registration Statement.

For purposes of this Agreement:

"**430A Information**", with respect to any registration statement, means information included in a prospectus and retroactively deemed to be a part of such registration statement pursuant to Rule 430A(b).

"**430C Information**", with respect to any registration statement, means information included in a prospectus then deemed to be a part of such registration statement pursuant to Rule 430C.

"**Act**" means the Securities Act of 1933, as amended.

"**Applicable Time**" means [·]:00 [a/p]m (New York time) on the date of this Agreement.

"**Closing Date"** has the meaning defined in Section 3 hereof.

"**Commission**" means the Securities and Exchange Commission.

"**Effective Time**" with respect to the Initial Registration Statement or, if filed prior to the execution and delivery of this Agreement, the Additional Registration Statement means the date and time as of which such Registration Statement was declared effective by the Commission or has become effective upon filing pursuant to Rule 462(c). If an Additional Registration Statement has not been filed prior to the execution and delivery of this Agreement but the Company has advised the Representatives that it proposes to file one, "**Effective Time**" with respect to such Additional Registration Statement means the date and time as of which such Registration Statement is filed and becomes effective pursuant to Rule 462(b).

"**Exchange Act**" means the Securities Exchange Act of 1934, as amended.

"**Final Prospectus**" means the Statutory Prospectus that discloses the public offering price, other 430A Information and other final terms of the Offered Securities and otherwise satisfies Section 10(a) of the Act.

"**General Use Issuer Free Writing Prospectus**" means any Issuer Free Writing Prospectus that is intended for general distribution to prospective investors, as evidenced by its being so specified in Schedule B to this Agreement.

"**Issuer Free Writing Prospectus**" means any "issuer free writing prospectus," as defined in Rule 433, relating to the Offered Securities in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company's records pursuant to Rule 433(g).

"**Limited Use Issuer Free Writing Prospectus**" means any Issuer Free Writing Prospectus that is not a General Use Issuer Free Writing Prospectus.

The Initial Registration Statement and the Additional Registration Statement are referred to collectively as the "**Registration Statements**" and individually as a "**Registration Statement**". A "**Registration Statement**" with reference to a particular time means the Initial Registration Statement and any Additional Registration Statement as of such time. A "**Registration Statement**" without reference to a time means such Registration Statement as of its Effective Time. For purposes of the foregoing definitions, 430A Information with respect to a Registration Statement shall be considered to be included in such Registration Statement as of the time specified in Rule 430A.

"**Representatives**" means Credit Suisse Securities (USA) LLC and J.P. Morgan Securities LLC, as representatives of the several Underwriters.

"**Rules and Regulations**" means the rules and regulations of the Commission.

"**Securities Laws**" means, collectively, the Sarbanes-Oxley Act of 2002, as amended ("**Sarbanes-Oxley**"), the Act, the Exchange Act, the Rules and Regulations, the auditing principles, rules, standards and

practices applicable to auditors of "issuers" (as defined in Sarbanes-Oxley) promulgated or approved by the Public Company Accounting Oversight Board and, as applicable, the rules of the New York Stock Exchange and the NASDAQ Stock Market ("**Exchange Rules**").

"**Statutory Prospectus**" with reference to a particular time means the prospectus included in a Registration Statement immediately prior to that time, including any 430A Information or 430C Information with respect to such Registration Statement. For purposes of the foregoing definition, 430A Information shall be considered to be included in the Statutory Prospectus as of the actual time that form of prospectus is filed with the Commission pursuant to Rule 424(b) or Rule 462(c) and not retroactively.

"**Testing-the-Waters Communication**" means any oral or written communication with potential investors undertaken in reliance on Section 5(d) of the Act.

"**Testing-the-Waters Writing**" means any Testing-the-Waters Communication that is a written communication within the meaning of Rule 405 under the Act.

Unless otherwise specified, a reference to a "rule" is to the indicated rule under the Act.

(b) *Compliance with Act Requirements*. (i) (A) At their respective Effective Times, (B) on the date of this Agreement and (C) on each Closing Date, each of the Initial Registration Statement and the Additional Registration Statement (if any) conformed and will conform in all material respects to the requirements of the Act and the Rules and Regulations and did not and will not include any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading and (ii) on its date, at the time of filing of the Final Prospectus pursuant to Rule 424(b) or (if no such filing is required) at the Effective Time of the Additional Registration Statement in which the Final Prospectus is included, and on each Closing Date, the Final Prospectus will conform in all material respects to the requirements of the Act and the Rules and Regulations and will not include any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading. The preceding sentence does not apply to statements in or omissions from any such document based upon written information furnished to the Company by any Underwriter specifically for use therein, it being understood and agreed that the only such information is that described as such in Section 8(b) hereof.

(c) *Ineligible Issuer Status*. (i) At the time of the initial filing of the Initial Registration Statement and (ii) at the date of this Agreement, the Company was not and is not an "ineligible issuer," as defined in Rule 405, including (x) the Company or any of its subsidiaries in the preceding three years not having been convicted of a felony or misdemeanor or having been made the subject of a judicial or administrative decree or order as described in Rule 405 and (y) the Company in the preceding three years not having been the subject of a bankruptcy petition or insolvency or similar proceeding, not having had a registration statement be the subject of a proceeding under Section 8 of the Act and not being the subject of a proceeding under Section 8A of the Act in connection with the offering of the Offered Securities, all as described in Rule 405.

(d) *General Disclosure Package and Statutory Prospectuses*. As of the Applicable Time, none of (i) the General Use Issuer Free Writing Prospectus(es) issued at or prior to the Applicable Time, the preliminary prospectus, dated [·], 2015 (which is the most recent Statutory Prospectus distributed to investors generally) and the other information, if any, stated in Schedule B to this Agreement to be included in the General Disclosure Package, all considered together (collectively, the "**General Disclosure Package**"), (ii) any individual Limited Use Issuer Free Writing Prospectus, when considered together with the General Disclosure Package, or (iii) any individual Testing-the-Waters Communication, when considered together with the General Disclosure Package, included any untrue statement of a material fact or omitted to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The preceding sentence does not apply to statements in or omissions from any Statutory Prospectus, any Issuer Free Writing Prospectus or any Testing-the-Waters Communication made in reliance upon and in conformity with written information furnished to the Company by any Underwriter specifically for use therein, it being understood and agreed

that the only such information furnished by any Underwriter consists of the information described as such in Section 8(b) hereof. No order preventing or suspending the use of any Statutory Prospectus has been issued by the Commission, and each Statutory Prospectus included in the General Disclosure Package, at the time of filing thereof, complied in all material respects with the Act, and no Statutory Prospectus, at the time of filing thereof, contained any untrue statement of a material fact or omitted to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation and warranty with respect to any statements or omissions made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company by any Underwriter specifically for use therein, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 8(b) hereof.

(e) *Issuer Free Writing Prospectuses*. Each Issuer Free Writing Prospectus, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Offered Securities or until any earlier date that the Company notified or notifies the Representatives as described in the next sentence, did not, does not and will not include any information that conflicted, conflicts or will conflict with the information then contained in the Registration Statement. If at any time following issuance of an Issuer Free Writing Prospectus there occurred or occurs an event or development as a result of which such Issuer Free Writing Prospectus conflicted or would conflict with the information then contained in the Registration Statement or as a result of which such Issuer Free Writing Prospectus, if republished immediately following such event or development, would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading, (i) the Company has promptly notified or will promptly notify the Representatives and (ii) the Company has promptly amended or will promptly amend or supplement such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission.

(f) *Good Standing of the Company*. The Company has been duly incorporated and is existing and in good standing under the laws of the State of Delaware, with power and authority (corporate and other) to own or lease its properties and conduct its business as described in the General Disclosure Package; and the Company is duly qualified to do business as a foreign corporation in good standing in all other jurisdictions in which its ownership or lease of property or the conduct of its business requires such qualification.

(g) *Subsidiaries*. Each subsidiary of the Company has been duly organized and is existing and in good standing under the laws of the jurisdiction of its incorporation (to the extent such concepts are applicable under such laws), with power and authority (corporate and other) to own or lease its properties and conduct its business as described in the General Disclosure Package; and each subsidiary of the Company is duly qualified to do business as a foreign corporation in good standing in all other jurisdictions in which its ownership or lease of property or the conduct of its business requires such qualification (to the extent that such concepts are applicable under such laws); all of the issued and outstanding capital stock of each subsidiary of the Company has been duly authorized and validly issued and is fully paid and nonassessable; and the capital stock of each subsidiary owned by the Company, directly or through subsidiaries, is owned free from liens, encumbrances and defects.

(h) *Offered Securities*. The Offered Securities and all other outstanding shares of capital stock of the Company have been duly authorized; the authorized equity capitalization of the Company is as set forth in the General Disclosure Package; all outstanding shares of capital stock of the Company are, and, when the Offered Securities have been delivered and paid for in accordance with this Agreement on each Closing Date, such Offered Securities will have been, validly issued, fully paid and nonassessable, and will conform to the information in the General Disclosure Package and to the description of such Offered Securities contained in the Final Prospectus; the stockholders of the Company have no preemptive rights with respect to the Securities; and none of the outstanding shares of capital stock of the Company have been issued in violation of any preemptive or similar rights of any security holder. Except as disclosed in the General Disclosure Package, there are no outstanding (A) securities or obligations of the Company convertible into or exchangeable for any capital stock of the Company, (B) warrants, rights or options to subscribe for or purchase from the Company any such capital stock or any such convertible or exchangeable securities or

obligations or (C) obligations of the Company to issue or sell any shares of capital stock, any such convertible or exchangeable securities or obligations or any such warrants, rights or options. The Company has not, directly or indirectly, offered or sold any of the Offered Securities by means of any "prospectus" (within the meaning of the Act and the Rules and Regulations) or used any "prospectus" or made any offer (within the meaning of the Act and the Rules and Regulations) in connection with the offer or sale of the Offered Securities, in each case other than the preliminary prospectus referred to in Section 2(d) hereof or any Permitted Free Writing Prospectus referred to in Section 6.

(i) *Other Offerings.* Except as disclosed in the General Disclosure Package, the Company has not sold, issued or distributed any Securities during the six-month period preceding the date hereof, including any sales pursuant to Rule 144A under, or Regulation D or S of, the Act, other than Securities issued pursuant to (i) the Company's employee benefit plans, qualified stock option plans or other employee compensation plans, (ii) outstanding options, rights or warrants, or (iii) the conversion of outstanding preferred stock into Securities as described in the General Disclosure Package.

(j) *No Finder's Fee*. Except as disclosed in the General Disclosure Package, there are no contracts, agreements or understandings between the Company and any person that would give rise to a valid claim against the Company or any Underwriter for a brokerage commission, finder's fee or other like payment in connection with this offering.

(k) *Registration Rights*. Except as disclosed in the General Disclosure Package, there are no contracts, agreements or understandings between the Company and any person granting such person the right to require the Company to file a registration statement under the Act with respect to any securities of the Company owned or to be owned by such person or to require the Company to include such securities in the securities registered pursuant to a Registration Statement or in any securities being registered pursuant to any other registration statement filed by the Company under the Act (collectively, "**registration rights**"), and any person to whom the Company has granted registration rights has agreed to waive and not exercise any such rights until after the expiration of the Lock-Up Period referred to in Section 5 hereof.

(l) *Listing*. The Offered Securities have been approved for listing on the NASDAQ Global Market, subject to notice of issuance.

(m) *Absence of Further Requirements*. No consent, approval, authorization, or order of, or filing or registration with, any person (including any governmental agency or body or any court) is required for the consummation of the transactions contemplated by this Agreement in connection with the offering, issuance and sale of the Offered Securities by the Company, except such as have been obtained, or made and such as may be required under state securities laws or the rules and regulations of the Financial Industry Regulatory Authority, Inc. ("**FINRA**").

(n) *Title to Property*. Except as disclosed in the General Disclosure Package, the Company and its subsidiaries have good and marketable title to all real properties and all other properties and assets owned by them, in each case free from liens, charges, encumbrances and defects that would materially affect the value thereof or materially interfere with the use made or to be made thereof by them and, except as disclosed in the General Disclosure Package, the Company and its subsidiaries hold any leased real or personal property under valid and enforceable leases with no terms or provisions that would materially interfere with the use made or to be made thereof by them.

(o) *Absence of Defaults and Conflicts Resulting from Transaction*. The execution, delivery and performance of this Agreement, and the offering, issuance and sale of the Offered Securities will not result in a breach or violation of any of the terms and provisions of, or constitute a default or a Debt Repayment Triggering Event (as defined below) under, or result in the imposition of any lien, charge or encumbrance upon any property or assets of the Company or any of its subsidiaries pursuant to, the charter or by-laws of the Company or any of its subsidiaries, any statute, rule, regulation or order of any governmental agency or body or any court, domestic or foreign, having jurisdiction over the Company or any of its subsidiaries or any of their properties, or any agreement or instrument to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries is bound or to which any of the properties of the

Company or any of its subsidiaries is subject; a "**Debt Repayment Triggering Event**" means any event or condition that gives, or with the giving of notice or lapse of time would give, the holder of any note, debenture, or other evidence of indebtedness (or any person acting on such holder's behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company or any of its subsidiaries.

(p) *Absence of Existing Defaults and Conflicts*. Neither the Company nor any of its subsidiaries is in violation of its respective charter or by-laws or in default (or with the giving of notice or lapse of time would be in default) under any existing obligation, agreement, covenant or condition contained in any indenture, loan agreement, mortgage, lease or other agreement or instrument to which any of them is a party or by which any of them is bound or to which any of the properties of any of them is subject, except such defaults that would not, individually or in the aggregate, result in a material adverse effect on the condition

(financial or otherwise), results of operations, business, properties or prospects of the Company and its subsidiaries taken as a whole ("**Material Adverse Effect**").

(q) *Authorization of Agreement*. This Agreement has been duly authorized, executed and delivered by the Company.

(r) *Possession of Licenses and Permits*. The Company and its subsidiaries possess, and are in compliance with the terms of, all adequate certificates, authorizations, franchises, licenses and permits ("**Licenses**") necessary or material to the conduct of the business now conducted or proposed in the General Disclosure Package to be conducted by the Company and its subsidiaries, taken as a whole, and have not received any notice of proceedings relating to the revocation or modification of any Licenses that, if determined adversely to the Company or any of its subsidiaries, would individually or in the aggregate reasonably be expected to have a Material Adverse Effect.

(s) *Absence of Labor Dispute*. No labor dispute with the employees of the Company or any of its subsidiaries exists or, to the knowledge of the Company, is imminent that could have a Material Adverse Effect.

(t) *Possession of Intellectual Property*. The Company and its subsidiaries own, license, possess or otherwise have a valid right to use, or can acquire on reasonable terms, sufficient trademarks, trade names, patent rights, copyrights, domain names, licenses, approvals, trade secrets, inventions, technology, know-how and other intellectual property and similar rights, including registrations and applications for registration thereof (collectively, "**Intellectual Property Rights**") necessary or material to the conduct of the business now conducted or proposed in the General Disclosure Package to be conducted by the Company and its subsidiaries, taken as a whole, and the expected expiration of any such Intellectual Property Rights would not, individually or in the aggregate, have a Material Adverse Effect. Except as disclosed in the General Disclosure Package (i) there are no rights of third parties to any of the Intellectual Property Rights owned by the Company or its subsidiaries (other than Intellectual Property Rights licensed or granted by the Company to its collaboration partners and licensees); (ii) there is no material infringement, misappropriation, breach, default or other violation, or the occurrence of any event that with notice or the passage of time would constitute any of the foregoing, by the Company, its subsidiaries or third parties of any of the Intellectual Property Rights of the Company or its subsidiaries; (iii) there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others, whether oral or written, challenging the Company's or any subsidiary's rights in or to, or the violation of any of the terms of, any of their Intellectual Property Rights, and the Company is unaware of any facts which would form a reasonable basis for any such claim; (iv) there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others, whether oral or written, challenging the validity, enforceability or scope of their Intellectual Property Rights, and the Company is unaware of any facts which would form a reasonable basis for any such claim; (v) there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others, whether oral or written, that the Company or any subsidiary infringes, misappropriates or otherwise violates or conflicts with any Intellectual Property Rights or other proprietary rights of others, and the Company is unaware of any other fact which would form a reasonable basis for any such claim; and (vi) none of the Intellectual Property Rights used by the Company or its subsidiaries in their businesses has been obtained or is being used by the

Company or its subsidiaries in violation of any contractual obligation that is binding on the Company or any of its subsidiaries; (vi) the Company and its subsidiaries take commercially reasonable measures to maintain and protect the Intellectual Property Rights necessary or material to the conduct of their businesses, taken as a whole, as now conducted or as proposed in the General Disclosure Package to be conducted by them, including trade secrets contained therein, including by requiring all employees, officers and consultants of and to the Company and its subsidiaries to sign agreements or otherwise agree to keep proprietary information of the Company and its subsidiaries in confidence and not to use it except on behalf of the Company, and requiring all third parties having access to material Intellectual Property Rights to sign confidentiality and non-use agreements or otherwise agree in writing to adequately maintain the confidentiality and not to use such Intellectual Property Rights; and (vii) the Company and its subsidiaries have at all times complied in all material respects with applicable laws pertaining to data privacy, except in each case covered by clauses (i) —(vii) such as would not, if determined adversely to the Company or any of its subsidiaries, individually or in the aggregate, have a Material Adverse Effect.

(u) *Environmental Laws*. Except as disclosed in the General Disclosure Package, neither the Company nor any of its subsidiaries is in violation of any statute, any rule, regulation, decision or order of any governmental agency or body or any court, domestic or foreign, relating to the use, disposal or release of hazardous or toxic substances or relating to the protection or restoration of the environment or human exposure to hazardous or toxic substances (collectively, "**environmental laws**"), owns or operates any real property contaminated with any substance that is subject to any environmental laws, is liable for any off-site disposal or contamination pursuant to any environmental laws, or is subject to any claim relating to any environmental laws, which violation, contamination, liability or claim would individually or in the aggregate reasonably be expected to have a Material Adverse Effect; and the Company is not aware of any pending investigation which might lead to such a claim.

(v) *Accurate Disclosure*. The statements in the General Disclosure Package and the Final Prospectus under the headings "Material U.S. Federal Tax Consequences to Non-U.S. Holders", "Description of Capital Stock", "Business — Regulatory Matters", "Business — Intellectual Property", "Business — Key Collaborations", "Management" and "Certain Relationships and Related Party Transactions", insofar as such statements summarize legal matters, agreements, documents or proceedings discussed therein, are accurate and fair summaries, in all material respects, of such legal matters, agreements, documents or proceedings and present in all material respects the information required to be shown.

(w) *Absence of Manipulation*. The Company has not taken, directly or indirectly, any action that is designed to or that has constituted or that would reasonably be expected to cause or result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Offered Securities.

(x) *Statistical and Market-Related Data*. Any statistical and market-related data included in a Registration Statement, a Statutory Prospectus, the General Disclosure Package or any Testing-the-Waters Writing are based on or derived from sources that the Company believes to be reliable and accurate in all material respects and, to the extent required, the Company has obtained the written consent to the use of such data from such sources.

(y) *Internal Controls and Compliance with the Sarbanes-Oxley Act*. Except as set forth in the General Disclosure Package, the Company, its subsidiaries and the Company's Board of Directors (the "**Board**") are in compliance with Sarbanes-Oxley and all applicable Exchange Rules. The Company maintains a system of internal controls, including, but not limited to, disclosure controls and procedures, internal controls over accounting matters and financial reporting, and legal and regulatory compliance controls (collectively, "**Internal Controls**") that comply with applicable Securities Laws and are sufficient to provide reasonable assurances that (i) transactions are executed in accordance with management's general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with U.S. General Accepted Accounting Principles ("**U.S. GAAP**") and to maintain accountability for assets, (iii) access to assets is permitted only in accordance with management's general or specific authorization and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. The

Internal Controls are, or upon consummation of the offering of the Offered Securities will be, overseen by the Audit Committee (the "**Audit Committee**") of the Board in accordance with Exchange Rules. Except as disclosed in the General Disclosure Package, the Company has not publicly disclosed or reported to the Audit Committee or the Board, and the Company has no current information that causes it to reasonably expect to publicly disclose or report to the Audit Committee or the Board, a significant deficiency, material weakness, adverse change in Internal Controls or fraud involving management or other employees who have a significant role in Internal Controls (each, an "**Internal Control Event**"), any violation of, or failure to comply with, the Securities Laws, or any matter which, if determined adversely, would have a Material Adverse Effect.

(z) *Absence of Accounting Issues*. A member of the Audit Committee has confirmed to the Chief Executive Officer, Chief Financial Officer or General Counsel that, except as set forth in the General Disclosure Package, the Audit Committee is not reviewing or investigating, and neither the Company's independent auditors nor its internal auditors have recommended to the Audit Committee that the Audit Committee review or investigate, (i) materially adding to, deleting, changing the application of, or changing the Company's disclosure with respect to, any of the Company's material accounting policies; (ii) any matter which could result in a restatement of the Company's financial statements for any annual or interim period during the current or prior three fiscal years; or (iii) any Internal Control Event.

(aa) *Litigation*. Except as disclosed in the General Disclosure Package, there are no pending actions, suits or proceedings (including any inquiries or investigations by any court or governmental agency or body, domestic or foreign) against or affecting the Company, any of its subsidiaries or any of their respective properties that, if determined adversely to the Company or any of its subsidiaries, would individually or in the aggregate have a Material Adverse Effect, or would materially and adversely affect the ability of the Company to perform its obligations under this Agreement, or which are otherwise material in the context of the sale of the Offered Securities; and, to the Company's knowledge, no such actions, suits or proceedings (including any inquiries or investigations by any court or governmental agency or body, domestic or foreign) are threatened or contemplated.

(bb) *Financial Statements*. The financial statements included in each Registration Statement and the General Disclosure Package present fairly the financial position of the Company and its consolidated subsidiaries as of the dates shown and their results of operations and cash flows for the periods shown, and such financial statements have been prepared in conformity with U.S. GAAP applied on a consistent basis and the schedules included in each Registration Statement present fairly the information required to be stated therein; and the assumptions used in preparing the pro forma financial statements included in each Registration Statement and the General Disclosure Package provide a reasonable basis for presenting the significant effects directly attributable to the transactions or events described therein, the related pro forma adjustments give appropriate effect to those assumptions, and the pro forma columns therein reflect the proper application of those adjustments to the corresponding historical financial statement amounts. The summary and selected financial data included in each Registration Statement and the General Disclosure Package presents fairly in all material respects the information shown therein and such data has been compiled on a basis consistent with the financial statements presented therein and the books and records of the Company. The Company does not have any material liabilities or obligations, direct or contingent (including any off-balance sheet obligations or any "variable interest entities" within the meaning of Financial Accounting Standards Board Interpretation No. 46), not disclosed in each Registration Statement and the General Disclosure Package. There are no financial statements that are required to be included in each Registration Statement or the General Disclosure Package that are not included as required.

(cc) *No Material Adverse Change in Business*. Except as disclosed in the General Disclosure Package, since the end of the period covered by the latest audited financial statements included in the General Disclosure Package (i) there has been no change, nor any development or event involving a prospective change, in the condition (financial or otherwise), results of operations, business, properties or prospects of the Company and its subsidiaries, taken as a whole, that is material and adverse, (ii) except as disclosed in or contemplated by the General Disclosure Package, there has been no dividend or distribution of any kind declared, paid or made by the Company on any class of its capital stock and (iii) except as disclosed in or contemplated by the General Disclosure Package, there has been no material adverse change

in the capital stock, short-term indebtedness, long-term indebtedness, net current assets or net assets of the Company and its subsidiaries, taken as a whole.

(dd) *Investment Company Act*. The Company is not and, after giving effect to the offering and sale of the Offered Securities and the application of the proceeds thereof as described in the General Disclosure Package, will not be an "investment company" as defined in the Investment Company Act of 1940, as amended (the "**Investment Company Act**").

(ee) *Ratings*. No "nationally recognized statistical rating organization" as such term is defined in Section 3(a)(62) of the Exchange Act (i) has imposed (or has informed the Company that it is considering imposing) any condition (financial or otherwise) on the Company's retaining any rating assigned to the Company or any securities of the Company or (ii) has indicated to the Company that it is considering any of the actions described in Section 7(c)(ii) hereof.

(ff) *Taxes*. The Company and its subsidiaries have filed all federal, state, local and non-U.S. tax returns that are required to be filed or have requested extensions thereof (except in any case in which the failure so to file would not have a Material Adverse Effect); and, except as set forth in the General Disclosure Package, the Company and its subsidiaries have paid all taxes (including any assessments, fines or penalties) required to be paid by them, except for any such taxes, assessments, fines or penalties currently being contested in good faith or as would not, individually or in the aggregate, have a Material Adverse Effect.

(gg) *Insurance*. The Company and its subsidiaries, taken as a whole, are insured by insurers with appropriately rated claims paying abilities against such losses and risks and in such amounts as the Company reasonably believes are prudent and customary for the businesses in which the Company and its subsidiaries, taken as a whole, are engaged; all policies of insurance and fidelity or surety bonds insuring the Company or any of its subsidiaries or their respective businesses, assets, employees, officers and directors are in full force and effect; the Company and its subsidiaries are in compliance with the terms of such policies and instruments in all material respects; and there are no claims by the Company or any of its subsidiaries under any such policy or instrument as to which any insurance company is, to the Company's knowledge, denying liability or defending under a reservation of rights clause; neither the Company nor any such subsidiary has been refused any insurance coverage sought or applied for; neither the Company nor any such subsidiary has any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not have a Material Adverse Effect, except as set forth in or contemplated in the General Disclosure Package; and the Company will obtain directors' and officer's insurance in such amounts as the Company reasonably believes is customary for an initial public offering.

(hh) *Trials*. The studies, tests and trials conducted by or on behalf of the Company and its subsidiaries were and, if still pending, are being conducted in compliance with experimental protocols, procedures and controls pursuant to accepted professional scientific standards and all applicable laws and authorizations, except where the failure to be in compliance has not resulted and would not reasonably be expected to result in a Material Adverse Effect; the descriptions of the results of such studies, tests and trials contained in the General Disclosure Package are accurate and complete in all material respects and fairly present the data derived from such studies, tests and trials; the Company is not aware of any studies, tests or trials, the results of which the Company believes reasonably call into question the study, test, or trial results described or referred to in the General Disclosure Package when viewed in the context in which such results are described and the state of development; and the Company and its subsidiaries have not received any notices or correspondence from any applicable governmental authority requiring the termination, suspension or material modification of any studies, tests or trials conducted by or on behalf of the Company or its subsidiaries.

(ii) *No Unlawful Payments.* Neither the Company nor any of its subsidiaries nor any director or officer of the Company, nor, to the knowledge of the Company, any employee, agent, affiliate or other person acting on behalf of the Company or any of its subsidiaries has (i) used any funds for any unlawful

contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) made or taken an act in furtherance of an offer, promise or authorization of any direct or indirect unlawful payment or benefit to any foreign or domestic government or regulatory official or employee, including of any government-owned or controlled entity or of a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office; (iii) violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977, as amended, or any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, or committed an offence under the Bribery Act 2010 of the United Kingdom, or any other applicable anti-bribery or anti-corruption laws; or (iv) made, offered, agreed, requested or taken an act in furtherance of any unlawful bribe or other unlawful benefit, including, without limitation, any rebate, payoff, influence payment, kickback or other unlawful or improper payment or benefit. The Company and its subsidiaries have instituted, maintain and enforce, and will continue to maintain and enforce policies and procedures designed to promote and ensure compliance with all applicable anti-bribery and anti-corruption laws.

(jj) *Compliance with Money Laundering Laws.* The operations of the Company and its subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements, including those of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the applicable money laundering statutes of all jurisdictions where the Company or any of its subsidiaries conducts business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines issued, administered or enforced by any governmental or regulatory agency (collectively, the "**Anti-Money Laundering Laws**") and no action, suit or proceeding by or before any court or governmental or regulatory agency, authority or body or any arbitrator involving the Company or any of its subsidiaries with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(kk) *No Conflicts with Sanctions Laws.* Neither the Company nor any of its subsidiaries, directors or officers, nor, to the knowledge of the Company, any employee, agent, affiliate or other person acting on behalf of the Company or any of its subsidiaries is currently the subject or the target of any sanctions administered or enforced by the U.S. Government, (including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury ("**OFAC**") or the U.S. Department of State and including, without limitation, the designation as a "specially designated national" or "blocked person"), the United Nations Security Council ("**UNSC**"), the European Union, Her Majesty's Treasury ("**HMT**"), or other relevant sanctions authority (collectively, "**Sanctions**"), nor is the Company, any of its subsidiaries located, organized or resident in a country or territory that is the subject or the target of Sanctions, including, without limitation, Cuba, Burma (Myanmar), Iran, North Korea, Sudan and Syria (each, a "**Sanctioned Country**"); and the Company will not directly or indirectly use the proceeds of the offering of the Securities hereunder, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity (i) to fund or facilitate any activities of or business with any person that, at the time of such funding or facilitation, is the subject or the target of Sanctions, (ii) to fund or facilitate any activities of or business in any Sanctioned Country or (iii) in any other manner that will result in a violation by any person (including any person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions. For the past 5 years, the Company and its subsidiaries have not knowingly engaged in, are not now knowingly engaged in, and will not knowingly engage in, any dealings or transactions with any person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any Sanctioned Country.

(ll) *Regulatory Filings*. The Company and its subsidiaries have filed with applicable regulatory authorities all statements, reports, information or forms required by any applicable law, regulation or order, except where the failure to so file would not, individually or in the aggregate, have a Material Adverse Effect. Except as disclosed in the General Disclosure Package and the Final Prospectus, all such filings were in compliance with applicable laws when filed and, to the Company's knowledge, no deficiencies have been asserted by any regulatory commission, agency or authority with respect to any such filing, except for any such failures to be in compliance or deficiencies that would not, individually or in the aggregate, have a Material Adverse Effect.

(mm) *ERISA*. The minimum funding standard under Section 302 of the Employee Retirement Income Security Act of 1974, as amended, and the regulations and published interpretations thereunder ("**ERISA**"), has been satisfied by each "pension plan" (as defined in Section 3(2) of ERISA) which has been established or maintained by the Company or any of its subsidiaries, and the trust forming part of each such plan which is intended to be qualified under Section 401 of the Internal Revenue Code of 1986, as amended, is so qualified; each of the Company and its subsidiaries has fulfilled its obligations, if any, under Section 515 of ERISA; neither the Company nor any of its subsidiaries maintain or are required to contribute to a "welfare plan" (as defined in Section 3(1) of ERISA) which provides retiree or other post-employment welfare benefits or insurance coverage (other than "continuation coverage" (as defined in Section 602 of ERISA)); each pension plan and welfare plan established or maintained by the Company and/or any of its subsidiaries are in compliance with the currently applicable provisions of ERISA, except where the failure to comply would not result in a Material Adverse Effect; and neither the Company nor any of its subsidiaries have incurred or would reasonably be expected to incur any withdrawal liability under Section 4201 of ERISA, any liability under Section 4062, 4063 or 4064 of ERISA, or any other liability under Title IV of ERISA.

(nn) *Independent Accountant*. Deloitte & Touche LLP, who certified the financial statements and supporting schedules of the Company, included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Final Prospectus, is an independent registered public accounting firm with respect to the Company as required by the Act and the Rules and Regulations and the applicable rules and guidance from the Public Company Accounting Oversight Board (United States).

(oo) *No Restrictions on Payments by Subsidiaries*. Except as described in the General Disclosure Package, no wholly-owned subsidiary of the Company is currently prohibited, directly or indirectly, under any agreement or other instrument to which it is a party or is subject, (i) from paying any dividends to the Company, (ii) from making any other distribution on such subsidiary's capital stock, (iii) from repaying to the Company any loans or advances to such subsidiary from the Company or (iv) from transferring any of such subsidiary's material properties or assets to the Company or any other subsidiary of the Company.

(pp) *Emerging Growth Company Status.* From the time of the initial confidential submission of the Initial Registration Statement with the Commission (or, if earlier, the first date on which the Company engaged directly or through any person authorized to act on its behalf in any Testing-the-Waters Communications) through the date hereof, the Company has been and is an Emerging Growth Company.

(qq) *Use of Testing-the-Waters Writings.* The Company (i) has not alone engaged in communications with potential investors in reliance on Section 5(d) of the Act other than Testing-the-Waters Communications with the prior consent of the Representatives with entities that are qualified institutional buyers within the meaning of Rule 144A under the Act or institutions that are accredited investors within the meaning of Rule 501(a) under the Act and (ii) it has not distributed, or authorized any other person to distribute, any Testing-the-Waters Communications, other than those distributed by the Underwriters or with the prior consent of the Representatives. The Company reconfirms that the Underwriters have been authorized to act on its behalf in communicating with potential investors in reliance on Section 5(d) of the Act.

3. *Purchase, Sale and Delivery of Offered Securities*. On the basis of the representations, warranties and agreements and subject to the terms and conditions set forth herein, the Company agrees to sell to the several Underwriters, and each of the Underwriters agrees, severally and not jointly, to purchase from the Company, at a purchase price of $[·] per share, the respective number of shares of Firm Securities set forth opposite the names of the Underwriters in Schedule A hereto.

The Company will deliver the Firm Securities to or as instructed by the Representatives for the accounts of the several Underwriters in a form reasonably acceptable to the Representatives against payment of the purchase price by the Underwriters in Federal (same day) funds by wire transfer to an account at a bank acceptable to the Representatives drawn to the order of the Company at the office of Cooley LLP, 101 California Street, 5th Floor, San Francisco, CA 94111, at [·] A.M., New York time, on [·], 2015 or at such other time not later than seven full business days thereafter as the Representatives and the Company determine, such time being herein referred to as the "**First Closing Date**". For purposes of Rule 15c6-1 under the Exchange Act, the First Closing Date (if later than

the otherwise applicable settlement date) shall be the settlement date for payment of funds and delivery of securities for all the Offered Securities sold pursuant to the offering. The Firm Securities so to be delivered or evidence of their issuance will be made available for checking at the above office of Cooley LLP at a reasonable time in advance of the First Closing Date.

In addition, upon written notice from the Representatives given to the Company from time to time not more than 30 days subsequent to the date of the Final Prospectus, the Underwriters may purchase all or less than all of the Optional Securities at the purchase price per Security to be paid for the Firm Securities. The Company agrees to sell to the Underwriters the number of shares of Optional Securities specified in such notice and the Underwriters agree, severally and not jointly, to purchase such Optional Securities. Such Optional Securities shall be purchased for the account of each Underwriter in the same proportion as the number of shares of Firm Securities set forth opposite such Underwriter's name bears to the total number of shares of Firm Securities (subject to adjustment by the Representatives to eliminate fractions) and may be purchased by the Underwriters only for the purpose of covering over-allotments made in connection with the sale of the Firm Securities. No Optional Securities shall be sold or delivered unless the Firm Securities previously have been, or simultaneously are, sold and delivered. The right to purchase the Optional Securities or any portion thereof may be exercised from time to time and to the extent not previously exercised may be surrendered and terminated at any time upon notice by the Representatives to the Company.

Each time for the delivery of and payment for the Optional Securities, being herein referred to as an "**Optional Closing Date**", which may be the First Closing Date (the First Closing Date and each Optional Closing Date, if any, being sometimes referred to as a "**Closing Date**"), shall be determined by the Representatives but shall be not earlier than two, nor later than five, full business days after written notice of election to purchase Optional Securities is given, unless the Representatives and the Company otherwise agree in writing. The Company will deliver the Optional Securities being purchased on each Optional Closing Date to or as instructed by the Representatives for the accounts of the several Underwriters in a form reasonably acceptable to the Representatives against payment of the purchase price therefor in Federal (same day) funds by wire transfer to an account at a bank acceptable to the Representatives drawn to the order of the Company, at the above office of Cooley LLP. The Optional Securities being purchased on each Optional Closing Date or evidence of their issuance will be made available for checking at the above office of Cooley LLP at a reasonable time in advance of such Optional Closing Date.

4. *Offering by Underwriters*. It is understood that the several Underwriters propose to offer the Offered Securities for sale to the public as set forth in the Final Prospectus.

5. *Certain Agreements of the Company*. The Company agrees with the several Underwriters that:

(a) *Additional Filings*. Unless filed pursuant to Rule 462(c) as part of the Additional Registration Statement in accordance with the next sentence, the Company will file the Final Prospectus, in a form approved by the Representatives, with the Commission pursuant to and in accordance with subparagraph (1) (or, if applicable and if consented to by the Representatives, subparagraph (4)) of Rule 424(b) not later than the earlier of (i) the second business day following the execution and delivery of this Agreement or (ii) the fifteenth business day after the Effective Time of the Initial Registration Statement. The Company will advise the Representatives promptly of any such filing pursuant to Rule 424(b) and provide satisfactory evidence to the Representatives of such timely filing. If an Additional Registration Statement is necessary to register a portion of the Offered Securities under the Act but the Effective Time thereof has not occurred as of the execution and delivery of this Agreement, the Company will file the Additional Registration Statement or, if filed, will file a post-effective amendment thereto with the Commission pursuant to and in accordance with Rule 462(b) on or prior to 10:00 P.M., New York time, on the date of this Agreement or, if earlier, on or prior to the time the Final Prospectus is finalized and distributed to any Underwriter, or will make such filing at such later date as shall have been consented to by the Representatives.

(b) *Filing of Amendments; Response to Commission Requests*. The Company will promptly advise the Representatives of any proposal to amend or supplement at any time the Initial Registration Statement, any Additional Registration Statement or any Statutory Prospectus and will not effect such amendment or

supplementation without the Representatives' consent; and the Company will also advise the Representatives promptly of (i) the effectiveness of any Additional Registration Statement (if its Effective Time is subsequent to the execution and delivery of this Agreement), (ii) any amendment or supplementation of a Registration Statement or any Statutory Prospectus, (iii) any request by the Commission or its staff for any amendment to any Registration Statement, for any supplement to any Statutory Prospectus or for any additional information, (iv) the institution by the Commission of any stop order proceedings in respect of a Registration Statement or, to the Company's knowledge, the threatening of any proceeding for that purpose, and (v) the receipt by the Company of any notification with respect to the suspension of the qualification of the Offered Securities in any jurisdiction or the institution or threatening of any proceedings for such purpose. The Company will use its best efforts to prevent the issuance of any such stop order or the suspension of any such qualification and, if issued, to obtain as soon as possible the withdrawal thereof.

(c) *Continued Compliance with Securities Laws*. If, at any time when a prospectus relating to the Offered Securities is (or but for the exemption in Rule 172 would be) required to be delivered under the Act by any Underwriter or dealer, any event occurs as a result of which the Final Prospectus as then amended or supplemented would include an untrue statement of a material fact or omit to state any material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, or if it is necessary at any time to amend the Registration Statement or supplement the Final Prospectus to comply with the Act, the Company will promptly notify the Representatives of such event and will promptly prepare and file with the Commission and furnish, at its own expense, to the Underwriters and the dealers and any other dealers upon request of the Representatives, an amendment or supplement which will correct such statement or omission or an amendment which will effect such compliance. Neither the Representatives' consent to, nor the Underwriters' delivery of, any such amendment or supplement shall constitute a waiver of any of the conditions set forth in Section 7 hereof.

(d) *Testing-the-Waters Communication*. If at any time following the distribution of any Testing-the-Waters Writing there occurred or occurs an event or development as a result of which such Testing-the-Waters Writing included or would include an untrue statement of a material fact or omitted or would omit to

state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Representatives and will promptly amend or supplement, at its own expense, such Testing-the-Waters Writing to eliminate or correct such statement or omission.

(e) *Rule 158*. As soon as practicable, but not later than the Availability Date (as defined below), the Company will make generally available to its securityholders an earnings statement covering a period of at least 12 months beginning after the Effective Time of the Initial Registration Statement (or, if later, the Effective Time of the Additional Registration Statement) which will satisfy the provisions of Section 11(a) of the Act and Rule 158 under the Act. For the purpose of the preceding sentence, "**Availability Date**" means the day after the end of the fourth fiscal quarter following the fiscal quarter that includes such Effective Time on which the Company is required to file its Form 10-Q for such fiscal quarter except that, if such fourth fiscal quarter is the last quarter of the Company's fiscal year, "**Availability Date**" means the day after the end of such fourth fiscal quarter on which the Company is required to file its Form 10-K.

(f) *Furnishing of Prospectuses*. The Company will furnish to the Representatives copies of each Registration Statement (including all exhibits), each related Statutory Prospectus, and, so long as a prospectus relating to the Offered Securities is (or but for the exemption in Rule 172 would be) required to be delivered under the Act, the Final Prospectus and all amendments and supplements to such documents, in each case in such quantities as the Representatives request. The Final Prospectus shall be so furnished on or prior to 3:00 P.M., New York time, on the business day following the execution and delivery of this Agreement. All other documents shall be so furnished as soon as available. The Company will pay the expenses of printing and distributing to the Underwriters all such documents.

(g) *Blue Sky Qualifications*. The Company will arrange for the qualification of the Offered Securities for sale under the laws of such jurisdictions as the Representatives designate and will continue such qualifications in effect so long as required for the distribution; provided that, the Company shall not be

required to (i) qualify as a foreign corporation or other entity or as a dealer in securities in any such jurisdiction in which it is not already so qualified, or (ii) subject itself to taxation in any such jurisdiction in which it is not otherwise so subject.

(h) *Reporting Requirements*. During the period of five years hereafter, the Company will furnish to the Representatives and, upon request, to each of the other Underwriters, as soon as practicable after the end of each fiscal year, a copy of its annual report to stockholders for such year; and the Company will furnish to the Representatives (i) as soon as available, a copy of each report and any definitive proxy statement of the Company filed with the Commission under the Exchange Act or mailed to stockholders, and (ii) from time to time, such other information concerning the Company as the Representatives may reasonably request. However, so long as the Company is subject to the reporting requirements of either Section 13 or Section 15(d) of the Exchange Act and is timely filing reports with the Commission on its Electronic Data Gathering, Analysis and Retrieval system ("**EDGAR**"), it is not required to furnish such reports or statements to the Underwriters.

(i) *Payment of Expenses*. The Company will pay all expenses incident to the performance of its obligations under this Agreement, including but not limited to any filing fees and other expenses (including fees and disbursements of counsel to the Underwriters) incurred in connection with qualification of the Offered Securities for sale under the laws of such jurisdictions as the Representatives designate, pursuant to Section 5(g) hereof, and the preparation and printing of memoranda relating thereto, costs and expenses related to the review by FINRA of the Offered Securities (including filing fees and the fees and expenses of counsel for the Underwriters relating to such review), costs and expenses relating to investor presentations or any "road show" in connection with the offering and sale of the Offered Securities including, without limitation, the travel expenses of the Company's officers and employees and 50% of the cost of chartering aircraft in connection with any "road show" (the remaining 50% of the cost of such aircraft shall be paid by the Underwriters), fees and expenses incident to listing the Offered Securities on the New York Stock Exchange, American Stock Exchange, NASDAQ Stock Market and other national and foreign exchanges, as applicable, fees and expenses in connection with the registration of the Offered Securities under the Exchange Act, and expenses incurred in distributing preliminary prospectuses and the Final Prospectus (including any amendments and supplements thereto) to the Underwriters and for expenses incurred for preparing, printing and distributing any Issuer Free Writing Prospectuses to investors or prospective investors.

(j) *Use of Proceeds*. The Company will use the net proceeds received in connection with this offering in the manner described in the "Use of Proceeds" section of the General Disclosure Package and, except as disclosed in the General Disclosure Package, the Company does not intend to use any of the proceeds from the sale of the Offered Securities hereunder to repay any outstanding debt owed to any affiliate of any Underwriter.

(k) *Absence of Manipulation*. The Company will not take, directly or indirectly, any action designed to or that would constitute or that might reasonably be expected to cause or result in, stabilization or manipulation of the price of any securities of the Company to facilitate the sale or resale of the Offered Securities.

(l) *Taxes*. The Company will indemnify and hold harmless the Underwriters against any documentary, stamp or similar issue tax, including any interest and penalties, on the creation, issue and sale of the Offered Securities and on the execution and delivery of this Agreement. All payments to be made by the Company hereunder shall be made without withholding or deduction for or on account of any present or future taxes, duties or governmental charges whatsoever unless the Company is compelled by law to deduct or withhold such taxes, duties or charges. In that event, the Company shall pay such additional amounts as may be necessary in order that the net amounts received after such withholding or deduction shall equal the amounts that would have been received if no withholding or deduction had been made.

(m) *Restriction on Sale of Securities.* (i) For the period specified below (the "**Lock-Up Period**"), the Company will not, directly or indirectly, take any of the following actions with respect to its Securities or any securities convertible into or exchangeable or exercisable for any of its Securities ("**Lock-Up**

Securities"): (A) offer, sell, issue, contract to sell, pledge or otherwise dispose of Lock-Up Securities, (B) offer, sell, issue, contract to sell, contract to purchase or grant any option, right or warrant to purchase Lock-Up Securities, (C) enter into any swap, hedge or any other agreement that transfers, in whole or in part, the economic consequences of ownership of Lock-Up Securities, (D) establish or increase a put equivalent position or liquidate or decrease a call equivalent position in Lock-Up Securities within the meaning of Section 16 of the Exchange Act or (E) file with the Commission a registration statement under the Act relating to Lock-Up Securities, or publicly disclose the intention to take any such action, without the prior written consent of the Representatives, except (I) issuances of Lock-Up Securities pursuant to the conversion or exchange of convertible or exchangeable securities or the exercise of warrants or options, in each case outstanding on the date hereof; provided that the Company shall have caused each recipient of such Lock-Up Securities to have executed and delivered to the Representatives a lock-up agreement, substantially in the form of Exhibit B hereto prior to such conversion, exchange or exercise, (II) grants of employee stock options pursuant to the terms of a plan as described in the General Disclosure Package; provided that, prior to such grants, to the extent that any such options will become vested during the Lock-Up Period, the Company shall cause each recipient of such grant to execute and deliver a lock-up agreement substantially in the form of Exhibit B hereto, or issuances of Lock-Up Securities pursuant to the exercise of such options, or (III) issuances of Lock-Up Securities pursuant to a bona fide merger, consolidation or other similar transaction, *provided* that the aggregate number of shares of Common Stock that the Company may issue pursuant to

this clause (III) shall not exceed 5% of the total number of shares of Common Stock issued and outstanding immediately following the completion of the transactions contemplated by this Agreement and provided further that the Company shall cause each recipient of such Lock-Up Securities to execute and deliver to the Representatives, on or prior to such issuance, a lock-up agreement, substantially in the form of Exhibit B hereto. The Lock-Up Period will commence on the date hereof and continue for 180 days after the date hereof or until such earlier date that the Representatives consent to in writing.

(B) Agreement to Announce Lock-Up Waiver. If the Representatives, in their sole discretion, agree to release or waive the restrictions set forth in a lock-up letter described in Section 7(h) hereof for an officer or director of the Company and provide the Company with notice of the impending release or waiver at least three business days before the effective date of the release or waiver, the Company agrees to announce the impending release or waiver by a press release substantially in the form of Exhibit A hereto through a major news service at least two business days before the effective date of the release or waiver.

(n) *Loss of Emerging Growth Company Status*. The Company will promptly notify the Representatives if the Company ceases to be an Emerging Growth Company at any time prior to the later of (A) completion of the distribution of the Offered Securities within the meaning of the Act and (B) completion of the 180-day restricted period referred to in Section 5(k) hereof.

6. *Free Writing Prospectuses*. The Company represents and agrees that, unless it obtains the prior consent of the Representatives, and each Underwriter represents and agrees that, unless it obtains the prior consent of the Company and the Representatives, it has not made and will not make any offer relating to the Offered Securities that would constitute an Issuer Free Writing Prospectus, or that would otherwise constitute a "free writing prospectus," as defined in Rule 405, required to be filed with the Commission. Any such free writing prospectus consented to by the Company and the Representatives is hereinafter referred to as a "**Permitted Free Writing Prospectus**." The Company represents that it has treated and agrees that it will treat each Permitted Free Writing Prospectus as an Issuer Free Writing Prospectus, and has complied and will comply with the requirements of Rules 164 and 433 applicable to any Permitted Free Writing Prospectus, including timely Commission filing where required, legending and record keeping. The Company represents that is has satisfied and agrees that it will satisfy the conditions in Rule 433 to avoid a requirement to file with the Commission any electronic road show.

7. *Conditions of the Obligations of the Underwriters*. The obligations of the several Underwriters to purchase and pay for the Firm Securities on the First Closing Date and the Optional Securities to be purchased on each Optional Closing Date will be subject to the accuracy of the representations and warranties of the Company herein (as though made on such Closing Date), to the accuracy of the statements of Company officers made pursuant to the provisions hereof, to the performance by the Company of its obligations hereunder and to the following additional conditions precedent:

(a) *Accountants' Comfort Letter*. The Representatives shall have received letters, dated, respectively, the date hereof and each Closing Date, of Deloitte & Touche LLP confirming that they are a registered public accounting firm and independent public accountants within the meaning of the Securities Laws and in form and substance reasonably satisfactory to the Representatives; provided that any letter dated a Closing Date shall use a "cut-off date" no more than three days prior to such Closing Date.

(b) *Effectiveness of Registration Statement*. If the Effective Time of the Additional Registration Statement (if any) is not prior to the execution and delivery of this Agreement, such Effective Time shall have occurred not later than 10:00 P.M., New York time, on the date of this Agreement or, if earlier, the time the Final Prospectus is finalized and distributed to any Underwriter, or shall have occurred at such later time as shall have been consented to by the Representatives. The Final Prospectus shall have been filed with the Commission in accordance with the Rules and Regulations and Section 5(a) hereof. Prior to such Closing Date, no stop order suspending the effectiveness of a Registration Statement shall have been issued and no proceedings for that purpose shall have been instituted or, to the knowledge of the Company or the Representatives, shall be contemplated by the Commission.

(c) *No Material Adverse Change*. Subsequent to the execution and delivery of this Agreement, there shall not have occurred (i) any change, or any development or event involving a prospective change, in the condition (financial or otherwise), results of operations, business, properties or prospects of the Company and its subsidiaries taken as a whole which, in the judgment of the Representatives, is material and adverse and makes it impractical or inadvisable to market the Offered Securities; (ii) any downgrading in the rating of any debt securities of the Company by any "nationally recognized statistical rating organization" (as defined in Section 3(a)(62) of the Exchange Act), or any public announcement that any such organization has under surveillance or review its rating of any debt securities of the Company (other than an announcement with positive implications of a possible upgrading, and no implication of a possible downgrading, of such rating); (iii) any change in U.S. or international financial, political or economic conditions or currency exchange rates or exchange controls the effect of which is such as to make it, in the judgment of the Representatives, impractical to market or to enforce contracts for the sale of the Offered Securities, whether in the primary market or in respect of dealings in the secondary market; (iv) any suspension or material limitation of trading in securities generally on the New York Stock Exchange or the NASDAQ Stock Market, or any setting of minimum or maximum prices for trading on such exchange; (v) or any suspension of trading of any securities of the Company on any exchange or in the over-the-counter market; (vi) any banking moratorium declared by any U.S. federal or New York authorities; (vii) any major disruption of settlements of securities, payment, or clearance services in the United States or any other country where such securities are listed or (viii) any attack on, outbreak or escalation of hostilities or act of terrorism involving the United States, any declaration of war by Congress or any other national or international calamity or emergency if, in the judgment of the Representatives, the effect of any such attack, outbreak, escalation, act, declaration, calamity or emergency is such as to make it impractical or inadvisable to market the Offered Securities or to enforce contracts for the sale of the Offered Securities.

(d) *Opinion of Counsel for Company*. The Representatives shall have received an opinion, dated such Closing Date, of Orrick, Herrington & Sutcliffe LLP, counsel for the Company, in form and substance reasonably satisfactory to the Representatives:

(e) *Opinion of Intellectual Property Counsel for Company*. The Representatives shall have received an opinion, dated such Closing Date, of each of Morrison and Foerster LLP and in-house intellectual property counsel for the Company, intellectual property counsel for the Company, in form and substance reasonably satisfactory to the Representatives.

(f) *Opinion of Counsel for Underwriters.* The Representatives shall have received from Cooley LLP, counsel for the Underwriters, such opinion or opinions, dated such Closing Date, with respect to such matters as the Representatives may require, and the Company shall have furnished to such counsel such documents as they request for the purpose of enabling them to pass upon such matters.

(g) *Officer's Certificate*. The Representatives shall have received a certificate, dated such Closing Date, of an executive officer of the Company and a principal financial or accounting officer of the

Company, in each case on behalf of the Company and not in their individual capacity, in which such officers shall state that: the representations and warranties of the Company in this Agreement are true and correct; the Company has complied with all agreements and satisfied all conditions on its part to be performed or

satisfied hereunder at or prior to such Closing Date; no stop order suspending the effectiveness of any Registration Statement has been issued and no proceedings for that purpose have been instituted or, to the best of their knowledge, are contemplated by the Commission; the Additional Registration Statement (if any) satisfying the requirements of subparagraphs (1) and (3) of Rule 462(b) was timely filed pursuant to Rule 462(b), including payment of the applicable filing fee in accordance with Rule 111(a) or (b) of Regulation S-T of the Commission; and, subsequent to the date of the most recent financial statements in the General Disclosure Package, there has been no material adverse change, nor any development or event involving a prospective material adverse change, in the condition (financial or otherwise), results of operations, business, properties or prospects of the Company and its subsidiaries taken as a whole except as set forth in the General Disclosure Package or as described in such certificate.

(h) *Lock-up Agreements*. On or prior to the date hereof, the Representatives shall have received lockup letters in the form of Exhibit B from each of the executive officers and directors and holders of substantially all of the outstanding equity securities of the Company.

(i) *No Objection*. FINRA shall have confirmed that it has not raised any objection with respect to the fairness and reasonableness of the underwriting terms and arrangements relating to the offering of the Offered Securities.

The Company will furnish the Representatives with such conformed copies of such opinions, certificates, letters and documents as the Representatives reasonably request. The Representatives may in their sole discretion waive on behalf of the Underwriters compliance with any conditions to the obligations of the Underwriters hereunder, whether in respect of an Optional Closing Date or otherwise.

8. *Indemnification and Contribution*. (a) *Indemnification of Underwriters*. The Company will indemnify and hold harmless each Underwriter, its partners, members, directors, officers, employees, agents, affiliates and each person, if any, who controls such Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act (each, an "**Indemnified Party**"), against any and all losses, claims, damages or liabilities, joint or several, to which such Indemnified Party may become subject, under the Act, the Exchange Act, other Federal or state statutory law or regulation or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any untrue statement or alleged untrue statement of any material fact contained in any part of any Registration Statement at any time, any Statutory Prospectus as of any time, the Final Prospectus, the General Disclosure Package, any Issuer Free Writing Prospectus or any Testing-the-Waters Writing, or arise out of or are based upon the omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein not misleading, and will reimburse each Indemnified Party for any legal or other expenses reasonably incurred by such Indemnified Party in connection with investigating or defending against any loss, claim, damage, liability, action, litigation, investigation or proceeding whatsoever (whether or not such Indemnified Party is a party thereto), whether threatened or commenced, and in connection with the enforcement of this provision with respect to any of the above as such expenses are incurred; provided, however, that the Company will not be liable in any such case to the extent that any such loss, claim, damage or liability arises out of or is based upon an untrue statement or alleged untrue statement in or omission or alleged omission from any of such documents in reliance upon and in conformity with written information furnished to the Company by any Underwriter specifically for use therein, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in subsection (b) below.

(b) *Indemnification of Company*. Each Underwriter will severally and not jointly indemnify and hold harmless the Company, each of its directors and each of its officers who signs a Registration Statement and each person, if any, who controls the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act (each, an "**Underwriter Indemnified Party**"), against any losses, claims, damages or liabilities to which such Underwriter Indemnified Party may become subject, under the Act, the Exchange Act, other Federal or state statutory law or regulation or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any untrue statement or alleged untrue statement of any material fact contained in any part of any Registration Statement at any time, any

Statutory Prospectus as of any time, the Final Prospectus, any Issuer Free Writing Prospectus or any Testing-the-Waters Writing, or arise out of or are based upon the omission or the alleged omission of a material fact required to be stated therein or necessary to make the statements therein not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in reliance upon and in conformity with written information furnished to the Company by such Underwriter specifically for use therein, and will reimburse any legal or other expenses reasonably incurred by such Underwriter Indemnified Party in connection with investigating or defending against any such loss, claim, damage, liability, action, litigation, investigation or proceeding whatsoever (whether or not such Underwriter Indemnified Party is a party thereto), whether threatened or commenced, based upon any such untrue statement or omission, or any such alleged untrue statement or omission as such expenses are incurred, it being understood and agreed that the only such information furnished by any Underwriter consists of (i) the following information in the Final Prospectus furnished on behalf of each Underwriter: the concession figure appearing in the [fourth] paragraph under the caption "Underwriting" and the information contained in the [seventh] and [fifteenth] paragraphs under the caption "Underwriting."

(c) *Actions against Parties; Notification*. Promptly after receipt by an indemnified party under this Section of notice of the commencement of any action, such indemnified party will, if a claim in respect thereof is to be made against the indemnifying party under subsection (a) or (b) above, notify the indemnifying party of the commencement thereof; but the failure to notify the indemnifying party shall not relieve it from any liability that it may have under subsection (a) or (b) above except to the extent that it has been materially prejudiced (through the forfeiture of substantive rights or defenses) by such failure; and provided further that the failure to notify the indemnifying party shall not relieve it from any liability that it may have to an indemnified party otherwise than under subsection (a) or (b) above. In case any such action is brought against any indemnified party and it notifies the indemnifying party of the commencement thereof, the indemnifying party will be entitled to participate therein and, to the extent that it may wish, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel satisfactory to such indemnified party (who shall not, except with the consent of the indemnified party, be counsel to the indemnifying party), and after notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying party will not be liable to such indemnified party under this Section for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof other than reasonable costs of investigation. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement of any pending or threatened action in respect of which any indemnified party is or could have been a party and indemnity could have been sought hereunder by such indemnified party unless such settlement (i) includes an unconditional release of such indemnified party from all liability on any claims that are the subject matter of such action and (ii) does not include a statement as to, or an admission of, fault, culpability or a failure to act by or on behalf of an indemnified party.

(d) *Contribution*. If the indemnification provided for in this Section is unavailable or insufficient to hold harmless an indemnified party under subsection (a) or (b) above, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of the losses, claims, damages or liabilities referred to in subsection (a) or (b) above (i) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other from the offering of the Securities or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company on the one hand and the Underwriters on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses but after deducting underwriting discounts and commissions) received by the Company bear to the total underwriting discounts and commissions received by the Underwriters. The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact

relates to information supplied by the Company or the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such

untrue statement or omission. The amount paid by an indemnified party as a result of the losses, claims, damages or liabilities referred to in the first sentence of this subsection (d) shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any action or claim which is the subject of this subsection (d). Notwithstanding the provisions of this subsection (d), no Underwriter shall be required to contribute any amount in excess of the amount by which the total underwriting discounts and commissions received by such Underwriter with respect to the offering of the Offered Securities exceeds the amount of any damages which such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations in this subsection (d) to contribute are several in proportion to their respective underwriting obligations and not joint. The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 8(d) were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to in this Section 8(d).

9. *Default of Underwriters*. If any Underwriter or Underwriters default in their obligations to purchase Offered Securities hereunder on either the First or any Optional Closing Date and the aggregate number of shares of Offered Securities that such defaulting Underwriter or Underwriters agreed but failed to purchase does not exceed 10% of the total number of shares of Offered Securities that the Underwriters are obligated to purchase on such Closing Date, the Representatives may make arrangements satisfactory to the Company for the purchase of such Offered Securities by other persons, including any of the Underwriters, but if no such arrangements are made by such Closing Date, the non-defaulting Underwriters shall be obligated severally, in proportion to their respective commitments hereunder, to purchase the Offered Securities that such defaulting Underwriters agreed but failed to purchase on such Closing Date. If any Underwriter or Underwriters so default and the aggregate number of shares of Offered Securities with respect to which such default or defaults occur exceeds 10% of the total number of shares of Offered Securities that the Underwriters are obligated to purchase on such Closing Date and arrangements satisfactory to the Representatives and the Company for the purchase of such Offered Securities by other persons are not made within 36 hours after such default, this Agreement will terminate without liability on the part of any non-defaulting Underwriter or the Company, except as provided in Section 10 (provided that if such default occurs with respect to Optional Securities after the First Closing Date, this Agreement will not terminate as to the Firm Securities or any Optional Securities purchased prior to such termination). As used in this Agreement, the term "Underwriter" includes any person substituted for an Underwriter under this Section. Nothing herein will relieve a defaulting Underwriter from liability for its default.

10. *Survival of Certain Representations and Obligations*. The respective indemnities, agreements, representations, warranties and other statements of the Company or its officers and of the several Underwriters set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any termination of this Agreement or any investigation, or statement as to the results thereof, made by or on behalf of any Underwriter, the Company or any of their respective representatives, officers or directors or any controlling person, and will survive delivery of and payment for the Offered Securities. If the purchase of the Offered Securities by the Underwriters is not consummated for any reason other than solely because of the termination of this Agreement pursuant to Section 9 hereof (provided that any non-defaulting Underwriters will still be reimbursed), the Company will reimburse the Underwriters for all out-of-pocket expenses (including fees and disbursements of counsel) reasonably incurred by them in connection with the offering of the Offered Securities, and the respective obligations of the Company and the Underwriters pursuant to Section 8 hereof shall remain in effect. In addition, if any Offered Securities have been purchased hereunder, the representations and warranties in Section 2 and all obligations under Section 5 shall also remain in effect.

11. *Notices*. All communications hereunder will be in writing and, if sent to the Underwriters, will be mailed, delivered or telegraphed and confirmed to the Representatives, c/o Credit Suisse Securities (USA) LLC, Eleven Madison Avenue, New York, N.Y. 10010-3629, Attention: LCD-IBD and J.P. Morgan Securities LLC, 383 Madison Avenue, New York, New York 10179 (fax: (212) 622-8358); Attention Equity Syndicate Desk, or, if sent to the Company, will be mailed, delivered or telegraphed and confirmed to it at 4222 East Thomas Road, Suite 245,

Phoenix, AZ 85018, Attention: Wendy S. Neal, Esq.; provided, however, that any notice to an Underwriter pursuant to Section 8 will be mailed, delivered or telegraphed and confirmed to such Underwriter.

12. *Successors*. This Agreement will inure to the benefit of and be binding upon the parties hereto and their respective successors and the officers and directors and controlling persons referred to in Section 8, and no other person will have any right or obligation hereunder.

13. *Representation of Underwriters*. The Representatives will act for the several Underwriters in connection with this financing, and any action under this Agreement taken by the Representatives will be binding upon all the Underwriters.

14. *Counterparts*. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all such counterparts shall together constitute one and the same Agreement.

15. *Absence of Fiduciary Relationship*. The Company acknowledges and agrees that:

(a) *No Other Relationship*. The Representatives have been retained solely to act as underwriters in connection with the sale of Offered Securities and that no fiduciary, advisory or agency relationship between the Company and the Representatives has been created in respect of any of the transactions contemplated by this Agreement or the Final Prospectus, irrespective of whether the Representatives have advised or are advising the Company on other matters;

(b) *Arms' Length Negotiations*. The price of the Offered Securities set forth in this Agreement was established by the Company following discussions and arms-length negotiations with the Representatives and the Company is capable of evaluating and understanding and understands and accepts the terms, risks and conditions of the transactions contemplated by this Agreement;

(c) *Absence of Obligation to Disclose*. The Company has been advised that the Representatives and their affiliates are engaged in a broad range of transactions which may involve interests that differ from those of the Company and that the Representatives have no obligation to disclose such interests and transactions to the Company by virtue of any fiduciary, advisory or agency relationship; and

(d) *Waiver*. The Company waives, to the fullest extent permitted by law, any claims it may have against the Representatives for breach of fiduciary duty or alleged breach of fiduciary duty and agrees that the Representatives shall have no liability (whether direct or indirect) to the Company in respect of such a fiduciary duty claim or to any person asserting a fiduciary duty claim on behalf of or in right of the Company, including stockholders, employees or creditors of the Company.

16. ***Applicable Law*. This Agreement and any claim, controversy or dispute arising under or related to this Agreement shall be governed by, and construed in accordance with, the laws of the State of New York.**

The Company hereby submits to the non-exclusive jurisdiction of the Federal and state courts in the Borough of Manhattan in The City of New York in any suit or proceeding arising out of or relating to this Agreement or the transactions contemplated hereby. The Company irrevocably and unconditionally waives any objection to the laying of venue of any suit or proceeding arising out of or relating to this Agreement or the transactions contemplated hereby in Federal and state courts in the Borough of Manhattan in The City of New York and irrevocably and unconditionally waives and agrees not to plead or claim in any such court that any such suit or proceeding in any such court has been brought in an inconvenient forum.

If the foregoing is in accordance with the Representatives' understanding of our agreement, kindly sign and return to the Company one of the counterparts hereof, whereupon it will become a binding agreement among the Company and the several Underwriters in accordance with its terms.

Very truly yours,

ARCADIA BIOSCIENCES, INC.

By _____
Name:
Title:

The foregoing Underwriting Agreement is hereby confirmed and accepted as of the date first above written.

CREDIT SUISSE SECURITIES (USA) LLC

By: _____
Name:
Title:

By J.P. MORGAN SECURITIES LLC

By: _____
Name:
Title:

Acting on behalf of themselves and as the Representatives of the several Underwriters

SCHEDULE A

Underwriter	Number of Firm Securities
Credit Suisse Securities (USA) LLC	
J.P. Morgan Securities LLC	
Piper Jaffray & Co.	
Total	

SCHEDULE B

1. General Use Free Writing Prospectuses (included in the General Disclosure Package)

"General Use Issuer Free Writing Prospectus" includes each of the following documents:

[·]

2. Other Information Included in the General Disclosure Package

The following information is also included in the General Disclosure Package:

1. The initial price per share to the public of the Offered Securities: $[·].

2. Number of Firm Securities: [·].

3. Number of Optional Securities: [·].

Exhibit A

Form of Press Release

Arcadia Biosciences, Inc.
[Date]

Arcadia Biosciences, Inc. (the "Company") announced today that Credit Suisse Securities (USA) LLC and J.P. Morgan Securities LLC, the lead book-running managers in the Company's recent public sale of [·] shares of common stock, is [waiving] [releasing] a lock-up restriction with respect to shares of the Company's common stock held by [certain officers or directors] [an officer or director] of the Company. The [waiver] [release] will take effect on , 20 , and the shares may be sold on or after such date.

This press release is not an offer for sale of the securities in the United States or in any other jurisdiction where such offer is prohibited, and such securities may not be offered or sold in the United States absent registration or an exemption from registration under the United States Securities Act of 1933, as amended.

Exhibit B

Form of Lock-Up Agreement

, 2014

Arcadia Biosciences, Inc.
202 Cousteau Place, Suite 200
Davis, CA 95618

Credit Suisse Securities (USA) LLC
J.P. Morgan Securities LLC
As representatives of the several underwriters

c/o Credit Suisse Securities (USA) LLC
Eleven Madison Avenue
New York, NY 10010-3629

c/o J.P. Morgan Securities LLC
383 Madison Avenue
New York, NY 10179

Dear Sirs:

As an inducement to the several underwriters to execute the Underwriting Agreement (the "**Underwriting Agreement**"), pursuant to which an offering (the "**Public Offering**") will be made that is intended to result in the establishment of a public market for the common stock (the "**Securities**") of Arcadia Biosciences, Inc., an Arizona corporation, and any successor (by merger, reincorporation or otherwise) thereto (the "**Company**"), the undersigned hereby agrees that during the period specified in the following paragraph (the "**Lock-Up Period**"), the undersigned will not offer, sell, contract to sell, pledge or otherwise dispose of, directly or indirectly, any Securities or securities convertible into or exchangeable or exercisable for any Securities (the "**Lock-Up Securities**"), enter into a transaction which would have the same effect, or enter into any swap, hedge or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership of the Securities, whether any such aforementioned transaction is to be settled by delivery of the Securities or such other securities, in cash or otherwise, or publicly disclose the intention to make any such offer, sale, pledge or disposition, or to enter into any such transaction, swap, hedge or other arrangement, without, in each case, the prior written consent of Credit Suisse Securities (USA) LLC ("**Credit Suisse**") and J.P. Morgan Securities LLC ("**J.P. Morgan**"). Any Securities received by the undersigned after the date hereof (including those received upon exercise of options granted to the undersigned) will also be subject to this Lock-Up Agreement. In addition, the undersigned agrees that, without the prior written consent of Credit Suisse and J.P. Morgan, it will not, during the Lock-Up Period, make any demand for or exercise any right with respect to, the registration of any Securities or any security convertible into or exercisable or exchangeable for the Securities.

The Lock-Up Period will commence on the date of this Lock-Up Agreement and continue and include the date that is 180 days after the Public Offering date set forth on the final prospectus used to sell the Securities (the "**Public Offering Date**") pursuant to the Underwriting Agreement, to which you are or expect to become parties.

The restrictions in this Lock-Up Agreement shall not apply to:

(a) the sale of securities pursuant to the terms of the Underwriting Agreement;
(b) transactions relating to Lock-Up Securities acquired in open market transactions after the completion of the Public Offering, *provided* that no filing under the Exchange Act or other public announcement shall be required or shall be voluntarily made in connection with such open market transactions during the Lock-Up Period;

(c) transfers of Lock-Up Securities (i) to the spouse, domestic partner, parent, sibling, child or grandchild (each, an "**immediate family member**") of the undersigned or to a trust formed for the benefit of the undersigned or of an immediate family member of the undersigned, (ii) by a bona fide gift, will or intestacy, (iii) if the undersigned is a corporation, partnership, limited liability company, investment fund or other business entity (A) to another corporation, partnership, limited liability company or other business entity that controls, is controlled by or is under common control with the undersigned, (B) to investment funds under common management with the undersigned or the limited partners, general partners or other principals of such funds or the undersigned or (C) as part of a disposition, transfer or distribution by the undersigned to its equity holders or (iv) if the undersigned is a trust, to a trustor or beneficiary of the trust; *provided* that in the case of any transfer or distribution pursuant to this clause, (i) each donee, transferee or distributee shall sign and deliver a lock-up letter substantially in the form of this agreement and (ii) no filing under the Exchange Act or other public announcement shall be required or shall be voluntarily made during the Lock-Up Period; and *provided further* any transfer pursuant to (i), (iii) and (iv) of this clause shall not involve a disposition for value;

(d) the receipt by the undersigned from the Company of Securities upon the vesting of restricted stock awards or other securities convertible into Securities or upon the exercise of options or warrants in accordance with their terms pursuant to an employee benefit plan, option or warrant disclosed in the final prospectus for the Public Offering, *provided* that (i) any such Securities issued upon such vesting or upon exercise of such option or warrant shall be subject to the restrictions set forth herein and (ii) no filing under the Exchange Act or other public announcement shall be required or shall be voluntarily made during the Lock-Up Period[, except any filing required under the Exchange Act upon the exercise of any vested option that expires in accordance with its terms during the Lock-Up Period, provided that the undersigned shall clearly indicate in the footnotes to the filing that (A) the filing relates to the circumstances described in this clause (d), (B) no Lock-Up Securities were sold by the reporting person, and (C) the Lock-Up Securities received upon exercise of such options are subject to the terms of this Lock-Up Agreement](1);

(e) the transfer of Securities or any securities convertible into Securities to the Company upon a vesting event of restricted stock awards or other securities convertible into Securities or upon the exercise of options or warrants to purchase Securities in accordance with their terms pursuant to an employee benefit plan, option or warrant disclosed in the final prospectus for the Public Offering, in each case on a "cashless" or "net exercise" basis or to cover tax withholding obligations of the undersigned in connection with such vesting or exercise; *provided* that no filing under the Exchange Act or other public announcement shall be required or shall be voluntarily made during the Lock-Up Period;

(f) the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of Securities, *provided* that (i) such plan does not provide for the transfer of Securities during the Lock-Up Period and (ii) no filing under the Exchange Act or other public announcement shall be required or shall be voluntarily made during the Lock-Up Period;

(g) the transfer of Lock-Up Securities pursuant to a qualified domestic order or in connection with a divorce settlement; *provided* that the transferee shall sign and deliver a lock-up letter substantially in the form of this agreement prior to such transfer; *provided, further*, that if the undersigned is required to file a report under the Exchange Act, the undersigned shall include a statement in such report to the effect that such transfer was made pursuant to a qualified domestic order or divorce settlement;

(h) [upon the exercise of any vested option that expires in accordance with its terms during the Lock-Up Period pursuant to an employee benefit plan disclosed in the final prospectus for the Public Offering, transfer, sell or dispose of Lock-Up Securities solely to cover the federal, state and local taxes payable in connection with such exercise; *provided*, that if the undersigned is required to file a report under the Exchange Act, the undersigned shall clearly indicate in the footnotes to the filing that such transfer was made pursuant to the circumstances described in this paragraph (h)](2); or

(i) the transfer of Lock-Up Securities pursuant to a bona fide third party tender offer, merger, consolidation or other similar transaction made to all holders of Securities involving a change in

(1) Only to be included in the lock-ups for persons with expiring options.
(2) Only to be included in the lock-ups for persons with expiring options.

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ownership of a majority of the voting capital stock of the Company after the Public Offering Date that has been approved by the independent members of the Company's board of directors, *provided* that in the event that the tender offer, merger, consolidation or other such transaction is not completed, the Lock-Up Securities owned by the undersigned shall remain subject to the restrictions contained in this Lock-Up Agreement.

In furtherance of the foregoing, the Company and its transfer agent and registrar are hereby authorized to decline to make any transfer of shares of Securities if such transfer would constitute a violation or breach of this Lock-Up Agreement.

If the undersigned is an officer or director of the Company, the undersigned further agrees that the foregoing restrictions in this Lock-Up Agreement shall be equally applicable to any issuer-directed Securities the undersigned may purchase in the above-referenced offering.

If the undersigned is an officer or director of the Company, (i) Credit Suisse and J.P. Morgan agree that, at least three business days before the effective date of any release or waiver of the foregoing restrictions in connection with a transfer of Securities, Credit Suisse and J.P. Morgan will notify the Company of the impending release or waiver, and (ii) the Company has agreed in the Underwriting Agreement to announce the impending release or waiver by press release through a major news service at least two business days before the effective date of the release or waiver. Any release or waiver granted by Credit Suisse and J.P. Morgan hereunder to any such officer or director shall only be effective two business days after the publication date of such press release. The provisions of this paragraph will not apply if (a) the release or waiver is effected solely to permit a transfer not for consideration and (b) the transferee has agreed in writing to be bound by the same terms described in this Lock-Up Agreement to the extent and for the duration that such terms remain in effect at the time of the transfer.

The undersigned hereby represents and warrants that the undersigned has full power and authority to enter into this Lock-Up Agreement. This Lock-Up Agreement is irrevocable and all authority herein conferred or agreed to be conferred shall survive the death or incapacity or dissolution of the undersigned and any obligations of the undersigned shall be binding on the undersigned and the successors, heirs, personal representatives and assigns of the undersigned.

This agreement shall automatically terminate and be of no further force and effect upon the earlier to occur of: (i) the Company advising the Underwriters in writing prior to the execution of the Underwriting Agreement that it does not intend to proceed with the Public Offering; (ii) the termination of the Underwriting Agreement before the closing of the Public Offering; (iii) the registration statement for the Public Offering is withdrawn; or (iv) June 30, 2015, if the Underwriting Agreement has not been executed by that date; provided, however, that Credit Suisse, J.P. Morgan and the Company may, by joint written notice to you prior to such date, extend such date for a period of up to three additional months.

This Lock-Up Agreement shall be governed by, and construed in accordance with, the laws of the State of New York.

Very truly yours,

_____
Name of Security Holder *(Print exact name)*

By: _____
Signature

If not signing in an individual capacity:

_____
Name of Authorized Signatory *(Print)*

Title of Authorized Signatory *(Print*)

(indicate capacity of person signing if signing as custodian, trustee, or on behalf of an entity)

FIRST AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION

OF

ARCADIA BIOSCIENCES, INC.

The undersigned, Eric J. Rey, hereby certifies that:

1. The undersigned is the duly elected and acting President of Arcadia Biosciences, Inc., a Delaware corporation.

2. The Certificate of Incorporation of this corporation was originally filed with the Secretary of State of Delaware on February 17, 2015.

3. The Certificate of Incorporation of this corporation shall be amended and restated to read in full as follows:

ARTICLE I

The name of this corporation is Arcadia Biosciences, Inc. (the "**Corporation**").

ARTICLE II

The address of the Corporation's registered office in the state of Delaware is 1209 Orange Street, Wilmington, New Castle County, Delaware, 19801. The name of its registered agent at such address is The Corporation Trust Company.

ARTICLE III

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the Delaware General Corporation Law.

ARTICLE IV

The Corporation is authorized to issue two classes of stock to be designated, respectively, "**Common Stock**" and "**Preferred Stock**." The total number of shares which the Corporation is authorized to issue is 250,000,000 shares, each with a par value of $0.001 per share. 140,000,000 shares shall be Common Stock and 110,000,000 shares shall be Preferred Stock.

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A. COMMON STOCK

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights, powers and preferences of the holders of the Preferred Stock set forth herein.

2. Voting. With respect to any matter as to which the holders of Common Stock are entitled to vote, the holder of each share of Common Stock shall be entitled to one (1) vote per share on such matter.

3. Dividends. Subject to the provisions of Article IV.B.1, holders of Common Stock shall be entitled to dividends and other distributions of cash, shares of capital stock of the Corporation, other securities of the Corporation or any other company, or any other right or property as may be declared thereon by the Board of Directors of the Corporation (the "**Board**") from time to time out of assets or funds of the Corporation legally available therefor.

4. Liquidation Rights. In the event the Corporation shall be liquidated (either partially or completely), dissolved, or wound up, whether voluntarily or involuntarily, the holders of Common Stock shall be entitled to share ratably in the net assets of the Corporation available to holders of Common Stock, subject to the provisions of Article IV.B.2.

5. Preemption and Subscription Rights. Holders of Common Stock are not entitled to any preemption rights except as granted by the Corporation pursuant to written agreements.

B. PREFERRED STOCK

An aggregate 68,000,000 shares of the authorized Preferred Stock of the Corporation are hereby designated Series A Preferred Stock ("**Series A Preferred Stock**"), 17,000,000 shares of the authorized Preferred Stock of the Corporation are hereby designated Series B Preferred Stock ("**Series B Preferred Stock**"), 9,586,346 shares of the authorized Preferred Stock of the Corporation are hereby designated Series C Preferred Stock ("**Series C Preferred Stock**"), and 10,553,770 shares of the authorized and unissued Preferred Stock of the Corporation are hereby designated Series D Preferred Stock ("**Series D Preferred Stock**", and together with the Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock, the "**Series Preferred Stock**"), with the following rights, preferences, powers, privileges and restrictions, qualifications and limitations. Unless otherwise indicated, references to "Sections" or "Subsections" in this Part B of this Article IV refer to sections and subsections of Part B of this Article IV.

1. Dividends.

1.1 From and after the date of the issuance of any share of Series D Preferred Stock, cumulative dividends on such share of Series D Preferred Stock shall accrue (a) at the rate of fifteen percent (15%) *per annum* on the sum of the Series D Original Issue Price (as defined below) plus all unpaid accrued and accumulated dividends thereon, until the five (5) year anniversary of such date of issuance, and (b) at the rate of twenty percent (20%) *per annum* on the sum of the Series D Original Issue Price plus all unpaid accrued and accumulated dividends thereon, from and after the five (5) year anniversary of such date of issuance. All accrued

dividends on any share of Series D Preferred Stock shall be paid in cash only when, as and if declared by the Board out of funds legally available therefor or upon a Liquidation Event (as defined below), Deemed Liquidation Event (as defined below), conversion or redemption of the Series D Preferred Stock in accordance with the provisions of this Certificate of Incorporation; provided that, to the extent not paid on each anniversary of its issuance date (each such date, a "**Dividend Payment Date**"), all accrued dividends on any share of Series D Preferred Stock shall accumulate and compound on the applicable Dividend Payment Date and shall remain accumulated, compounding dividends at the rates set forth above until paid pursuant to this Certificate of Incorporation. The dividends so accruing are referred to herein as the "**Accruing Dividends**". Accruing Dividends shall accrue from day to day, whether or not declared by the Board and whether or not there are funds legally available for the payment of dividends. The Corporation shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation, other than dividends on shares of Common Stock payable in shares of Common Stock, unless (in addition to the obtaining of any consents required elsewhere in this Certificate of Incorporation) the holders of the Series D Preferred Stock then outstanding shall first receive, or simultaneously receive, a dividend on each outstanding share of Series D Preferred Stock in an amount equal to the amount of the aggregate Accruing Dividends then accrued on such share of Series D Preferred Stock and not previously paid.

1.2 The Corporation shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation, other than dividends on shares of Common Stock payable in shares of Common Stock, unless, in addition to complying with Subsection 1.1 and obtaining any consents required elsewhere in this Certificate of Incorporation, the Corporation shall first (or concurrently) declare and pay the holders of all Series Preferred Stock then outstanding (including, for avoidance of doubt, the Series D Preferred Stock) a dividend on each outstanding share of Series Preferred Stock in an amount at least equal to (i) in the case of a dividend on Common Stock or any class or series that is convertible into Common Stock, that dividend per share of Series Preferred Stock as would equal the product of (A) the dividend payable on each share of such class or series determined, if applicable, as if all shares of each such class or series had been converted into Common Stock and (B) the number of shares of Common Stock issuable upon conversion of a share of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, or Series D Preferred Stock, as the case may be, in each case calculated on the record date for determination of holders entitled to receive such dividend or (ii) in the case of a dividend on any class or series that is not convertible into Common Stock, at a rate per share of Series Preferred Stock determined by (A) dividing the amount of the dividend payable on each share of each such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (B) multiplying such fraction by an amount equal to the Series A Original Issue Price, Series B Original Issue Price, Series C Original Issue Price, or Series D Original Issue Price (as such terms are defined below), as applicable; provided that, if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Corporation, the dividend payable to the holders of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, and Series D Preferred Stock pursuant to this Section 1 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock or Series D Preferred Stock

dividend, as applicable. The "**Series A Original Issue Price**" shall mean US$0.90 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Preferred Stock. The "**Series B Original Issue Price**" shall mean US$0.90 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series B Preferred Stock. The "**Series C Original Issue Price**" shall mean US$1.07 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series C Preferred Stock. The "**Series D Original Issue Price**" shall mean US$3.3637 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series D Preferred Stock.

2. Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations, Public Offerings and Asset Sales.

2.1 Payments to Holders of Series D Preferred Stock. In the event of any (i) voluntary or involuntary liquidation, dissolution or winding up of the Corporation (each a "**Liquidation Event**"), (ii) Deemed Liquidation Event, or (iii) IPO (other than a Qualified IPO), the holders of shares of Series D Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders, before any payment shall be made to the holders of Series C Preferred Stock, Series B Preferred Stock, Series A Preferred Stock or Common Stock by reason of their ownership thereof, an amount per share equal to (x) the Series D Original Issue Price, plus (y) the aggregate accrued but unpaid Accruing Dividends in respect of each such share, plus (z) any other dividends declared but unpaid thereon. If upon any such Liquidation Event or Deemed Liquidation Event or IPO (other than a Qualified IPO), the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series D Preferred Stock then outstanding the full amount to which they shall be entitled under this Subsection 2.1, the holders of shares of Series D Preferred Stock then outstanding shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts that would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

2.2 Payments to Holders of Series Preferred Stock.

(a) In the event of any (i) Liquidation Event, (ii) Deemed Liquidation Event, or (iii) IPO (other than a Qualified IPO), after payment in full to the holders of Series D Preferred Stock of the amounts due pursuant to Subsection 2.1, the holders of shares of the Series D Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders, before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (x) the Series D Original Issue Price or (y) such amount per share as would have been payable under Section 2.3 below, had all shares of such Series D Preferred Stock then outstanding been converted into Common Stock pursuant to Section 4 immediately prior to such Liquidation Event or Deemed Liquidation Event or IPO (other than a Qualified IPO);

(b) In the event of any Liquidation Event or Deemed Liquidation Event, after payment in full to the holders of Series D Preferred Stock of the amounts due pursuant to Subsection 2.1, the holders of shares of the Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders, before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (x) with respect to (A) the holder(s) of the Series A Preferred Stock, US$1.00, (B) the holder(s) of the Series B Preferred Stock, US$1.00, and (C) the holder(s) of the Series C Preferred stock, US$1.00, with each such price subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such series of stock, or (y) with respect to each of the Series A Preferred Stock, the Series B Preferred Stock and the Series C Preferred Stock, such amount per share as would have been payable under Section 2.3 below, had all shares of such Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock then outstanding been converted into Common Stock pursuant to Section 4 immediately prior to such Liquidation Event or Deemed Liquidation Event;

(c) Provided, however, notwithstanding the foregoing, if upon any such Liquidation Event or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of any series of Series Preferred Stock then outstanding the full amount to which they shall be entitled under clause (a)(x) above with respect to the Series D Preferred Stock and under clause (b)(x) above with

respect to the Series A Preferred Stock, the Series B Preferred Stock and the Series C Preferred Stock, the holders of all shares of Series Preferred Stock then outstanding shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts that would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full pursuant to clause (a)(x) above and clause (b)(x) above; for avoidance of doubt, upon an IPO (other than a Qualified IPO), amounts shall be payable only to holders of Series D Preferred Stock;

(d) For avoidance of doubt, the holders of shares of Series D Preferred Stock then outstanding shall not receive additional amounts under clause (a)(y) above (i.e., amounts that are greater than the amount to which such holders shall be entitled under clause (a)(x) above) unless and until the holders of shares of Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock shall receive all amounts to which they shall be entitled under clause (b)(x) above, and similarly the holders of shares of Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock then outstanding shall not receive additional amounts under clause (b)(y) above (i.e., amounts that are greater than the amount to which such holders shall be entitled under clause (b)(x) above) unless and until the holders of shares of Series D Preferred Stock shall receive all amounts to which they shall be entitled under clause (a)(x) above; and

(e) For avoidance of doubt, if the adjustments provided for in Subsection 4.9 would apply as a result of the Liquidation Event or Deemed Liquidation Event giving rise to payment hereunder, the computation of the number of shares of Common Stock into which the Series D Preferred Stock would be so convertible shall give effect to those

adjustments, unless waived by the holders of at least a majority of the outstanding shares of Series D Preferred Stock.

2.3 Payments to Holders of Common Stock and Series Preferred Stock. In the event of any Liquidation Event or Deemed Liquidation Event, after the payment of all preferential amounts required to be paid pursuant to Subsections 2.1 and 2.2, any remaining assets of the Corporation available for distribution to its stockholders shall be distributed among the holders of shares of Common Stock, *pro rata* based on the number of shares held by each such holder.

2.4 Deemed Liquidation Events.

2.4.1 Definition.

(a) Each of the following events shall be considered a "**Deemed Liquidation Event**" unless the holders of at least a majority of the outstanding shares of Series D Preferred Stock (voting together as a single class) elect otherwise by written notice sent to the Corporation: (i) a merger, share exchange, consolidation, corporate reorganization or business combination of the Corporation or any subsidiary of the Corporation with or into another person or entity (a "**Merger Transaction**"); (ii) the sale, lease, exclusive license or other disposition by the Corporation or any subsidiaries of the Corporation of all or substantially all of the Corporation's assets to another entity, in a single transaction or series of transactions; or (iii) a transaction or series of transactions in which a Person (as defined below), or a Person and one or more of such Person's Affiliates (as defined below), acquires from the Corporation or its stockholders, shares (of any class) representing more than fifty percent (50%) of the outstanding voting power, on an as converted basis (a "**Change in Control Transaction**"). Notwithstanding any provision herein to the contrary, a merger, share exchange, consolidation, corporate reorganization or business combination within the meaning of clause (i) shall not be a Merger Transaction or a Deemed Liquidation Event if the stockholders of the Corporation immediately before such transaction own in the aggregate at least a majority of the Corporation's voting power after the transaction.

(b) "**Affiliate**" means, with respect to any specified individual, corporation, partnership, trust, limited liability company, association or other entity (each, a "**Person**"), any other Person who, directly or indirectly, controls, is controlled by or is under common control with such Person, including without limitation any general partner, managing member, officer or director of such Person or any venture capital fund now or hereafter existing that is controlled by or under common control with one or more general partners or managing members of, or shares the same management company with, such Person.

2.4.2 Effecting a Deemed Liquidation Event or Public Offering.

(a) The Corporation shall not effect a Deemed Liquidation Event or an IPO (other than a Qualified IPO), unless the documents for such transaction provide that the consideration payable to the stockholders of the Corporation shall be allocated among the holders of capital stock of the Corporation in accordance with Section 2.

(b) In the event of a Deemed Liquidation Event referred to in Subsection 2.4.1(a)(ii), the Corporation shall, within sixty (60) days after such Deemed Liquidation Event, either (1) dissolve in accordance with the Delaware General Corporation Law or (2) distribute all of the proceeds received in the Deemed Liquidation Event (less only such amounts as are to be paid or set aside for creditors of the Corporation) to the stockholders of the Corporation as though the Corporation had liquidated in accordance with Section 2.

2.4.3 Amount Deemed Paid or Distributed. The amount deemed paid or distributed to the holders of capital stock of the Corporation upon any Deemed Liquidation Event shall be the cash or the value of the property, rights or securities paid or distributed to such holders by the Corporation or the acquiring person, firm or other entity. The value of such property, rights or securities shall be determined in good faith by the Board.

2.4.4 Allocation of Escrow; Contingent Payments. In the event of a Deemed Liquidation Event, if any portion of the consideration payable to the Corporation and/or the stockholders of the Corporation is placed into escrow and/or is payable to the Corporation and/or the stockholders of the Corporation subject to contingencies, the transaction agreement(s) effecting the Deemed Liquidation Event (or, for a Deemed Liquidation Event referred to in Subsection 2.4.1(a)(ii), the documents effectuating the dissolution of the Corporation and distribution of proceeds) shall provide that (a) the portion of such consideration that is not placed in escrow and not subject to any contingencies (the "**Initial Consideration**") shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1 through 2.3 as if the Initial Consideration were the only consideration payable in connection with such Deemed Liquidation Event and (b) any additional consideration which becomes payable to the stockholders of the Corporation upon release from escrow or satisfaction of contingencies shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1 through 2.3 after taking into account the previous payment of the Initial Consideration as part of the same transaction.

3. Voting.

3.1 General. On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of Series Preferred Stock shall be entitled to cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Series Preferred Stock held by such holder are convertible as of the record date for

determining stockholders entitled to vote on such matter. Except as provided by law or by the other provisions of this Certificate of Incorporation, holders of Series Preferred Stock shall vote together with the holders of Common Stock as a single class.

3.2 Series D Preferred Stock Protective Provisions. At any time when at least 4,459,451 shares of Series D Preferred Stock are outstanding (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series D Preferred Stock), the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or this Certificate of Incorporation) the written consent or

affirmative vote of the holders at least a majority of the then outstanding shares of Series D Preferred Stock, voting as a single class, given in writing or by vote at a meeting:

(a) increase or decrease (other than by redemption or conversion) the total number of authorized shares of Series D Preferred Stock;

(b) create, or authorize the creation of, or issue or obligate itself to issue shares of, any additional class or series of capital stock unless the same ranks junior to the Series D Preferred Stock with respect to the distribution of assets on a Liquidation Event or a Deemed Liquidation Event, rights of redemption and the payment of dividends;

(c) reclassify, alter or amend any existing security of the Corporation that is junior to or *pari passu* with the Series D Preferred Stock in respect of the distribution of assets on a Liquidation Event or a Deemed Liquidation Event, or the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or *pari passu* with (in the case of a junior security) the Series D Preferred Stock in respect of any such right, preference or privilege;

(d) incur any indebtedness for money borrowed in excess of the committed indebtedness outstanding on the "Series D Original Issue Date" (as defined below) plus up to US$20,000,000 of additional "Qualified Indebtedness" (as defined below);

(e) purchase or redeem (or permit any subsidiary to purchase or redeem) or pay or declare any dividend or make any distribution on, any shares of capital stock of the Corporation other than: (i) dividends or other distributions payable on the Common Stock solely in the form of additional shares of Common Stock; (ii) repurchases by the Corporation under compensatory arrangements with former employees, officers, directors, consultants or other persons who performed services for the Corporation or for any of its subsidiaries on terms approved by the Board or a duly authorized committee thereof; or

(f) alter or amend the powers, preferences or rights of the Series D Preferred Stock.

For purposes hereof, "**Qualified Indebtedness**" means indebtedness for money borrowed on commercially reasonable terms either from a party that is not presently a stockholder of the Corporation or that is negotiated on a good faith, arms'-length basis with a stockholder of the Corporation. Qualified Indebtedness shall not include any indebtedness that provides for a premium on repayment or prepayment (i.e., beyond a commercially reasonable interest rate) or that is issued in tandem with any equity securities (or Options or Convertible Securities (as defined below) therefor) unless the same would be junior in right of payment, dividend rights and redemption rights to the Series D Preferred Stock.

3.3 Other Series Preferred Stock Protective Provisions.

(a) So long as any shares of Series A Preferred Stock are outstanding, the Corporation shall not without first obtaining the approval (by vote or written consent, as provided by law) of the holders of at least a majority of the then outstanding shares of Series A Preferred Stock, voting as a separate class:

(i) alter or change, whether by merger, consolidation or otherwise, the rights, preferences or privileges of the shares of Series A Preferred Stock so as to affect adversely such shares of Series A Preferred Stock;

(ii) increase or decrease (other than by redemption or conversion) the total number of authorized shares of Series A Preferred Stock; or

(iii) authorize or issue, or obligate itself to issue, any equity security (other than Series A Preferred Stock), including any other security convertible into or exercisable for any equity security, having a preference over, or being on parity with, the Series A Preferred Stock with respect to dividends or liquidation.

(b) So long as any shares of Series B Preferred Stock are outstanding, the Corporation shall not without first obtaining the approval (by vote or written consent, as provided by law) of the holders of at least a majority of the then outstanding shares of Series B Preferred Stock, voting as a separate class:

(i) alter or change, whether by merger, consolidation or otherwise, the rights, preferences or privileges of the shares of Series B Preferred Stock so as to affect adversely such shares of Series B Preferred Stock;

(ii) increase or decrease (other than by redemption or conversion) the total number of authorized shares of Series B Preferred Stock; or

(iii) authorize or issue, or obligate itself to issue, any equity security (other than Series B Preferred Stock), including any other security convertible into or exercisable for any equity security, having a preference over, or being on parity with, the Series B Preferred Stock with respect to dividends or liquidation.

(c) So long as any shares of Series C Preferred Stock are outstanding, the Corporation shall not without first obtaining the approval (by vote or written consent, as provided by law) of the holders of at least a majority of the then outstanding shares of Series C Preferred Stock, voting as a separate class:

(i) alter or change, whether by merger, consolidation or otherwise, the rights, preferences or privileges of the shares of Series C Preferred Stock so as to affect adversely such shares of Series C Preferred Stock;

(ii) increase or decrease (other than by redemption or conversion) the total number of authorized shares of Series C Preferred Stock; or

(iii) authorize or issue, or obligate itself to issue, any equity security (other than Series C Preferred Stock), including any other security convertible into or exercisable for any equity security, having a preference over, or being on parity with, the Series C Preferred Stock with respect to dividends or liquidation.

4. Optional Conversion. The holders of the Series Preferred Stock shall have conversion rights as follows (the "**Conversion Rights**"):

4.1 Right to Convert.

4.1.1 Conversion Ratios. Each share of Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into one (1) fully paid and nonassessable share of Common Stock. Each share of Series D Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Series D Original Issue Price by the Series D Conversion Price (as defined below) in effect at the time of conversion. The **"Series D Conversion Price"** shall initially be equal to the Series D Original Issue Price and shall be subject to adjustment as provided below.

4.1.2 Termination of Conversion Rights. In the event of a notice of redemption of any shares of Series D Preferred Stock pursuant to Section 6, the Conversion Rights of the shares designated for redemption shall terminate at the close of business on the last full day preceding the date fixed for redemption, unless the redemption price is not fully paid on such redemption date, in which case the Conversion Rights for such shares shall continue until such price is paid in full. In the event of a Liquidation Event or a Merger Transaction, the Conversion Rights shall terminate at the close of business on the last full day preceding the record date fixed for the payment of any such amounts distributable on such event to the holders of Series Preferred Stock.

4.2 Fractional Shares. No fractional shares of Common Stock shall be issued upon any conversion of Series Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock as determined in good faith by the Board. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Series Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

4.3 Mechanics of Conversion.

4.3.1 Notice of Conversion. In order for a holder of Series Preferred Stock to voluntarily convert shares of Series Preferred Stock into shares of Common Stock, such holder shall surrender the certificate or certificates for such shares of Series Preferred Stock (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the office of the transfer agent for the Series Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent), together with written notice that such holder elects to convert all or any

number of the shares of the Series Preferred Stock represented by such certificate or certificates and, if applicable, any event on which such conversion is contingent. Such notice shall state such holder's name or the names of the nominees in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. If required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his, her or its attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of such certificates (or lost certificate affidavit and agreement) and notice shall be the time of conversion (the "**Conversion Time**"), and the shares of Common Stock issuable upon conversion of the shares represented by such certificate shall be deemed to be outstanding of record as of such date. The Corporation shall, as soon as practicable after the Conversion Time, (i) issue and deliver to such holder of Series Preferred Stock, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable upon such conversion in accordance with the provisions hereof and a certificate for the number (if any) of the shares of Series Preferred Stock represented by the surrendered certificate that were not converted into Common Stock, (ii) pay in cash such amount as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and (iii) pay any declared but unpaid dividends on the shares of Series Preferred Stock converted and any accrued but unpaid Accruing Dividends on the Series D Preferred Stock through the Conversion Time.

4.3.2 Reservation of Shares. The Corporation shall at all times when the Series Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued capital stock, for the purpose of effecting the conversion of the Series Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding Series Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to this Certificate of Incorporation.

4.3.3 Effect of Conversion. All shares of Series Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares shall immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor, to receive payment in lieu of any fraction of a share otherwise issuable upon such conversion as provided in Subsection 4.2 and to receive payment of any dividends declared but unpaid thereon and any accrued but unpaid Accruing Dividends on the Series D Preferred Stock through the Conversion Time. Any shares of Series Preferred Stock so converted shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock or Series D Preferred Stock, as the case may be, accordingly.

4.3.4 No Further Adjustment. Upon any conversion of any Series Preferred Stock, no adjustment to the Series D Conversion Price shall be made for any declared but unpaid dividends on the Series Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

4.3.5 Taxes. The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Series Preferred Stock pursuant to this Section 4. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Series Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

4.4 Adjustments to Series D Conversion Price for Diluting Issues.

4.4.1 Special Definitions. For purposes of this Article IV, the following definitions shall apply:

(a) "**Additional Shares of Common Stock**" shall mean all shares of Common Stock issued (or, pursuant to Subsection 4.4.3 below, deemed to be issued) by the Corporation after the Series D Original Issue Date, other than the following ("**Exempted Securities**"):

(i) shares of Common Stock, Options (as defined below) or Convertible Securities (as defined below) issued as a dividend or distribution on Series Preferred Stock;

(ii) shares of Common Stock, Options or Convertible Securities issued by reason of a dividend, stock split, split-up or other distribution on shares of Common Stock that is covered by Subsections 4.5, 4.6, 4.7, 4.8, or 4.9;

(iii) Options to purchase up to a total of 2,417,446 shares of Common Stock (and the Common Stock issuable pursuant thereto) that have been authorized prior to the Series D Original Issue Date by the Board for issuance to employees or directors of, or consultants or advisors to, the Corporation or any of its subsidiaries;

(iv) shares of Common Stock or Options therefor, issued to employees or directors of, or consultants or advisors to, the Corporation or any of its subsidiaries pursuant to a plan, agreement or arrangement approved by the Board, including any designee of Mandala Agribusiness Co-Investments I Limited (or its successors-in-interest) pursuant to that certain Voting Agreement dated on or about March 24, 2014 among the parties thereto, as amended from time to time in accordance with its terms (so long as such entity is entitled to designate a director under such agreement);

(v) shares of Common Stock or Convertible Securities actually issued upon the exercise of Options, or shares of Common Stock actually issued upon the conversion or exchange of Convertible Securities (including the Series Preferred Stock), in each case provided such issuance is pursuant to the terms of such Option or Convertible Security; or

(vi) shares of Common Stock, Options or Convertible Securities issued to banks, equipment lessors or other financial institutions or other lenders or to real property lessors, pursuant to a debt financing, equipment leasing or real property leasing transactions approved by the Board and the principal purpose of which is not to raise proceeds from an equity financing, and so long as such bank, equipment lessor, financial institution, lender or real property lessor is not an Affiliate of (A) the Corporation, (B) any member of the Board or (C) any holder of the Series Preferred Stock or Common Stock of the Corporation;

(vii) shares of Common Stock, Options or Convertible Securities issued to customers, vendors, joint ventures and similar commercial persons in connection with commercial transactions approved by the Board, including any designee of Mandala Agribusiness Co-Investments I Limited (or its successors-in-interest) pursuant to that certain Voting Agreement dated on or about March 24, 2014 among the parties thereto, as amended from time to time in accordance with its terms (so long as such entity is entitled to designate a director under such agreement), and the principal purpose of which is not to raise proceeds from an equity financing; and

(viii) shares of Common Stock, Options or Convertible Securities issued as acquisition consideration in the acquisition of the stock or assets of another business entity by the Corporation, provided that such transaction is approved by the Board and that no seller of such assets or stock is an Affiliate of (A) the Corporation, (B) any member of the Board or (C) any holder of the Series Preferred Stock or Common Stock of the Corporation.

(b) "**Convertible Securities**" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options.

(c) "**Options**" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(d) **"Series D Original Issue Date**" shall mean the date on which the first share of Series D Preferred Stock was issued.

4.4.2 No Adjustment of Conversion Prices. No adjustment in any Series D Conversion Price shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the holders of at least a majority of the then outstanding shares of Series D Preferred Stock (voting together as a single

class on an as-converted basis) agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock.

4.4.3 Deemed Issue of Additional Shares of Common Stock.

(a) If the Corporation at any time or from time to time after the Series D Original Issue Date shall issue any Options or Convertible Securities (excluding Options or Convertible Securities which are themselves Exempted Securities) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto, assuming the satisfaction of any conditions to exercisability, convertibility or exchangeability but without regard to any provision contained therein for a

subsequent adjustment of such number) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date.

(b) If the terms of any Option or Convertible Security, the issuance of which resulted in an adjustment to the Series D Conversion Price pursuant to the terms of Subsection 4.4.4, are revised as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any such Option or Convertible Security or (2) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion and/or exchange, then, effective upon such increase or decrease becoming effective, the Series D Conversion Price computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a record date with respect thereto) shall be readjusted to the Series D Conversion Price as would have obtained had such revised terms been in effect upon the original date of issuance of such Option or Convertible Security. Notwithstanding the foregoing, no readjustment pursuant to this Subsection 4.4.3(b) shall have the effect of increasing such Series D Conversion Price to an amount which exceeds the lower of (i) the Series D Conversion Price in effect immediately prior to the original adjustment made as a result of the issuance of such Option or Convertible Security and (ii) the Series D Conversion Price that would have resulted from any issuances of Additional Shares of Common Stock (other than deemed issuances of Additional Shares of Common Stock as a result of the issuance of such Option or Convertible Security) between the original adjustment date and such readjustment date.

(c) If the terms of any Option or Convertible Security (excluding Options or Convertible Securities which are themselves Exempted Securities), the issuance of which did not result in an adjustment to the Series D Conversion Price pursuant to the terms of Subsection 4.4.4 (either because the consideration per share (determined pursuant to Subsection 4.4.5) of the Additional Shares of Common Stock subject thereto was equal to or greater than the Series D Conversion Price then in effect, or because such Option or Convertible Security was issued before the Series D Original Issue Date), are revised after the Series D Original Issue Date

as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (2) any decrease in the consideration payable to the Corporation upon such exercise, conversion or exchange, then such Option or Convertible Security, as so amended or adjusted, and the Additional Shares of Common Stock subject thereto (determined in the manner provided in Subsection 4.4.3(a)) shall be deemed to have been issued effective upon such increase or decrease becoming effective.

(d) Upon the expiration or termination of any unexercised Option or unconverted or unexchanged Convertible Security (or portion thereof) which resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to the Series D Conversion Price pursuant to the terms of Subsection 4.4.4, the Series D Conversion Price shall be readjusted to such Series D Conversion Price as would have obtained had such Option or Convertible Security (or portion thereof) never been issued.

(e) If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, is calculable at the time such Option or Convertible Security is issued or amended but is subject to adjustment based upon subsequent events, any adjustment to the Series D Conversion Price provided for in this Subsection 4.4 shall be effected at the time of such issuance or amendment based on such number of shares or amount of consideration without regard to any provisions for subsequent adjustments (and any subsequent adjustments shall be treated as provided in clauses (b) and (c) of this Subsection 4.4.3). If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, cannot be calculated at all at the time such Option or Convertible Security is issued or amended, any adjustment to the Series D Conversion Price that would result under the terms of this Subsection 4.4.3 at the time of such issuance or amendment shall instead be effected at the time such number of shares and/or amount of consideration is first calculable (even if subject to subsequent adjustments), assuming for purposes of calculating such adjustment to the Series D Conversion Price that such issuance or amendment took place at the time such calculation can first be made.

4.4.4 Adjustment of Conversion Prices Upon Issuance of Additional Shares of Common Stock. In the event the Corporation shall at any time after the Series D Original Issue Date, issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Subsection 4.4.3), without consideration or for a consideration per share less than the applicable Series D Conversion Price in effect immediately prior to such issue, the Series D Conversion Price then in effect shall be recalculated according to the following formula, unless waived by the holders of at least a majority of the outstanding shares of Series D Preferred Stock:

New Series D Conversion Price = (A-B) / (C-D),

Where A equals the pre-money equity value of the Corporation immediately before the issuance of Additional Shares of Common Stock;

Where B equals the Series D Original Issue Price multiplied by the number of shares of Series D Preferred Stock then outstanding;

Where C equals the total number of shares of Common Stock outstanding immediately before the issuance of Additional Shares of Common Stock, on a fully diluted basis assuming the conversion of all Convertible Securities into Common Stock and the exercise of all Options; and

Where D equals the total number of shares of Common Stock into which the then outstanding shares of Series D Preferred Stock would convert based on the Series D Conversion Price then in effect;

provided that if such issuance or deemed issuance was without consideration, then the Corporation shall be deemed to have received an aggregate of US$.0001 of consideration for all such Additional Shares of Common Stock issued or deemed to be issued, and further provided that no such recalculation of the Series D Conversion Price shall cause the Series D Conversion Price to be greater than the Series D Conversion Price then in effect.

4.4.5 Determination of Consideration. For purposes of this Subsection 4.4, the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(a) Cash and Property: Such consideration shall:

(i) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Corporation, excluding amounts paid or payable for accrued interest;

(ii) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board; and

(iii) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (i) and (ii) above, as determined in good faith by the Board.

(b) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Subsection 4.4.3, relating to Options and Convertible Securities, shall be determined by dividing

(i) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the

minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(ii) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities.

4.4.6 Multiple Closing Dates. In the event the Corporation shall issue on more than one date Additional Shares of Common Stock that are a part of one transaction or a series of related transactions and that would result in an adjustment to the Series D Conversion Price pursuant to the terms of Subsection 4.4.4, and such issuance dates occur within a period of no more than ninety (90) days from the first such issuance to the final such issuance, then, upon the final such issuance, the Series D Conversion Price shall be readjusted to give effect to all such issuances as if they occurred on the date of the first such issuance (and without giving effect to any additional adjustments as a result of any such subsequent issuances within such period).

4.5 Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the Series D Original Issue Date effect a subdivision of the outstanding Common Stock, the Series D Conversion Price in effect immediately before that subdivision shall be proportionately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation shall at any time or from time to time after the Series D Original Issue Date combine the outstanding shares of Common Stock, the Series D Conversion Price in effect immediately before the combination shall be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this subsection shall become effective at the close of business on the date the subdivision or combination becomes effective.

4.6 Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series D Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable on the Common Stock in additional shares of Common Stock, then and in each such event the Series D Conversion Price in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, in accordance with the provisions of Subsection 4.4.4.

Notwithstanding the foregoing, (a) if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Series D Conversion Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Series D Conversion Price shall be adjusted pursuant to this subsection as of the time of actual payment of such dividends or distributions; and (b) no such adjustment shall be made if the holders of the Series D Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of Series D Preferred Stock had been converted into Common Stock on the date of such event.

4.7 Adjustment for Other Dividends or Distributions. In the event the Corporation at any time or from time to time after the Series D Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock) or in other property and the provisions of Section 1 do not apply to such dividend or distribution, then and in each such event the holders of Series D Preferred Stock shall receive, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution of such securities or other property in an amount equal to the amount of such securities or other property as they would have received if all outstanding shares of Series D Preferred Stock had been converted into Common Stock on the date of such event.

4.8 Adjustment for Merger or Reorganization, etc. Subject to the provisions of Subsection 2.4, if there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Corporation in which the Common Stock (but not the Series D Preferred Stock) is converted into or exchanged for securities, cash or other property (other than a transaction covered by Subsections 4.4, 4.6 or 4.7), then, following any such reorganization, recapitalization, reclassification, consolidation or merger, each share of Series D Preferred Stock shall thereafter be convertible in lieu of the Common Stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of Common Stock of the Corporation issuable upon conversion of one share of such Series D Preferred Stock immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board) shall be made in the application of the provisions in this Section 4 with respect to the rights and interests thereafter of the holders of the Series D Preferred Stock to the end that the provisions set forth in this Section 4 (including provisions with respect to changes in and other adjustments of the Series D Conversion Price) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of the Series D Preferred Stock. For the avoidance of doubt, nothing in this Subsection 4.8 shall be construed as preventing the holders of Series D Preferred Stock from seeking any appraisal or dissenters' rights to which they are otherwise entitled under applicable law in connection with a merger triggering an adjustment hereunder, nor shall this Subsection 4.8 be deemed conclusive evidence of the fair value of the shares of Series D Preferred Stock in any such appraisal or dissenters' rights proceeding.

4.9 Special Adjustment for Series D Preferred Stock. In addition to the foregoing provisions, in the event of a Liquidation Event or a Deemed Liquidation Event or a Qualified IPO in which the proceeds available for distribution to stockholders (in the case of a Liquidation Event or a Deemed Liquidation Event) or the pre-money equity value of the Corporation (in the case of a Qualified IPO) is less than US$400,000,000, then the Series D Conversion Price then in effect shall be recalculated according to the following formula, unless waived by the holders of at least a majority of the outstanding shares of Series D Preferred Stock:

New Series D Conversion Price = (A - (2 * B) - C) / (D - E),

Where A equals the pre-money equity value of the Corporation immediately before the Liquidation Event, Deemed Liquidation Event or Qualified IPO;

Where B equals the Series D Original Issue Price multiplied by the number of shares of Series D Preferred Stock then outstanding;

Where C equals the aggregate accrued but unpaid Accruing Dividends on all such shares of Series D Preferred Stock through the date of such calculation;

Where D equals the total number of shares of Common Stock outstanding immediately before the Liquidation Event, Deemed Liquidation Event or Qualified IPO, on a fully diluted basis assuming the conversion of all Convertible Securities into Common Stock and the exercise of all Options; and

Where E equals the total number of shares of Common Stock into which the then outstanding shares of Series D Preferred Stock would convert based on the Series D Conversion Price then in effect.

Such adjustment shall be effective as of immediately prior to the Liquidation Event, Deemed Liquidation Event or Qualified IPO, as the case may be. For the avoidance of doubt, no such recalculation of the Series D Conversion Price shall cause the Series D Conversion Price to be greater than the Series D Conversion Price then in effect.

4.10 Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Series D Conversion Price pursuant to this Section 4, the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than ten (10) days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Series D Preferred Stock a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which the Series Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of Series D Preferred Stock (but in any event not later than ten (10) days thereafter), furnish or cause to be furnished to such holder a certificate setting forth (i) the Series D Conversion Price then in effect, and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of such Series D Preferred Stock.

4.11 Notice of Record Date. In the event:

(a) the Corporation shall take a record of the holders of its Common Stock (or other capital stock or securities at the time issuable upon conversion of the Series Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of capital stock of any class or any other securities, or to receive any other security; or

(b) of any capital reorganization of the Corporation, any reclassification of the Common Stock of the Corporation, any Deemed Liquidation Event or any IPO (other than a Qualified IPO); or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Corporation,

then, and in each such case, the Corporation will send or cause to be sent to the holders of the Series Preferred Stock a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation, winding-up or public offering is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other capital stock or securities at the time issuable upon the conversion of the Series Preferred Stock) shall be entitled to exchange their shares of Common Stock (or such other capital stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation, winding-up or public offering, and the amount per share and character of such exchange applicable to the Series Preferred Stock and the Common Stock. Such notice shall be sent at least ten (10) days prior to the record date or effective date for the event specified in such notice, unless holders of at least a majority of the then outstanding shares of Series Preferred Stock (voting as a single class on an as-converted basis) agree in writing to a shorter notice period.

5. Mandatory Conversion.

5.1 Trigger Events. Upon the closing of the sale of shares of Common Stock to the public in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended (an "**IPO**"), each outstanding share of Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock shall automatically be converted into one (1) share of Common Stock. Upon the closing of an IPO resulting in a placement of stock representing a public flotation of at least:

(a) in the case of an IPO with a pre-money valuation of up to US$500,000,000, (x) 15% of the aggregate capital stock of the Corporation (including any shares placed in secondary offerings) and (y) US$75,000,000; or

(b) in the case of an IPO with a pre-money valuation in excess of US$500,000,000, (x) 15% of the aggregate capital stock of the Corporation (including any shares placed in secondary offerings) or (y) US$75,000,000;

(a "**Qualified IPO**"), all outstanding shares of Series D Preferred Stock shall automatically be converted into shares of Common Stock at the then effective conversion rate subject to adjustment pursuant to the provisions of Subsection 5.2. The time of any such closing is referred to herein as the "**Mandatory Conversion Time**").

5.2 Qualified IPO Conversion for Series D Preferred Stock.

(a) In the event of a Qualified IPO in which the pre-money equity value of the Corporation is less than US$400,000,000, all outstanding shares of Series D Preferred Stock shall automatically be converted into shares of Common Stock at the then effective conversion rate subject to adjustment pursuant to the following formula, unless waived by the holders of at least a majority of the outstanding shares of Series D Preferred Stock:

New Series D Conversion Rate = ((2*A + B) / C) / D,

Where A equals the Series D Original Issue Price multiplied by the number of shares of Series D Preferred Stock then outstanding;

Where B equals the aggregate accrued but unpaid Accruing Dividends on all such shares of Series D Preferred Stock through the date of such calculation, plus any other any dividends declared but unpaid with respect to such shares of Series D Preferred Stock;

Where C equals the number of shares of Series D Preferred Stock then outstanding; and

Where D equals the Series D Conversion Price calculated pursuant to Subsection 4.9.

(b) In the event of a Qualified IPO in which the pre-money equity value of the Corporation is equal to or greater than US$400,000,000, all outstanding shares of Series D Preferred Stock shall automatically be converted into a number of shares of Common Stock at the greatest of the following, to be decided by the holders of at least a majority of the outstanding shares of Series D Preferred Stock: (i) the then effective conversion rate, (ii) the rate determined in accordance with the formula set forth in Subsection 5.2(a) above, and (iii) the rate which creates upon conversion the following number of shares of Common Stock into which the Series D Preferred Stock would convert:

Number of Shares of Common Stock into which the Series D Preferred Stock would convert = A + (B/C) + (D/C),

Where A equals the number of shares of Series D Preferred Stock then outstanding;

Where B equals the Series D Original Issue Price multiplied by the number of shares of Series D Preferred Stock then outstanding;

Where C equals the per share price at which Common Stock is sold in the Qualified IPO; and

Where D equals the aggregate accrued but unpaid Accruing Dividends on all such shares of Series D Preferred Stock through the date of such calculation, plus any other any dividends declared but unpaid with respect to such shares of Series D Preferred Stock.

(c) Any adjustment made pursuant to this Subsection 5.2 shall be effective as of immediately prior to the Qualified IPO. For the avoidance of doubt, no such recalculation of the Series D conversion rate shall cause the Series D conversion rate to be less than the Series D conversion rate then in effect.

5.3 Procedural Requirements. All holders of record of shares of the applicable Series Preferred Stock shall be sent written notice of the Mandatory Conversion Time and the place designated for mandatory conversion of all such shares of the applicable Series Preferred Stock pursuant to this Section 5. Such notice need not be sent in advance of the occurrence of the Mandatory Conversion Time. Upon receipt of such notice, each holder of shares of the applicable Series Preferred Stock shall surrender his, her or its certificate or certificates for all such shares (or, if such holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice. If so required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. All rights with respect to the applicable Series Preferred Stock converted pursuant to Subsection 5.1, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate at the applicable Mandatory Conversion Time (notwithstanding the failure of the holder or holders thereof to surrender the certificates at or prior to such time), except only the rights of the holders thereof, upon surrender of their certificate or certificates (or lost certificate affidavit and agreement) therefor, to receive the items provided for in the next sentence of this Subsection 5.3. As soon as practicable after the Mandatory Conversion Time and the surrender of the certificate or certificates (or lost certificate affidavit and agreement) for the applicable Series Preferred Stock, the Corporation shall issue and deliver to such holder, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof, together with cash (1) as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion, (2) for the payment of any declared but unpaid dividends on the shares of Series Preferred Stock converted and (3) in the case of mandatory conversion of the Series D Preferred Stock, the payment of any accrued but unpaid Accruing Dividends on such Series D Preferred Stock through the Mandatory Conversion Time. In lieu of making the cash payment contemplated by Subsection 5.3(3), the Corporation may, at its option, instead issue to the holders of Series D Preferred Stock shares of Common Stock having an aggregate value equal to the total accrued but unpaid Accruing Dividends thereon (valuing the Common Stock at the price per share offered to the public in the Qualified IPO). For avoidance of doubt, all calculations of conversion rates under this Subsection 5.3 shall be done in accordance with Subsection 5.2.

5.4 No Reissuance. Any such converted Series Preferred Stock shall be retired and cancelled and may not be reissued, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of the applicable Series Preferred Stock accordingly.

6. Redemption.

6.1 Redemption at Option of the Series D Preferred Stock. Shares of Series D Preferred Stock shall be redeemed by the Corporation out of funds lawfully available therefor at the Redemption Price (as defined and determined below), in two annual installments commencing not more than ninety (90) days after receipt by the Corporation at any time on or after the eight year anniversary of the Series D Original Issue Date, from the holders of at least a majority of the then-outstanding shares of Series D Preferred Stock, of written notice requesting redemption of all shares of Series D Preferred Stock. The date of each such installment shall be referred to as a "**Redemption Date**". On each Redemption Date, the Corporation shall redeem, on a pro rata basis in accordance with the number of shares of Series D Preferred Stock owned by each holder, that number of outstanding shares of Series D Preferred Stock determined by dividing (i) the total number of shares of Series D Preferred Stock outstanding immediately prior to such Redemption Date by (ii) the number of remaining Redemption Dates (including the Redemption Date to which such calculation applies). Upon receipt of a redemption request, the Corporation shall apply all of its assets to any such redemption, and to no other corporate purpose,

except to the extent prohibited by Delaware law governing distributions to stockholders. If the Corporation does not have sufficient funds legally available to redeem on any Redemption Date all shares of Series D Preferred Stock to be redeemed on such Redemption Date, the Corporation shall redeem a pro rata portion of each holder's redeemable shares of such capital stock out of funds legally available therefor, based on the respective amounts which would otherwise be payable in respect of the shares to be redeemed if the legally available funds were sufficient to redeem all such shares, and shall redeem the remaining shares to have been redeemed as soon as practicable after the Corporation has funds legally available therefor.

6.2 Redemption at Option of the Corporation. All shares of Series D Preferred Stock shall be redeemed by the Corporation out of funds lawfully available therefor at the Redemption Price, not more than ninety (90) days after delivery by the Corporation (at its sole option) any time on or after the four year anniversary of the Series D Original Issue Date, of written notice advising as to the redemption of all outstanding shares of Series D Preferred Stock. The date of such redemption shall also be referred to as the "**Redemption Date**", as the context indicates.

6.3 Redemption Price. The "**Redemption Price**" per share of Series D Preferred Stock shall be equal to the greater of (i) the sum of (A) the Series D Original Issue Price multiplied by two, plus (B) the accrued but unpaid Accruing Dividends on such Series D Preferred Stock through the Redemption Date, or (ii) the fair market value thereof, as calculated in accordance with the last sentence of this Subsection 6.3. The fair market value shall be determined by mutual agreement between the Corporation and holders of a majority of the then-outstanding shares of Series D Preferred Stock. If such parties cannot agree on the fair market value within (fifteen) (15) days after delivery of the written notice required by Subsection 6.1 or 6.2, as applicable, such parties shall engage a mutually acceptable, nationally recognized,

independent valuation firm to determine the fair market value. Such firm shall be instructed to deliver its determination within thirty (30) days and that determination will be final and binding as to all parties. The fees for such firm will be borne by the Corporation, and one-half of the fee shall be deducted ratably from the redemption payments to the holders of Series D Preferred Stock. In any case, the fair market value will be determined taking into account (and any valuation obtained for the purposes of this Section 6.3 shall provide separate component values for) the participation features of the Series D Preferred Stock, the liquidation preferences, the right to Accruing Dividends and all other rights and entitlements attached to the Series D Preferred Stock, but shall not take into account any minority discount, liquidity discount or discounts relating to blockages or restrictions on sale.

6.4 Redemption Notice. The Corporation shall send written notice of mandatory redemption (the "**Redemption Notice**") to each holder of record of Series D Preferred Stock not less than forty (40) days prior to any Redemption Date. Each Redemption Notice shall state:

(a) the number of shares of Series D Preferred Stock held by the holder that the Corporation shall redeem on the Redemption Date specified in the Redemption Notice;

(b) the Redemption Date and the Redemption Price (if known on the date of the Redemption Notice; otherwise, the Corporation shall promptly notify the holders of the Redemption Price when the same is determined as provided above);

(c) the date upon which the holder's right to convert such shares terminates (as determined in accordance with Subsection 4.1); and

(d) that the holder is to surrender to the Corporation, in the manner and at the place designated, his, her or its certificate or certificates representing the shares of Series D Preferred Stock to be redeemed.

6.5 Surrender of Certificates; Payment. On or before the applicable Redemption Date, each holder of shares of Series D Preferred Stock to be redeemed on such Redemption Date, unless such holder has exercised his, her or its right to convert such shares as provided in Section 4, shall surrender the certificate or certificates representing such shares (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation, in the manner and at the place designated in the Redemption Notice, and thereupon the Redemption Price for such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof. In the event less than all of the shares of Series D Preferred Stock represented by a certificate are redeemed, a new certificate representing the unredeemed shares of Series D Preferred Stock shall promptly be issued to such holder.

6.6 Rights Subsequent to Redemption. If the Redemption Notice shall have been duly given, and if on the applicable Redemption Date the Redemption Price payable upon redemption of the shares of Series D Preferred Stock to be redeemed on such Redemption Date is paid or tendered for payment or deposited with an independent payment agent so as to be available therefor in a timely manner, then notwithstanding that the certificates evidencing any of the shares of Series D Preferred Stock so called for redemption shall not have been surrendered, dividends with respect to such shares of Series D Preferred Stock shall cease to accrue after such Redemption Date and all rights with respect to such shares (including the right to receive any undeclared Accruing Dividends) shall forthwith after the Redemption Date terminate, except only the right of the holders to receive the Redemption Price without interest upon surrender of their certificate or certificates therefor.

7. Redeemed or Otherwise Acquired Shares. Any shares of Series Preferred Stock that are redeemed or otherwise acquired by the Corporation or any of its subsidiaries shall be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of the shares of Series Preferred Stock so redeemed or acquired.

8. Waiver. Any of the rights, powers, preferences and other terms of the Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock or Series D Preferred Stock set forth herein may be waived on behalf of all holders of such Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock or Series D Preferred Stock, as applicable, by the affirmative written consent or vote of the holders of a majority of the shares of the Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock or Series D Preferred Stock, as the case may be.

9. Notices to Stockholders. Any notice required or permitted by the provisions of this Article IV to be given to a stockholder (a) may be mailed, postage prepaid, to the post office address last shown on the records of the Corporation, and shall be deemed sent upon such mailing or (b) may be given by any other means permitted by the Delaware General Corporation Law or by the Bylaws for the giving of notice.

ARTICLE V

Except as otherwise set forth herein, the Board of Directors of the Corporation is expressly authorized to make, alter or repeal Bylaws of the Corporation.

ARTICLE VI

Elections of directors need not be by written ballot unless otherwise provided in the Bylaws of the Corporation.

ARTICLE VII

Distributions by the Corporation may be made without regard to "preferential dividends arrears amount" or any "preferential rights," as such terms may be used in Section 500 of the California Corporations Code.

ARTICLE VIII

(A) To the fullest extent permitted by the Delaware General Corporation Law, as the same exists or as may hereafter be amended, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director.

(B) The Corporation shall indemnify to the fullest extent permitted by law any person made or threatened to be made a party to an action or proceeding, whether criminal, civil, administrative or investigative, by reason of the fact that he, his testator or intestate is or was a director or officer of the Corporation or any predecessor of the Corporation, or serves or served at any other enterprise as a director or officer at the request of the Corporation or any predecessor to the Corporation.

(C) Neither any amendment nor repeal of this Article VIII, nor the adoption of any provision of the Corporation's Certificate of Incorporation inconsistent with this Article VIII, shall eliminate or reduce the effect of this Article VIII in respect of any matter occurring, or any action or proceeding accruing or arising or that, but for this Article VIII, would accrue or arise, prior to such amendment, repeal or adoption of an inconsistent provision.

ARTICLE IX

Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (A) any derivative action or proceeding brought on behalf of the Corporation, (B) any action or proceeding asserting a claim of breach of a fiduciary duty owed by any director, officer, employee or agent of the Corporation to the Corporation or the Corporation's stockholders, (C) any action or proceeding asserting a claim against the Corporation arising pursuant to any provision of the Delaware General Corporation Law or the Corporation's Certificate of Incorporation or Bylaws, or (D) any action or proceeding asserting a claim governed by the internal affairs doctrine, in each case subject to said Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein.

* * *

The foregoing Amended and Restated Certificate of Incorporation has been duly adopted by this corporation's Board of Directors and stockholders in accordance with the applicable provisions of Sections 228, 242 and 245 of the Delaware General Corporation Law.

Executed at Davis, California, on March 24, 2015.

/s/ Eric J. Rey
Eric J. Rey, President

AMENDED AND RESTATED CERTIFICATE
OF
INCORPORATION
OF
ARCADIA BIOSCIENCES, INC.

Arcadia Biosciences, Inc., a corporation organized and existing under the laws of the State of Delaware, here by certifies as follows:

FIRST: The name of the corporation is Arcadia Biosciences, Inc.

SECOND: The Certificate of Incorporation of this corporation was originally filed with the Secretary of State of Delaware on February 17, 2015.

THIRD: The Certificate of Incorporation was most recently amended and restated pursuant to an Amended and Restated Certificate of Incorporation filed with the Secretary of State of the State of Delaware on March , 2015, and is hereby further amended and restated pursuant to Section 242 and 245 of the General Corporation Law of the State of Delaware.

FOURTH: The Certificate of Incorporation of this corporation shall be amended and restated to read in full as follows:

ARTICLE I

The name of this corporation is Arcadia Biosciences, Inc. (the "***Corporation***").

ARTICLE II

The address of the Corporation's registered office in the state of Delaware is 1209 Orange Street, Wilmington, New Castle County, Delaware, 19801. The name of its registered agent at such address is The Corporation Trust Company.

ARTICLE III

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the Delaware General Corporation Law Delaware (the "***DGCL***").

ARTICLE IV

A. Classes of Stock. The Corporation is authorized to issue two classes of stock to be designated, respectively, "***Common Stock***" and "***Preferred Stock***." The total number of shares which the Corporation is authorized to issue is Four Hundred Twenty Million (420,000,000) shares, consisting of Four Hundred Million (400,000,000) shares of Common Stock, par value

$0.001 per share, and Twenty Million (20,000,000) shares of Preferred Stock, par value $0.001 per share.

B. Preferred Stock. The Board of Directors is authorized, subject to any limitations prescribed by law, to provide for the issuance of shares of Preferred Stock in series, and by filing a certificate pursuant to the applicable law of the State of Delaware (such certificate being hereinafter referred to as a "***Preferred Stock Designation***"), to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, preferences, and rights of the shares of each such series and any qualifications, limitations or restrictions thereof. The number of authorized shares of Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the voting power of all of the then-outstanding shares of capital stock of the Corporation entitled to vote thereon, without a vote of the holders of the Preferred Stock, or of any series thereof, unless a vote of any such holders is required pursuant to the terms of any Preferred Stock Designation.

C. Number of Shares. Unless a vote of any such holders is required pursuant to the terms of any Preferred Stock Designation or the resolution originally fixing the number of shares of any such series, the Board of Directors is further authorized to increase (but not above the total number of authorized shares of the class) or decrease (but not below the number of shares of any such series then outstanding) the number of shares of any series, the number of which was fixed by it, subsequent to the issuance of shares of such series then outstanding, by filing a certificate pursuant to the applicable law of the State of Delaware. If the number of shares of any series is so decreased, then the shares so specified in the certificate shall resume the status which they had prior to the adoption of the resolution originally fixing the number of shares of such series.

D. Voting Rights. Except as otherwise provided by law, each outstanding share of Common Stock shall entitle the holder thereof to one vote on each matter properly submitted to the stockholders of the Corporation for their vote; *provided*, *however*, except as otherwise required by law, holders of Common Stock shall not be entitled to vote on any amendment to this Restated Certificate of Incorporation (including any Preferred Stock Designation relating to any series of Preferred Stock) that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together as a class with the holders of one or more other such series, to vote thereon pursuant to this Restated Certificate of Incorporation (including any Preferred Stock Designation relating to any series of Preferred Stock).

ARTICLE V

The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors. In addition to the powers and authority expressly conferred upon them by statute or by this Restated Certificate of Incorporation or the Bylaws of the Corporation (the "***Bylaws***"), the directors are hereby empowered to exercise all such powers and do all such acts and things as may be exercised or done by the Corporation.

Subject to the rights of the holders of any series of Preferred Stock to elect additional directors under specified circumstances, the number of directors of the Corporation shall be fixed from time to time exclusively by the Board of Directors pursuant to a resolution adopted by a majority of the Whole Board. For the purposes of this Restated Certificate of Incorporation, "***Whole Board***" shall mean the total number of authorized directors whether or not there exist any vacancies in previously authorized directorships.

ARTICLE VI

The Board shall be divided into three (3) classes, Class I, Class II and Class III. The Board is authorized to assign members of the Board already in office to Class I, Class II or Class III. Each director shall serve for a term expiring at the third annual meeting following his or her election; *provided, that*, with respect to the directors serving in the inaugural classes of Class I, Class II and Class III, the terms of the directors serving in Class I shall expire at the Corporation's first annual meeting of stockholders held after the effectiveness of the division of the Board into three (3) classes; the terms of the directors serving in Class II shall expire at the Corporation's second annual meeting of stockholders held after such effectiveness; and the terms of the directors serving in Class III shall expire at the Corporation's third annual meeting of stockholders held after such effectiveness. Each director shall serve until his or her successor is duly elected and qualified or until his or her death, resignation or removal.

Subject to the rights of the holders of any series of Preferred Stock then outstanding, newly created directorships resulting from any increase in the authorized number of directors or any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause shall, unless otherwise required by law or by resolution of the Board of Directors, be filled only by a majority vote of the directors then in office, though less than a quorum (and not by the stockholders), and directors so chosen shall serve for a term expiring at the annual meeting of stockholders at which the term of office of the class to which they have been elected expires or until such director's successor shall have been duly elected and qualified. No decrease in the number of authorized directors shall shorten the term of any incumbent director.

Subject to the rights of the holders of any series of Preferred Stock then outstanding, any director, or the entire Board of Directors, may be removed from office at any time, but only for cause and only by the affirmative vote of the holders of a majority of the shares then entitled to vote at an election of directors, voting together as a single class.

ARTICLE VII

In the election of directors, each holder of shares of any class or series of capital stock of the Corporation shall be entitled to one vote for each share held. No stockholder will be permitted to cumulate votes at any election of directors.

ARTICLE VIII

Subject to the rights of the holders of any series of Preferred Stock, no action shall be taken by the stockholders of the Corporation other than at an annual or special meeting of the stockholders, upon due notice and in accordance with the provisions of the Bylaws, and no action shall be taken by the stockholders by written consent.

ARTICLE IX

The Corporation reserves the right to amend, alter, change or repeal any provision contained in this Restated Certificate of Incorporation, in the manner now or hereafter prescribed by statute, and all rights conferred upon stockholders herein are granted subject to this reservation.

ARTICLE X

A. Notwithstanding any other provision of the Bylaws or any provision of law which might otherwise permit a lesser or no vote, but in addition to any affirmative vote of the holders of any particular class or series of the capital stock of the Corporation required by law, the Bylaws or any Preferred Stock Designation, the Bylaws may be altered, amended or repealed or new Bylaws adopted by the affirmative vote of the holders of at least sixty-six and two-thirds percent ($66^{2}/_{3}$)% of the voting power of all of the then-outstanding shares of the voting stock of the Corporation entitled to vote, voting together as a single class. In furtherance and not in limitation of the powers conferred by statute, the Board of Directors of the Corporation is expressly authorized to adopt, amend or repeal Bylaws.

B. The directors of the Corporation need not be elected by written ballot unless the Bylaws so provide.

C. Special meetings of the stockholders of the Corporation may be called, at any time by the Board of Directors acting pursuant to a resolution adopted by a majority of the Whole Board, and special meetings may not be called by other person or persons.

D. Advance notice of stockholder nominations for the election of directors or of business to be brought by the stockholders before any meeting of the stockholders of the Corporation shall be given in the manner provided in the Bylaws.

E. If any provision or provisions of this Restated Certificate of Incorporation shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Restated Certificate of Incorporation (including, without limitation, each portion of any sentence

of this Restated Certificate of Incorporation containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities and circumstances shall not in any way be affected or impaired thereby.

F. Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action or proceeding asserting a claim of breach of a fiduciary duty owed by any director, officer, employee or agent of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action or proceeding asserting a claim against the Corporation arising pursuant to any provision of the DGCL or the Corporation's Certificate of Incorporation or Bylaws, or (iv) any action or proceeding asserting a claim governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Article X, Paragraph F.

ARTICLE XI

Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws may provide. The books of the Corporation may be kept (subject to any provision contained in the statutes) outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the Bylaws of the Corporation.

ARTICLE XII

A. Limitation on Liability. To the fullest extent permitted by the DGCL, as the same exists or may be amended from time to time, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the DGCL is hereafter amended to authorize corporate action further eliminating or limiting the personal liability of a corporation's directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the DGCL, as so amended.

B. Indemnification. The Corporation shall have the power to indemnify and/or advance expenses to any person to the fullest extent permitted by law.

C. Insurance. The Corporation may, to the fullest extent permitted by law, purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise against any expense, liability or loss incurred by such person in any such capacity or arising out of such person's status as such, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the DGCL.

D. Repeal and Modification. Any repeal or modification of the foregoing provisions of this Article XII shall not adversely affect any right or protection of a director of the Corporation with respect to any acts or omissions of such director occurring prior to such repeal or modification.

ARTICLE XIII

The affirmative vote of the holders of at least sixty-six and two-thirds percent (66-2/3%) of the voting power of the shares of the capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class, shall be required to amend in any respect or repeal this Article XIII or Articles V, VI, VIII, X or XII.

[*remainder of page intentionally left blank*]

IN WITNESS WHEREOF, the corporation has caused this certificate to be signed by its Chief Executive Officer this day of , 2015.

ARCADIA BIOSCIENCES, INC.

By: _____

Name: Eric J. Rey
Title: Chief Executive Officer

Exhibit 3.3

AMENDED AND RESTATED BYLAWS

OF

ARCADIA BIOSCIENCES, INC.

A Delaware Corporation

As Adopted February 17, 2015
As Amended March 24, 2015

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AMENDED AND RESTATED BYLAWS

OF

ARCADIA BIOSCIENCES, INC.

A Delaware Corporation

As Adopted February 17, 2015
As Amended March 24, 2015

ARTICLE I

CORPORATE OFFICES

1.1 Offices

In addition to the corporation's registered office set forth in the Certificate of Incorporation, the Board of Directors may at any time establish other offices at any place or places where the corporation is qualified to do business.

ARTICLE II

MEETINGS OF STOCKHOLDERS

2.1 Place Of Meetings

Meetings of stockholders shall be held at any place, within or outside the state of Delaware, designated by the Board of Directors. In the absence of any such designation, stockholders' meetings shall be held at the registered office of the corporation.

2.2 Annual Meeting

The annual meeting of stockholders shall be held on such date, time and place, either within or without the state of Delaware, as may be designated by resolution of the Board of Directors each year. At the meeting, directors shall be elected and any other proper business may be transacted.

2.3 Special Meeting

A special meeting of the stockholders may be called at any time by the Board of Directors, the chairman of the board, the chief executive officer, or the president.

If a special meeting is called by any person or persons other than the Board of Directors, the chairman of the board, the chief executive officer or the president, the request shall be in writing, specifying the time of such meeting and the general nature of the business

proposed to be transacted, and shall be delivered personally or sent by registered mail or by email, fax, telegraphic or other facsimile or electronic transmission to the chairman of the board, the chief executive officer, the president or the secretary of the corporation. No business may be transacted at such special meeting otherwise than specified in such notice. The officer receiving the request shall cause notice to be promptly given to the stockholders entitled to vote, in accordance with the provisions of Sections 2.4 and 2.5 of this Article II, that a meeting will be held at the time requested by the person or persons calling the meeting, not less than 35 nor more than 60 days after the receipt of the request. If the notice is not given within 20 days after the receipt of the request, the person or persons requesting the meeting may give the notice. Nothing contained in this paragraph of this Section 2.3 shall be construed as limiting, fixing, or affecting the time when a meeting of stockholders called by action of the Board of Directors may be held.

2.4 Notice Of Stockholders' Meetings

All notices of meetings with stockholders shall be in writing and shall be sent or otherwise given in accordance with Section 2.5 of these bylaws not less than 10 nor more than 60 days before the date of the meeting to each stockholder entitled to vote at such meeting. The notice shall specify the place (if any), date and hour of the meeting, and in the case of a special meeting, the purpose or purposes for which the meeting is called.

2.5 Manner Of Giving Notice; Affidavit Of Notice

Written notice of any meeting of stockholders, if mailed, is given when deposited in the United States mail, postage prepaid, directed to the stockholder at his address as it appears on the records of the corporation. Without limiting the manner by which notice otherwise may be given effectively to stockholders, any notice to stockholders may be given by electronic mail or other electronic transmission, in the manner provided in Section 232 of the Delaware General Corporation Law. An affidavit of the secretary or an assistant secretary or of the transfer agent of the corporation that the notice has been given shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

2.6 Quorum

The holders of a majority of the shares of stock issued and outstanding and entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders for the transaction of business except as otherwise provided by statute or by the certificate of incorporation. If, however, such quorum is not present or represented at any meeting of the stockholders, then either (a) the chairman of the meeting or (b) holders of a majority of the shares of stock entitled to vote who are present, in person or by proxy, shall have power to adjourn the meeting to another place (if any), date or time.

2.7 Adjourned Meeting; Notice

When a meeting is adjourned to another place (if any), date or time, unless these bylaws otherwise require, notice need not be given of the adjourned meeting if the time and place (if any), thereof and the means of remote communications (if any) by which stockholders and proxyholders may be deemed to be present and vote at such adjourned meeting, are announced at the meeting at which the adjournment is taken. At the adjourned meeting the

corporation may transact any business that might have been transacted at the original meeting. If the adjournment is for more than 30 days, or if after the adjournment a new record date is fixed for the adjourned meeting, notice of the place (if any), date and time of the adjourned meeting and the means of remote communications (if any) by which stockholders and proxy holders may be deemed to be present in person and vote at such adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

2.8 Organization; Conduct of Business

Such person as the Board of Directors may have designated or, in the absence of such a person, the chief executive officer, or in his or her absence, the president or, in his or her absence, such person as may be chosen by the holders of a majority of the shares entitled to vote who are present, in person or by proxy, shall call to order any meeting of the stockholders and act as chairman of the meeting. In the absence of the secretary of the corporation, the secretary of the meeting shall be such person as the chairman of the meeting appoints.

The chairman of any meeting of stockholders shall determine the order of business and the procedure at the meeting, including the manner of voting and the conduct of business. The date and time of opening and closing of the polls for each matter upon which the stockholders will vote at the meeting shall be announced at the meeting.

2.9 Voting

The stockholders entitled to vote at any meeting of stockholders shall be determined in accordance with the provisions of Section 2.12 of these bylaws, subject to the provisions of Sections 217 and 218 of the General Corporation Law of Delaware (relating to voting rights of fiduciaries, pledgors and joint owners of stock and to voting trusts and other voting agreements).

Except as may be otherwise provided in the certificate of incorporation, each stockholder shall be entitled to one vote for each share of capital stock held by such stockholder. All elections shall be determined by a plurality of the votes cast, and except as otherwise required by law, all other matters shall be determined by a majority of the votes cast affirmatively or negatively.

2.10 Waiver Of Notice

Whenever notice is required to be given under any provision of the General Corporation Law of Delaware or of the certificate of incorporation or these bylaws, a written waiver thereof, signed by the person entitled to notice, or waiver by electronic mail or other electronic transmission by such person, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders need be specified in any written waiver of notice, or any waiver of notice by electronic transmission, unless so required by the certificate of incorporation or these bylaws.

2.11 Stockholder Action By Written Consent Without A Meeting

Unless otherwise provided in the certificate of incorporation, any action required to be taken at any annual or special meeting of stockholders of the corporation, or any action that may be taken at any annual or special meeting of such stockholders, may be taken without a meeting, without prior notice, and without a vote if a consent in writing, setting forth the action so taken, is (a) signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted, and (b) delivered to the corporation in accordance with Section 228(a) of the Delaware General Corporation Law.

Every written consent shall bear the date of signature of each stockholder who signs the consent and no written consent shall be effective to take the corporate action referred to therein unless, within 60 days of the date the earliest dated consent is delivered to the corporation, a written consent or consents signed by a sufficient number of holders to take action are delivered to the corporation in the manner prescribed in this Section. A telegram, cablegram, electronic mail or other electronic transmission consenting to an action to be taken and transmitted by a stockholder or proxyholder, or by a person or persons authorized to act for a stockholder or proxyholder, shall be deemed to be written, signed and dated for purposes of this Section to the extent permitted by law. Any such consent shall be delivered in accordance with Section 228(d)(1) of the Delaware General Corporation Law.

Any copy, facsimile or other reliable reproduction of a consent in writing may be substituted or used in lieu of the original writing for any and all purposes for which the original writing could be used, provided that such copy, facsimile or other reproduction shall be a complete reproduction of the entire original writing.

Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing (including by electronic mail or other electronic transmission as permitted by law). If the action which is consented to is such as would have required the filing of a certificate under any section of the General Corporation Law of Delaware if such action had been voted on by stockholders at a meeting thereof, then the certificate filed under such section shall state, in lieu of any statement required by such section concerning any vote of stockholders, that written notice and written consent have been given as provided in Section 228 of the General Corporation Law of Delaware.

2.12 Record Date For Stockholder Notice; Voting; Giving Consents

In order that the corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or entitled to express consent to corporate action in writing without a meeting, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board of Directors may fix, in advance, a record date, which shall not be more than 60 nor less than 10 days before the date of such meeting, nor more than 60 days prior to any other action.

If the Board of Directors does not so fix a record date:

(a) The record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held.

(b) The record date for determining stockholders entitled to consent to corporate action in writing without a meeting, when no prior action by the Board of Directors is necessary, shall be the day on which the first written consent (including consent by electronic mail or other electronic transmission as permitted by law) is delivered to the corporation.

(c) The record date for determining stockholders for any other purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting, if such adjournment is for 30 days or less; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

2.13 Proxies

Each stockholder entitled to vote at a meeting of stockholders or to express consent or dissent to corporate action in writing without a meeting may authorize another person or persons to act for such stockholder by an instrument in writing or by an electronic transmission permitted by law filed with the secretary of the corporation, but no such proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period. A proxy shall be deemed signed if the stockholder's name is placed on the proxy (whether by manual signature, typewriting, facsimile, electronic or telegraphic transmission or otherwise) by the stockholder or the stockholder's attorney-in-fact. The revocability of a proxy that states on its face that it is irrevocable shall be governed by the provisions of Section 212(e) of the General Corporation Law of Delaware.

ARTICLE III

DIRECTORS

3.1 Powers

Subject to the provisions of the General Corporation Law of Delaware and any limitations in the certificate of incorporation or these bylaws relating to action required to be approved by the stockholders or by the outstanding shares, the business and affairs of the corporation shall be managed and all corporate powers shall be exercised by or under the direction of the Board of Directors.

3.2 Number Of Directors

Upon the adoption of these bylaws, the number of directors constituting the entire Board of Directors shall be six (6). Thereafter, this number may be changed by a resolution of the Board of Directors or of the stockholders, subject to Section 3.4 of these bylaws. No reduction of the authorized number of directors shall have the effect of removing any director before such director's term of office expires.

3.3 Election, Qualification And Term Of Office Of Directors

Except as provided in Section 3.4 of these bylaws, and unless otherwise provided in the certificate of incorporation, directors shall be elected at each annual meeting of stockholders to hold office until the next annual meeting. Directors need not be stockholders unless so required by the certificate of incorporation or these bylaws, wherein other qualifications for directors may be prescribed. Each director, including a director elected to fill a vacancy, shall hold office until his or her successor is elected and qualified or until his or her earlier resignation or removal.

Unless otherwise specified in the certificate of incorporation, elections of directors need not be by written ballot.

3.4 Resignation And Vacancies

Any director may resign at any time upon written notice to the attention of the Secretary of the corporation. Notwithstanding the provisions of Section 223(a)(1) and 223(a)(2) of the Delaware General Corporation Law, any vacancy, including newly created directorships resulting from any increase in the authorized number of directors or amendment of the certificate of incorporation, and vacancies created by removal or resignation of a director, may be filled by a majority of the directors then in office (including any directors that have tendered a resignation effective at a future date), though less than a quorum, or by a sole remaining director, and the directors so chosen shall hold office until the next annual election and until their successors are duly elected and shall qualify, unless sooner displaced; provided, however, that where such vacancy occurs among the directors elected by the holders of a class or series of stock, the holders of shares of such class or series may override the Board of Directors' action to fill such vacancy by (i) voting for their own designee to fill such vacancy at a meeting of the Corporation's stockholders or (ii) written consent, if the consenting stockholders hold a sufficient number of shares to elect their designee at a meeting of the stockholders.

If at any time, by reason of death or resignation or other cause, the corporation should have no directors in office, then any officer or any stockholder or an executor, administrator, trustee or guardian of a stockholder, or other fiduciary entrusted with like responsibility for the person or estate of a stockholder, may call a special meeting of stockholders in accordance with the provisions of the certificate of incorporation or these bylaws, or may apply to the Court of Chancery for a decree summarily ordering an election as provided in Section 211 of the General Corporation Law of Delaware.

If, at the time of filling any vacancy or any newly created directorship, the directors then in office constitute less than a majority of the whole board (as constituted

immediately prior to any such increase), then the Court of Chancery may, upon application of any stockholder or stockholders holding at least 10% of the total number of the shares at the time outstanding having the right to vote for such directors, summarily order an election to be held to fill any such vacancies or newly created directorships, or to replace the directors chosen by the directors then in office as aforesaid, which election shall be governed by the provisions of Section 211 of the General Corporation Law of Delaware as far as applicable.

3.5 Place Of Meetings; Meetings By Telephone

The Board of Directors of the corporation may hold meetings, both regular and special, either within or outside the state of Delaware.

Unless otherwise restricted by the certificate of incorporation or these bylaws, members of the Board of Directors, or any committee designated by the Board of Directors, may participate in a meeting of the Board of Directors, or any committee, by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.

3.6 Regular Meetings

Regular meetings of the Board of Directors may be held without notice at such time and at such place as shall from time to time be determined by the board.

3.7 Special Meetings; Notice

Special meetings of the Board of Directors for any purpose or purposes may be called at any time by the chairman of the board, the chief executive officer, the president, the secretary or any two directors.

Notice of the time and place of special meetings shall be delivered personally or by telephone to each director or sent by first-class mail, facsimile, electronic transmission, or telegram, charges prepaid, addressed to each director at that director's address as it is shown on the records of the corporation. If the notice is mailed, it shall be deposited in the United States mail at least 4 days before the time of the holding of the meeting. If the notice is delivered personally or by facsimile, electronic transmission, telephone or telegram, it shall be delivered at least 24 hours before the time of the holding of the meeting. Any oral notice given personally or by telephone may be communicated either to the director or to a person at the office of the director who the person giving the notice has reason to believe will promptly communicate it to the director. The notice need not specify the purpose of the meeting. The notice need not specify the place of the meeting, if the meeting is to be held at the principal executive office of the corporation. Unless otherwise indicated in the notice thereof, any and all business may be transacted at a special meeting.

3.8 Quorum

At all meetings of the Board of Directors, a majority of the total number of duly elected directors then in office (but in no case less than 1/3 of the total number of authorized

directors) shall constitute a quorum for the transaction of business and the act of a majority of the directors present at any meeting at which there is a quorum shall be the act of the Board of Directors, except as may be otherwise specifically provided by statute or by the certificate of incorporation. If a quorum is not present at any meeting of the Board of Directors, then the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present.

A meeting at which a quorum is initially present may continue to transact business notwithstanding the withdrawal of directors, if any action taken is approved by at least a majority of the required quorum for that meeting.

3.9 Waiver Of Notice

Whenever notice is required to be given under any provision of the General Corporation Law of Delaware or of the certificate of incorporation or these bylaws, a written waiver thereof, signed by the person entitled to notice, or waiver by electronic mail or other electronic transmission by such person, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the directors, or members of a committee of directors, need be specified in any written waiver of notice unless so required by the certificate of incorporation or these bylaws.

3.10 Board Action By Written Consent Without A Meeting

Unless otherwise restricted by the certificate of incorporation or these bylaws, any action required or permitted to be taken at any meeting of the Board of Directors, or of any committee thereof, may be taken without a meeting if all members of the board or committee, as the case may be, consent thereto in writing or by electronic transmission, and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the board or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

Any copy, facsimile or other reliable reproduction of a consent in writing may be substituted or used in lieu of the original writing for any and all purposes for which the original writing could be used, provided that such copy, facsimile or other reproduction shall be a complete reproduction of the entire original writing.

3.11 Fees And Compensation Of Directors

Unless otherwise restricted by the certificate of incorporation or these bylaws, the Board of Directors shall have the authority to fix the compensation of directors. No such compensation shall preclude any director from serving the corporation in any other capacity and receiving compensation therefor.

3.12 Approval Of Loans To Officers

The corporation may lend money to, or guarantee any obligation of, or otherwise assist any officer or other employee of the corporation or of its subsidiary, including any officer or employee who is a director of the corporation or its subsidiary, whenever, in the judgment of the directors, such loan, guaranty or assistance may reasonably be expected to benefit the corporation. The loan, guaranty or other assistance may be with or without interest and may be unsecured, or secured in such manner as the Board of Directors shall approve, including, without limitation, a pledge of shares of stock of the corporation. Nothing in this section shall be deemed to deny, limit or restrict the powers of guaranty or warranty of the corporation at common law or under any statute.

3.13 Removal Of Directors

Unless otherwise restricted by statute, by the certificate of incorporation or by these bylaws, any director or the entire Board of Directors may be removed, with or without cause, by, and only by, the affirmative vote of the holders of the shares of the class or series of stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders, and any vacancy thereby created may be filled by the holders of that class or series of stock represented at the meeting or pursuant to written consent; provided, however, that if the stockholders of the corporation are entitled to cumulative voting, if less than the entire Board of Directors is to be removed, no director may be removed without cause if the votes cast against his removal would be sufficient to elect him if then cumulatively voted at an election of the entire Board of Directors.

No reduction of the authorized number of directors shall have the effect of removing any director prior to the expiration of such director’s term of office.

3.14 Chairman Of The Board Of Directors

The corporation may also have, at the discretion of the Board of Directors, a chairman of the Board of Directors who shall not be considered an officer of the corporation.

ARTICLE IV

COMMITTEES

4.1 Committees Of Directors

The Board of Directors may designate one or more committees, each committee to consist of one or more of the directors of the corporation. The Board may designate 1 or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board

of Directors, or in these bylaws, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the corporation, and may authorize the seal of the corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to the following matters: (i) approving or adopting, or recommending to the stockholders, any action or matter expressly required by the General Corporate Law of Delaware to be submitted to stockholders for approval or (ii) adopting, amending or repealing any Bylaw of the corporation.

4.2 Committee Minutes

Each committee shall keep regular minutes of its meetings and report the same to the Board of Directors when required.

4.3 Meetings And Action Of Committees

Meetings and actions of committees shall be governed by, and held and taken in accordance with, the provisions of Section 3.5 (place of meetings and meetings by telephone), Section 3.6 (regular meetings), Section 3.7 (special meetings and notice), Section 3.8 (quorum), Section 3.9 (waiver of notice), and Section 3.10 (action without a meeting) of these bylaws, with such changes in the context of such provisions as are necessary to substitute the committee and its members for the Board of Directors and its members; provided, however, that the time of regular meetings of committees may be determined either by resolution of the Board of Directors or by resolution of the committee, that special meetings of committees may also be called by resolution of the Board of Directors and that notice of special meetings of committees shall also be given to all alternate members, who shall have the right to attend all meetings of the committee. The Board of Directors may adopt rules for the government of any committee not inconsistent with the provisions of these bylaws.

ARTICLE V

OFFICERS

5.1 Officers

The officers of the corporation shall be a president and a secretary. The corporation may also have, at the discretion of the Board of Directors, a chief executive officer, a chief financial officer, a treasurer, one or more vice presidents, one or more assistant secretaries, one or more assistant treasurers, and any such other officers as may be appointed in accordance with the provisions of Section 5.3 of these bylaws. Any number of offices may be held by the same person.

5.2 Appointment Of Officers

The officers of the corporation, except such officers as may be appointed in accordance with the provisions of Sections 5.3 or 5.5 of these bylaws, shall be appointed by the Board of Directors, subject to the rights (if any) of an officer under any contract of employment.

5.3 Subordinate Officers

The Board of Directors may appoint, or empower the chief executive officer or the president to appoint, such other officers and agents as the business of the corporation may require, each of whom shall hold office for such period, have such authority, and perform such duties as are provided in these bylaws or as the Board of Directors may from time to time determine.

5.4 Removal And Resignation Of Officers

Subject to the rights (if any) of an officer under any contract of employment, any officer may be removed, either with or without cause, by an affirmative vote of the majority of the Board of Directors at any regular or special meeting of the board or, except in the case of an officer chosen by the Board of Directors, by any officer upon whom the power of removal is conferred by the Board of Directors.

Any officer may resign at any time by giving written notice to the corporation. Any resignation shall take effect at the date of the receipt of that notice or at any later time specified in that notice; and, unless otherwise specified in that notice, the acceptance of the resignation shall not be necessary to make it effective. Any resignation is without prejudice to the rights (if any) of the corporation under any contract to which the officer is a party.

5.5 Vacancies In Offices

Any vacancy occurring in any office of the corporation shall be filled by the Board of Directors.

5.6 Chief Executive Officer

Subject to such supervisory powers (if any) as may be given by the Board of Directors to the chairman of the board (if any), the chief executive officer of the corporation (if such an officer is appointed) shall, subject to the control of the Board of Directors, have general supervision, direction, and control of the business and the officers of the corporation and shall have the general powers and duties of management usually vested in the office of chief executive officer of a corporation and shall have such other powers and duties as may be prescribed by the Board of Directors or these bylaws.

The person serving as chief executive officer shall also be the acting president of the corporation whenever no other person is then serving in such capacity.

5.7 President

Subject to such supervisory powers (if any) as may be given by the Board of Directors to the chairman of the board (if any) or the chief executive officer, the president shall have general supervision, direction, and control of the business and other officers of the corporation. He or she shall have the general powers and duties of management usually vested in the office of president of a corporation and such other powers and duties as may be prescribed by the Board of Directors or these bylaws.

The person serving as president shall also be the acting chief executive officer, secretary or treasurer of the corporation, as applicable, whenever no other person is then serving in such capacity.

5.8 Vice Presidents

In the absence or disability of the chief executive officer and president, the vice presidents (if any) in order of their rank as fixed by the Board of Directors or, if not ranked, a vice president designated by the Board of Directors, shall perform all the duties of the president and when so acting shall have all the powers of, and be subject to all the restrictions upon, the president. The vice presidents shall have such other powers and perform such other duties as from time to time may be prescribed for them respectively by the Board of Directors, these bylaws, the president or the chairman of the board.

5.9 Secretary

The secretary shall keep or cause to be kept, at the principal executive office of the corporation or such other place as the Board of Directors may direct, a book of minutes of all meetings and actions of directors, committees of directors, and stockholders. The minutes shall show the time and place of each meeting, the names of those present at directors' meetings or committee meetings, the number of shares present or represented at stockholders' meetings, and the proceedings thereof.

The secretary shall keep, or cause to be kept, at the principal executive office of the corporation or at the office of the corporation's transfer agent or registrar, as determined by resolution of the Board of Directors, a share register, or a duplicate share register, showing the names of all stockholders and their addresses, the number and classes of shares held by each, the number and date of certificates (if any) evidencing such shares, and the number and date of cancellation of every certificate (if any) surrendered for cancellation.

The secretary shall give, or cause to be given, notice of all meetings of the stockholders and of the Board of Directors required to be given by law or by these bylaws. He or she shall have such other powers and perform such other duties as may be prescribed by the Board of Directors or by these bylaws.

5.10 Chief Financial Officer

The chief financial officer shall keep and maintain, or cause to be kept and maintained, adequate and correct books and records of accounts of the properties and business transactions of the corporation, including accounts of its assets, liabilities, receipts, disbursements, gains, losses, capital, retained earnings and shares. The books of account shall at all reasonable times be open to inspection by any member of the Board of Directors.

The chief financial officer shall render to the chief executive officer, the president, or the Board of Directors, upon request, an account of all his or her transactions as chief financial officer and of the financial condition of the corporation. He or she shall have the general powers and duties usually vested in the office of chief financial officer of a corporation

and shall have such other powers and perform such other duties as may be prescribed by the Board of Directors or these bylaws.

The person serving as the chief financial officer shall also be the acting treasurer of the corporation whenever no other person is then serving in such capacity. Subject to such supervisory powers (if any) as may be given by the Board of Directors to another officer of the corporation, the chief financial officer shall supervise and direct the responsibilities of the treasurer whenever someone other than the chief financial officer is serving as treasurer of the corporation.

5.11 Treasurer

The treasurer shall keep and maintain, or cause to be kept and maintained, adequate and correct books and records with respect to all bank accounts, deposit accounts, cash management accounts and other investment accounts of the corporation. The books of account shall at all reasonable times be open to inspection by any member of the Board of Directors.

The treasurer shall deposit, or cause to be deposited, all moneys and other valuables in the name and to the credit of the corporation with such depositories as may be designated by the Board of Directors. He or she shall disburse the funds of the corporation as may be ordered by the Board of Directors and shall render to the chief financial officer, the chief executive officer, the president or the Board of Directors, upon request, an account of all his or her transactions as treasurer. He or she shall have the general powers and duties usually vested in the office of treasurer of a corporation and shall have such other powers and perform such other duties as may be prescribed by the Board of Directors or these bylaws.

The person serving as the treasurer shall also be the acting chief financial officer of the corporation whenever no other person is then serving in such capacity.

5.12 Representation Of Shares Of Other Corporations

The chairman of the board, the chief executive officer, the president, any vice president, the chief financial officer, the secretary or assistant secretary of this corporation, or any other person authorized by the Board of Directors or the chief executive officer or the president or a vice president, is authorized to vote, represent, and exercise on behalf of this corporation all rights incident to any and all shares of any other corporation or corporations standing in the name of this corporation. The authority granted herein may be exercised either by such person directly or by any other person authorized to do so by proxy or power of attorney duly executed by the person having such authority.

5.13 Authority And Duties Of Officers

In addition to the foregoing authority and duties, all officers of the corporation shall respectively have such authority and perform such duties in the management of the business of the corporation as may be designated from time to time by the Board of Directors or the stockholders.

ARTICLE VI

INDEMNIFICATION OF DIRECTORS, OFFICERS, EMPLOYEES, AND OTHER AGENTS

6.1 Indemnification Of Directors And Officers

The corporation shall, to the maximum extent and in the manner permitted by the General Corporation Law of Delaware, indemnify each of its directors and officers against expenses (including attorneys' fees), judgments, fines, settlements and other amounts actually and reasonably incurred in connection with any proceeding, arising by reason of the fact that such person is or was an agent of the corporation. For purposes of this Section 6.1, a "director" or "officer" of the corporation includes any person (a) who is or was a director or officer of the corporation, (b) who is or was serving at the request of the corporation as a director or officer of another corporation, partnership, joint venture, trust or other enterprise, or (c) who was a director or officer of a corporation which was a predecessor corporation of the corporation or of another enterprise at the request of such predecessor corporation.

6.2 Indemnification Of Others

The corporation shall have the power, to the maximum extent and in the manner permitted by the General Corporation Law of Delaware, to indemnify each of its employees and agents (other than directors and officers) against expenses (including attorneys' fees), judgments, fines, settlements and other amounts actually and reasonably incurred in connection with any proceeding, arising by reason of the fact that such person is or was an agent of the corporation. For purposes of this Section 6.2, an "employee" or "agent" of the corporation (other than a director or officer) includes any person (a) who is or was an employee or agent of the corporation,

(b) who is or was serving at the request of the corporation as an employee or agent of another corporation, partnership, joint venture, trust or other enterprise, or (c) who was an employee or agent of a corporation which was a predecessor corporation of the corporation or of another enterprise at the request of such predecessor corporation.

6.3 Payment Of Expenses In Advance

Expenses incurred in defending any action or proceeding for which indemnification is required pursuant to Section 6.1 or for which indemnification is permitted pursuant to Section 6.2 following authorization thereof by the Board of Directors shall be paid by the corporation in advance of the final disposition of such action or proceeding upon receipt of an undertaking by or on behalf of the indemnified party to repay such amount if it shall ultimately be determined by final judicial decision from which there is no further right to appeal that the indemnified party is not entitled to be indemnified as authorized in this Article VI.

6.4 Indemnity Not Exclusive

The indemnification provided by this Article VI shall not be deemed exclusive of any other rights to which those seeking indemnification may be entitled under any Bylaw, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in an

official capacity and as to action in another capacity while holding such office, to the extent that such additional rights to indemnification are authorized in the certificate of incorporation

6.5 Insurance

The corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against him or her and incurred by him or her in any such capacity, or arising out of his or her status as such, whether or not the corporation would have the power to indemnify him or her against such liability under the provisions of the General Corporation Law of Delaware.

6.6 Conflicts

No indemnification or advance shall be made under this Article VI, except where such indemnification or advance is mandated by law or the order, judgment or decree of any court of competent jurisdiction, in any circumstance where it appears:

(a) That it would be inconsistent with a provision of the certificate of incorporation, these bylaws, a resolution of the stockholders or an agreement in effect at the time of the accrual of the alleged cause of the action asserted in the proceeding in which the expenses were incurred or other amounts were paid, which prohibits or otherwise limits indemnification; or

(b) That it would be inconsistent with any condition expressly imposed by a court in approving a settlement.

ARTICLE VII

RECORDS AND REPORTS

7.1 Maintenance And Inspection Of Records

The corporation shall, either at its principal executive offices or at such place or places as designated by the Board of Directors, keep a record of its stockholders listing their names and addresses and the number and class of shares held by each stockholder, a copy of these bylaws as amended to date, accounting books, and other records.

Any stockholder of record, in person or by attorney or other agent, shall, upon written demand under oath stating the purpose thereof, have the right during the usual hours for business to inspect for any proper purpose the corporation's stock ledger, a list of its stockholders, and its other books and records and to make copies or extracts therefrom. A proper purpose shall mean a purpose reasonably related to such person's interest as a stockholder. In every instance where an attorney or other agent is the person who seeks the right to inspection, the demand under oath shall be accompanied by a power of attorney or such other writing that authorizes the attorney or other agent to so act on behalf of the stockholder. The demand under

oath shall be directed to the corporation at its registered office in Delaware or at its principal place of business.

A complete list of stockholders entitled to vote at any meeting of stockholders, arranged in alphabetical order for each class of stock and showing the address of each such stockholder and the number of shares registered in each such stockholder's name, shall be open to the examination of any such stockholder for a period of at least 10 days prior to the meeting in the manner provided by law. The stock list shall also be open to the examination of any stockholder during the whole time of the meeting as provided by law. This list shall presumptively determine the identity of the stockholders entitled to vote at the meeting and the number of shares held by each of them.

7.2 Inspection By Directors

Any director shall have the right to examine the corporation's stock ledger, a list of its stockholders, and its other books and records for a purpose reasonably related to his or her position as a director. The Court of Chancery is hereby vested with the exclusive jurisdiction to determine whether a director is entitled to the inspection sought. The Court may summarily order the corporation to permit the director to inspect any and all books and records, the stock ledger, and the stock list and to make copies or extracts therefrom. The Court may, in its discretion, prescribe any limitations or conditions with reference to the inspection, or award such other and further relief as the Court may deem just and proper.

ARTICLE VIII

GENERAL MATTERS

8.1 Checks

From time to time, the Board of Directors shall determine by resolution which person or persons may sign or endorse all checks, drafts, other orders for payment of money, notes or other evidences of indebtedness that are issued in the name of or payable to the corporation, and only the persons so authorized shall sign or endorse those instruments.

8.2 Execution Of Corporate Contracts And Instruments

The Board of Directors, except as otherwise provided in these bylaws, may authorize any officer or officers, or agent or agents, to enter into any contract or execute any instrument in the name of and on behalf of the corporation; such authority may be general or confined to specific instances. Unless so authorized or ratified by the Board of Directors or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

8.3 Stock Certificates and Notices; Uncertificated Stock; Partly Paid Shares

The shares of the corporation may be certificated or uncertificated, as provided under Delaware law, and shall be entered in the books of the corporation and recorded as they

are issued. Any or all of the signatures on any certificate may be a facsimile or electronic signature. In case any officer, transfer agent or registrar who has signed or whose facsimile or electronic signature has been placed upon a certificate has ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the corporation with the same effect as if he or she were such officer, transfer agent or registrar at the date of issue.

Within a reasonable time after the issuance or transfer of uncertificated stock and upon the request of a stockholder, the corporation shall send to the record owner thereof a written notice that shall set forth the name of the corporation, that the corporation is organized under the laws of Delaware, the name of the stockholder, the number and class (and the designation of the series, if any) of the shares, and any restrictions on the transfer or registration of such shares of stock imposed by the corporation's certificate of incorporation, these bylaws, any agreement among stockholders or any agreement between stockholders and the corporation.

The corporation may issue the whole or any part of its shares as partly paid and subject to call for the remainder of the consideration to be paid therefor. Upon the face or back of each stock certificate (if any) issued to represent any such partly paid shares, or upon the books and records of the corporation in the case of uncertificated partly paid shares, the total amount of the consideration to be paid therefor and the amount paid thereon shall be stated. Upon the declaration of any dividend on fully paid shares, the corporation shall declare a dividend upon partly paid shares of the same class, but only upon the basis of the percentage of the consideration actually paid thereon.

8.4 Special Designation On Certificates and Notices of Issuance

If the corporation is authorized to issue more than one class of stock or more than one series of any class, then the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate that the corporation shall issue to represent such class or series of stock or the notice of issuance to the record owner of uncertificated stock; provided, however, that, except as otherwise provided in Section 202 of the General Corporation Law of Delaware, in lieu of the foregoing requirements there may be set forth on the face or back of the certificate that the corporation shall issue to represent such class or series of stock or the notice of issuance to the record owner of uncertificated stock, or the purchase agreement for such stock a statement that the corporation will furnish without charge to each stockholder who so requests the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

8.5 Lost Certificates

Except as provided in this Section 8.5, no new certificates for shares shall be issued to replace a previously issued certificate unless the latter is surrendered to the corporation and cancelled at the same time. The corporation may issue a new certificate of stock or notice of uncertificated stock in the place of any certificate previously issued by it, alleged to have been lost, stolen or destroyed, and the corporation may require the owner of the lost, stolen or

destroyed certificate, or the owner's legal representative, to give the corporation a bond sufficient to indemnify it against any claim that may be made against it on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate or uncertificated shares.

8.6 Construction; Definitions

Unless the context requires otherwise, the general provisions, rules of construction, and definitions in the Delaware General Corporation Law shall govern the construction of these bylaws. Without limiting the generality of this provision, the singular number includes the plural, the plural number includes the singular, and the term "person" includes both a corporation and a natural person.

8.7 Dividends

The directors of the corporation, subject to any restrictions contained in (a) the General Corporation Law of Delaware or (b) the certificate of incorporation, may declare and pay dividends upon the shares of its capital stock. Dividends may be paid in cash, in property, or in shares of the corporation's capital stock.

The directors of the corporation may set apart out of any of the funds of the corporation available for dividends a reserve or reserves for any proper purpose and may abolish any such reserve. Such purposes shall include but not be limited to equalizing dividends, repairing or maintaining any property of the corporation, and meeting contingencies.

8.8 Fiscal Year

The fiscal year of the corporation shall be fixed by resolution of the Board of Directors and may be changed by the Board of Directors.

8.9 Transfer Restrictions

Notwithstanding anything to the contrary, except as expressly permitted in this Section 8.9, a stockholder shall not transfer, whether by sale, gift or otherwise, any shares of the corporation's stock to any person unless such transfer is approved by the Board of Directors prior to such transfer, which approval may be granted or withheld in the Board of Directors' sole and absolute discretion. Any purported transfer of any shares of the corporation's stock effected in violation of this Section 8.9 shall be null and void and shall have no force or effect and the corporation shall not register any such purported transfer.

Any stockholder seeking the approval of the Board of Directors of a transfer of some or all of its shares shall give written notice thereof to the Secretary of the corporation that shall include: (a) the name of the stockholder; (b) the proposed transferee; (c) the number of shares of the transfer of which approval is thereby requested; and (d) the purchase price (if any) of the shares proposed for transfer. The corporation may require the stockholder to supplement its notice with such additional information as the corporation may request.

Certificates representing, and in the case of uncertificated securities, notices of issuance with respect to, shares of stock of the corporation shall have impressed on, printed on, written on or otherwise affixed to them the following legend:

THE TRANSFER OF SECURITIES REFERENCED HEREIN IS SUBJECT TO RESTRICTIONS REQUIRING APPROVAL OF THE COMPANY PURSUANT TO AND IN ACCORDANCE WITH THE COMPANY'S BYLAWS, COPIES OF WHICH MAY BE OBTAINED UPON WRITTEN REQUEST TO THE COMPANY AT ITS PRINCIPAL PLACE OF BUSINESS. THE COMPANY SHALL NOT REGISTER OR OTHERWISE RECOGNIZE OR GIVE EFFECT TO ANY PURPORTED TRANSFER OF SHARES OF STOCK THAT DOES NOT COMPLY WITH THE COMPANY'S BYLAWS.

The corporation shall take all such actions as are practicable to cause the certificates representing, and notices of issuance with respect to, shares that are subject to the restrictions on transfer set forth in this Section to contain the foregoing legend.

8.10 Transfer Of Stock

Upon receipt by the corporation or the transfer agent of the corporation of proper transfer instructions from the record holder of uncertificated shares or upon surrender to the corporation or the transfer agent of the corporation of a certificate for shares duly endorsed or accompanied by proper evidence of succession, assignation or authority to transfer, it shall be the duty of the corporation to issue a new certificate or, in the case of uncertificated securities and upon request, a notice of issuance of shares, to the person entitled thereto, cancel the old certificate (if any) and record the transaction in its books.

8.11 Stock Transfer Agreements

The corporation shall have power to enter into and perform any agreement with any number of stockholders of any one or more classes of stock of the corporation to restrict the transfer of shares of stock of the corporation of any one or more classes owned by such stockholders in any manner not prohibited by the General Corporation Law of Delaware.

8.12 Stockholders of Record

The corporation shall be entitled to recognize the exclusive right of a person recorded on its books as the owner of shares to receive dividends and to vote as such owner, shall be entitled to hold liable for calls and assessments the person recorded on its books as the owner of shares, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of another person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

8.13 Facsimile or Electronic Signature

In addition to the provisions for use of facsimile or electronic signatures elsewhere specifically authorized in these bylaws, facsimile or electronic signatures of any stockholder, director or officer of the corporation may be used whenever and as authorized by the Board of Directors or a committee thereof.

ARTICLE IX

AMENDMENTS

The Bylaws of the corporation may be adopted, amended or repealed by the stockholders entitled to vote; provided, however, that the corporation may, in its certificate of incorporation, confer the power to adopt, amend or repeal Bylaws upon the directors. The fact that such power has been so conferred upon the directors shall not divest the stockholders of the power, nor limit their power to adopt, amend or repeal Bylaws.

CERTIFICATE OF BYLAWS

OF

ARCADIA BIOSCIENCES, INC.

A Delaware Corporation

I, Wendy S. Neal, hereby certify that I am the duly elected, qualified, and acting Secretary of Arcadia Biosciences, Inc., a Delaware corporation (the "***Corporation***"), that I am duly authorized to make and deliver this certification, and that the attached Bylaws are a true and correct copy of the Bylaws of the Corporation in effect as of the date of this certificate.

Executed on March 24, 2015.

/s/ Wendy S. Neal

Wendy S. Neal, Secretary

Exhibit 3.4

AMENDED AND RESTATED BYLAWS

OF

ARCADIA BIOSCIENCES, INC.

(Adopted May , 2015)

TABLE OF CONTENTS

BYLAWS

OF

ARCADIA BIOSCIENCES, INC.

ARTICLE I

CORPORATE OFFICES

1.1 REGISTERED OFFICE.

The registered office of the Corporation shall be fixed in the Corporation's Certificate of Incorporation, as the same may be amended from time to time.

1.2 OTHER OFFICES.

The Board of Directors may at any time establish other offices, and keep the books and records of the Corporation, except as may otherwise be required by law, at any place or places where the Corporation is qualified to do business.

ARTICLE II

MEETINGS OF STOCKHOLDERS

2.1 PLACE OF MEETINGS.

Meetings of stockholders shall be held at any place, within or outside the State of Delaware, designated by the Board of Directors. The Board of Directors may, in its sole discretion, determine that a meeting of stockholders shall not be held at any place, but may instead be held solely by means of remote communication as authorized by the Delaware General Corporation Law (the "DGCL"). In the absence of any such designation, stockholders' meetings shall be held at the registered office of the Corporation.

2.2 ANNUAL MEETING.

(a) The annual meeting of stockholders shall be held each year on a date and at a time designated by resolution of the Board of Directors. The meeting shall be for the election of directors to succeed those whose terms expire and for the transaction of such business as may properly come before the meeting. The Corporation may postpone, reschedule or cancel any annual meeting of Stockholders previously scheduled by the Board of Directors.

(b) Nominations of persons for election to the Board of Directors of the Corporation and the proposal of business to be considered by the stockholders may be made at an annual meeting of stockholders only (A) pursuant to the Corporation's proxy materials with respect to such meeting (or any supplement thereto), (B) by or at the direction of the Board of Directors or (C) by any stockholder of record (the "Record Stockholder") of the Corporation who is a stockholder of record at the time of giving such notice, who is entitled to vote at the meeting

and who complies with the notice procedures set forth in this Section. For the avoidance of doubt, the foregoing clause (C) shall be the exclusive means for a stockholder to make nominations or propose business (other than business included in the Corporation's proxy materials pursuant to Rule 14a-8 under the Securities Exchange Act, as amended (such act, and the rules and regulations promulgated thereunder, the "Exchange Act")) at an annual meeting of stockholders.

(c) For nominations or other business to be properly brought before an annual meeting by a Record Stockholder pursuant to clause (C) of the foregoing paragraph, the stockholder must have given timely notice thereof in writing to the Secretary of the Corporation, such business must be a proper subject for stockholder action, and the Record Stockholder and the beneficial owner, if any, on whose behalf any such proposal or nomination is made, must have acted in accordance with the representations set forth in the Solicitation Statement required by these Bylaws. To be timely, a Record Stockholder's notice shall be received by the Secretary at the principal executive offices of the Corporation not less than ninety (90) nor more than one hundred twenty (120) days prior to the one-year anniversary of the preceding year's annual meeting; *provided*, *however*, that, subject to the last sentence of this Section 2.2(c), in the event that the annual meeting is convened more than thirty (30) days before or after such anniversary date, notice by the Record Stockholder to be timely must be so received not later than the close of business on the later of the ninetieth (90th) day prior to such annual meeting or the tenth (10th) day following the date on which public announcement (as defined below) of the date of such meeting is first made by the Corporation. In no event shall an adjournment, or postponement of an annual meeting for which notice has been given, commence a new time period (or extend any time period) for the giving of a Record Stockholder's notice as described above.

(d) Such Record Stockholder's notice shall set forth:

(A) as to each person whom the Record Stockholder proposes to nominate for election or re-election as a director (1) all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors in an election contest, or is otherwise required, in each case pursuant to and in accordance with Regulation 14A under the Exchange Act, and (2) such person's written consent to being named in the proxy statement as a nominee and to serving as a director if elected;

(B) as to any business that the Record Stockholder proposes to bring before the meeting, a brief description of the business desired to be brought before the meeting, the text of the proposal or business (including the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend the Bylaws of the Corporation, the language of the proposed amendment), the reasons for conducting such business at the meeting and any interest in such business of such stockholder and the beneficial owner, if any, on whose behalf the proposal is made;

(C) as to the Record Stockholder giving the notice and the beneficial owner, if any, on whose behalf the nomination is made or the business is proposed (each, a "party"):

(1) the name and address of each such party;

(2) (A) the class, series and number of shares of capital stock of the Corporation which are owned, directly or indirectly, beneficially and of record by each such party, (B) any option, warrant, convertible security, stock appreciation right, or similar right with an exercise or conversion privilege or a settlement payment or mechanism at a price related to any class or series of shares of the Corporation or with a value derived in whole or in part from the value of any class or series of shares of the Corporation, whether or not such instrument or right shall be subject to settlement in the underlying class or series of capital stock of the Corporation or otherwise (a "Derivative Instrument") directly or indirectly owned beneficially by each such party, and any other direct or indirect opportunity to profit or share in any profit derived from any increase or decrease in the value of shares of the Corporation, (C) any proxy, contract, arrangement, understanding, or relationship pursuant to which either party has a right to vote, directly or indirectly, any shares of any security of the Corporation, (D) any short interest in any security of the Corporation held by each such party (for purposes of this Section 2.2, a person shall be deemed to have a short interest in a security if such person directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has the opportunity to profit or share in any profit derived from any decrease in the value of the subject security), (E) any rights to dividends on the shares of the Corporation owned beneficially directly or indirectly by each such party that are separated or separable from the underlying shares of the Corporation, (F) any proportionate interest in shares of the Corporation or Derivative Instruments held, directly or indirectly, by a general or limited partnership in which either party is a general partner or, directly or indirectly, beneficially owns an interest in a general partner and (G) any performance-related fees (other than an asset-based fee) that each such party is directly or indirectly entitled to based on any increase or decrease in the value of shares of the Corporation or Derivative Instruments, if any, as of the date of such notice, including without limitation any such interests held by members of each such party's immediate family sharing the same household (which information set forth in this paragraph shall be supplemented by such stockholder or such beneficial owner, as the case may be, not later than ten (10) days after the record date for determining the stockholders entitled to notice of the meeting and/or to vote at the meeting to disclose such ownership as of such record date);

(4) any other information relating to each such party that would be required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for, as applicable, the proposal and/or for the election of directors in a contested election pursuant to Section 14 of the Exchange Act; and

(5) a statement whether or not each such party will deliver a proxy statement and form of proxy to holders of, in the case of a proposal, at least the percentage of voting power of all of the shares of capital stock of the Corporation required under applicable law to carry the proposal or, in the case of a nomination or nominations, at least the percentage of voting power of all of the shares of capital stock of the Corporation reasonably believed by the Record Stockholder or beneficial holder, as the case may be, to be sufficient to elect the nominee or nominees proposed to be nominated by the Record Stockholder (such statement, a "Solicitation Statement").

(e) The Corporation may require any proposed nominee to furnish such other information as may reasonably be required by the Corporation to determine the eligibility of such proposed nominee to serve as a director of the Corporation, including information relevant to a determination whether such proposed nominee can be considered an independent director.

(f) Only such business shall be conducted at an annual meeting of stockholders as shall have been brought before the meeting in accordance with the procedures set forth in these Bylaws. The chairperson of the meeting shall determine whether a nomination or any business proposed to be transacted by the stockholders has been properly brought before the meeting and, if any proposed nomination or business has not been properly brought before the meeting, the chairperson shall declare that such proposed business or nomination shall not be presented for stockholder action at the meeting.

(g) For purposes of this Article, "public announcement" shall mean disclosure in a press release reported by the Dow Jones News Service, Associated Press or a comparable national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Exchange Act.

(h) Notwithstanding the foregoing provisions of this Section 2.2, a stockholder shall also comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder with respect to matters set forth in this Section 2.2. Nothing in this Section 2.2 shall be deemed to affect any rights of stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act.

2.3 SPECIAL MEETING.

(a) A special meeting of the stockholders, other than those required by statute, may be called at any time by the Board of Directors acting pursuant to a resolution adopted by a majority of the Whole Board (for purposes of these Bylaws, the term "Whole Board" shall mean the total number of authorized directors whether or not there exist any vacancies in previously authorized directorships) and special meetings may not be called by any other person or persons. The Corporation may postpone, reschedule or cancel any special meeting of Stockholders previously scheduled by the Board of Directors.

(b) Only such business shall be conducted at a special meeting of stockholders as shall have been brought before the meeting by or at the direction of the Board of Directors. The notice of a special meeting shall include the purpose for which the meeting is called. Nominations of persons for election to the Board of Directors may be made at a special meeting of stockholders at which directors are to be elected (i) by or at the direction of the Board of Directors or (ii) provided that the Board of Directors has determined that directors shall be elected at such meeting, by any stockholder of record of the Corporation who is a stockholder of record at the time of the giving of the notice provided for in this paragraph, who is entitled to vote at the meeting and upon such election and who delivers a written notice to the Secretary setting forth the information set forth in Section 2.2(d)(A) and (C). Nominations by stockholders of persons for election to the Board of Directors may be made at such a special meeting of stockholders only if such stockholder of record's notice required by the preceding sentence shall be received by the Secretary at the principal executive offices of the Corporation not later than the close of business on the later of the ninetieth (90th) day prior to such special meeting or the tenth (10th) day following the day on which public announcement is first made of the date of the special meeting and of the nominees proposed by the Board of Directors to be elected at such meeting. In no event shall an adjournment, or postponement of a special meeting for which notice has been given, commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above.

(c) Only such business shall be conducted at a special meeting of stockholders as shall have been brought before the meeting by or at the direction of the Board of Directors. The notice of such special meeting shall include the purpose for which the meeting is called.

(d) Notwithstanding the foregoing provisions of this Section 2.3, a stockholder shall also comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder with respect to matters set forth in this Section 2.3. Nothing in this Section 2.3 shall be deemed to affect any rights of stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act.

2.4 NOTICE OF STOCKHOLDER'S MEETINGS; AFFIDAVIT OF NOTICE.

Notice of the place, if any, date, and time of all meetings of the stockholders, the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting, and the record date for determining the stockholders entitled to vote at the meeting, if such date is different from the record date for determining stockholders entitled to notice of the meeting, shall be given, not less than ten (10) nor more than sixty (60) days before the date on which the meeting is to be held, to each stockholder entitled to vote at such meeting as of the record date for determining the stockholders entitled to notice of the meeting, except as otherwise provided herein or required by law (meaning, here and hereinafter, as required from time to time by the DGCL or the Restated Certificate of Incorporation of the Corporation).

When a meeting is adjourned to another time or place, notice need not be given of the adjourned meeting if the time and place, if any, thereof, and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such adjourned meeting are announced at the meeting at which the adjournment

is taken; provided, however, that if the date of any adjourned meeting is more than thirty (30) days after the date for which the meeting was originally noticed, notice of the place, if any, date, and time of the adjourned meeting and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such adjourned meeting, shall be given to each stockholder in conformity herewith. If after the adjournment a new record date for stockholders entitled to vote is fixed for the adjourned meeting, the Board of Directors shall fix a new record date for notice of such adjourned meeting, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors and, except as otherwise required by law, shall not be more than sixty (60) nor less than ten (10) days before the date of such adjourned meeting, and shall give notice of the adjourned meeting to each stockholder of record entitled to vote at such adjourned meeting as of the record date fixed for notice of such adjourned meeting. At any adjourned meeting, any business may be transacted which might have been transacted at the original meeting.

2.5 QUORUM.

At any meeting of stockholders, the holders of a majority of the voting power of all issued and outstanding stock entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum for the transaction of business, except to the extent that the presence of a larger number may be required by law or the rules of any stock exchange upon which the Corporation's securities are listed. Where a separate vote by a class or classes or series is required, a majority of the voting power of all issued and outstanding stock of such class or series, present in person or represented by proxy, shall constitute a quorum entitled to take action with respect to such matter. If a quorum is not present or represented at any meeting of stockholders, then the chairperson of the meeting or the holders of a majority in voting power of the stock entitled to vote thereat, present in person or represented by proxy, shall have power to adjourn the meeting from time to time in accordance with Section 2.4.

2.6 ORGANIZATION.

Such person as the Board of Directors may have designated or, in the absence of such a person, the Chair of the Board or, in his or her absence, the President of the Corporation or, in his or her absence, such person as may be chosen by the holders of a majority of the voting of the shares entitled to vote who are present, in person or by proxy, shall call to order any meeting of the stockholders and act as chair of the meeting. In the absence of the Secretary of the Corporation, the secretary of the meeting shall be such person as the chair of the meeting appoints.

2.7 CONDUCT OF BUSINESS.

The chairperson of any meeting of stockholders shall determine the order of business and the procedure at the meeting, including the manner of voting and the conduct of business. The chair shall have the power to adjourn the meeting to another place, if any, date and time. The date and time of the opening and closing of the polls for each matter upon which the stockholders will vote at the meeting shall be announced at the meeting.

2.8 VOTING.

(a) Except as may be otherwise provided in the Restated Certificate of Incorporation or by law, each stockholder shall be entitled to one vote for each share of capital stock held by such stockholder.

(b) All elections shall be determined by a plurality of the votes cast, and except as otherwise required by law or the rules of any stock exchange upon which the Corporation's securities are listed, all other matters shall be determined by a majority of the votes cast affirmatively or negatively.

2.9 STOCKHOLDER ACTION BY WRITTEN CONSENT WITHOUT A MEETING.

Subject to the rights of the holders of the shares of any series of preferred stock, any action required or permitted to be taken by the stockholders of the Corporation must be effected at a duly called annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders.

2.10 WAIVER OF NOTICE.

Whenever notice is required to be given under any provision of the DGCL or of the Restated Certificate of Incorporation or these Bylaws to a stockholder, a written waiver thereof, signed by the person entitled to notice, whether before or after the time of the event for which notice is to be given, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders need be specified in any written waiver of notice unless so required by the Restated Certificate of Incorporation or these Bylaws.

2.11 RECORD DATE FOR STOCKHOLDER NOTICE; VOTING.

In order that the Corporation may determine the stockholders entitled to notice of any meeting of stockholders or any adjournment thereof, the Board of Directors may, except as otherwise required by law, fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall not be more than sixty (60) nor less than ten (10) days before the date of such meeting. If the Board of Directors so fixes a date, such date shall also be the record date for determining the stockholders entitled to vote at such meeting unless the Board of Directors determines, at the time it fixes such record date, that a later date on or before the date of the meeting shall be the date for making such determination. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of and to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting;

provided, however, that the Board of Directors may fix a new record date for determination of stockholders entitled to vote at the adjourned meeting, and in such case shall also fix as the record date for stockholders entitled to notice of such adjourned meeting the same or an earlier date as that fixed for determination of stockholders entitled to vote in accordance with the foregoing provisions of this Section at the adjourned meeting.

In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights or the stockholders entitled to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which record date shall be not more than sixty (60) days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

2.12 PROXIES.

Each stockholder entitled to vote at a meeting of stockholders may authorize another person or persons to act for such stockholder by a written proxy, signed by the stockholder and filed with the secretary of the Corporation, but no such proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period. A proxy shall be deemed signed if the stockholder's name is placed on the proxy (whether by manual signature, typewriting, electronic or telegraphic transmission or otherwise) by the stockholder or the stockholder's attorney-in-fact. The revocability of a proxy that states on its face that it is irrevocable shall be governed by the provisions of Section 212(e) of the DGCL.

ARTICLE III

DIRECTORS

3.1 POWERS.

Subject to the provisions of the DGCL and any limitations in the Certificate of Incorporation or these Bylaws relating to action required to be approved by the stockholders or by the outstanding shares, the business and affairs of the Corporation shall be managed and all corporate powers shall be exercised by or under the direction of the Board of Directors. In addition to the powers and authorities these Bylaws expressly confer upon them, the Board of Directors may exercise all such powers of the Corporation.

3.2 NUMBER OF DIRECTORS.

Subject to the rights of the holders of any series of preferred stock to elect directors under specified circumstances, the number of directors shall be fixed from time to time exclusively by the Board of Directors pursuant to a resolution adopted by a majority of the Whole Board.

3.3 ELECTION, QUALIFICATION AND TERM OF OFFICE OF DIRECTORS.

The Board shall be divided into three (3) classes, Class I, Class II and Class III, effective at the same time that the stockholders appoint and elect directors to the inaugural classes of Class I, Class II and Class III. Each director shall serve for a term expiring at the third annual meeting following his or her election; *provided, that*, with respect to the directors serving in the inaugural classes of Class I, Class II and Class III, the terms of the directors serving in Class I shall expire at the Corporation's first annual meeting of stockholders held after the effectiveness of the division of the Board into three (3) classes; the terms of the directors serving in Class II shall expire at the Corporation's second annual meeting of stockholders held after such effectiveness; and the terms of the directors serving in Class III shall expire at the Corporation's third annual meeting of stockholders held after such effectiveness.

3.4 RESIGNATION AND VACANCIES.

Subject to the rights of the holders of any series of preferred stock then outstanding, newly created directorships resulting from any increase in the authorized number of directors or any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause shall, unless otherwise required by law or by resolution of the Board of Directors, be filled only by a majority vote of the directors then in office, though less than a quorum (and not by the stockholders), and directors so chosen shall serve for a term expiring at the annual meeting of stockholders at which the term of office of the class to which they have been elected expires or until such director's successor shall have been duly elected and qualified. No decrease in the number of authorized directors shall shorten the term of any incumbent director.

3.5 PLACE OF MEETINGS; MEETINGS BY TELEPHONE.

The Board of Directors of the Corporation may hold meetings, both regular and special, either within or outside the State of Delaware. Unless otherwise restricted by the Restated Certificate of Incorporation or these Bylaws, members of the Board of Directors, or any committee designated by the Board of Directors, may participate in a meeting of the Board of Directors, or any committee, by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.

3.6 REGULAR MEETINGS.

Regular meetings of the Board of Directors may be held without notice at such time and at such place as shall from time to time be determined by the Board of Directors.

3.7 SPECIAL MEETINGS; NOTICE.

Special meetings of the Board of Directors for any purpose or purposes may be called at any time by the chairperson of the board, the president, any vice president, the secretary or a majority of the Whole Board.

Notice of the time and place of special meetings shall be (i) delivered personally by courier or telephone to each director, (ii) sent by first-class mail, postage prepaid, (iii) sent by facsimile, or (iv) by electronic mail, directed to each director at that director's address, telephone number, facsimile number or electronic mail address as it is shown on the records of the Corporation. If the notice is mailed, it shall be deposited in the United States mail at least four (4) days before the time of the holding of the meeting. If the notice is (i) delivered personally by hand, by courier or by telephone, (ii) sent by facsimile or (iii) sent by electronic mail, it shall be delivered at least twenty-four (24) hours before the time of the holding of the meeting, or on such shorter notice as the person or persons calling such meeting may deem necessary and appropriate in the circumstances. Any oral notice given personally or by telephone may be communicated either to the director or to a person at the office of the director who the person giving the notice has reason to believe will promptly communicate it to the director. Notice of any meeting need not be given to any director who shall, either before or after the meeting, submit a waiver of such notice or who shall attend such meeting except attendance for the express purpose of objecting at the beginning of the meeting to the transaction of business because the meeting is not lawfully called or convened. The notice need not specify the purpose of the meeting, and unless otherwise indicated in the notice thereof, any and all business may be transacted at a special meeting.

3.8 QUORUM AND VOTING.

At all meetings of the Board of Directors, a majority of the Whole Board shall constitute a quorum for the transaction of business and the vote of a majority of the directors present at any meeting at which there is a quorum shall be the act of the Board of Directors, except as may be otherwise specifically provided by statute or by the Restated Certificate of Incorporation. If a quorum is not present at any meeting of the Board of Directors, then the majority of directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present.

3.9 WAIVER OF NOTICE.

Whenever notice is required to be given under any provision of the DGCL or of the Restated Certificate of Incorporation or these Bylaws to a director, a written waiver thereof, signed by the person entitled to notice, whether before or after the time of the event for which notice is to be given, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the directors, or members of a committee of directors, need be specified in any written waiver of notice unless so required by the Restated Certificate of Incorporation or these Bylaws.

3.10 BOARD ACTION BY WRITTEN CONSENT WITHOUT A MEETING.

Unless otherwise restricted by the Restated Certificate of Incorporation or these Bylaws, any action required or permitted to be taken at any meeting of the Board of Directors, or of any committee thereof, may be taken without a meeting if all members of the Board of

Directors or committee, as the case may be, consent thereto in writing or by electronic transmission and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the Board of Directors or committee. Written consents representing actions taken by the board or committee may be executed by telex, telecopy or other facsimile transmission, and such facsimile shall be valid and binding to the same extent as if it were an original. Such action by written consent shall have the same force and effect as a unanimous vote of the Board of Directors.

3.11 FEES AND COMPENSATION OF DIRECTORS.

Unless otherwise restricted by the Restated Certificate of Incorporation or these Bylaws, the Board of Directors shall have the authority to fix the compensation of directors. No such compensation shall preclude any director from serving the Corporation in any other capacity and receiving compensation therefor.

3.12 REMOVAL OF DIRECTORS.

Unless otherwise restricted by statute, by the Restated Certificate of Incorporation or by these Bylaws, any director or the entire Board of Directors may be removed, but only for cause, by the holders of a majority of the shares then entitled to vote at an election of directors, voting together as a single class.

No reduction of the authorized number of directors shall have the effect of removing any director prior to the expiration of such director's term of office.

3.13 CHAIRPERSON OF THE BOARD OF DIRECTORS.

The Corporation may also have, at the discretion of the Board of Directors, a Chairperson of the Board of Directors who shall not be considered an officer of the Corporation.

3.14 EMERGENCY BYLAWS.

To the fullest extent permitted by law, in the event of any emergency, disaster or catastrophe, as referred to in Section 110 of the DGCL, or other similar emergency condition, the Board of Directors may adopt emergency bylaws.

ARTICLE IV

COMMITTEES

4.1 COMMITTEES OF DIRECTORS.

The Board of Directors may, by resolution passed by a majority of the Whole Board, designate one or more committees, with each committee to consist of one or more of the directors of the Corporation. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or

not such member or members constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board of Directors or in the Bylaws of the Corporation, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers that may require it; but no such committee shall have the power or authority to (a) approve or adopt or recommend any action or matter (other than election or removal of directors) expressly required by the DGCL to be submitted to stockholders or (b) amend the Bylaws of the Corporation.

4.2 COMMITTEE MINUTES.

Each committee shall keep regular minutes of its meetings and report the same to the Board of Directors when required.

4.3 MEETINGS AND ACTION OF COMMITTEES.

Each committee may determine the procedural rules for meeting and conducting its business and shall act in accordance therewith, except as otherwise provided herein or required by law. Adequate provision shall be made for notice to members of all meetings; one-third (1/3) of the members shall constitute a quorum unless the committee shall consist of one or two members, in which event one member shall constitute a quorum; and all matters shall be determined by a majority vote of the members present. Action may be taken by any committee without a meeting if all members thereof consent thereto in writing or by electronic transmission, and the writing or writings or electronic transmission or transmissions are filed with the minutes of the proceedings of such committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

ARTICLE V

OFFICERS

5.1 OFFICERS.

The officers of the Corporation shall be a chief executive officer, a president, a secretary, and a chief financial officer. The Corporation may also have, at the discretion of the Board of Directors, one or more vice presidents, one or more assistant secretaries, one or more assistant treasurers, and any such other officers as may be appointed in accordance with the provisions of Section 5.3 of these Bylaws. Any number of offices may be held by the same person.

5.2 APPOINTMENT OF OFFICERS.

The officers of the Corporation, except such officers as may be appointed in accordance with the provisions of Sections 5.3 or 5.5 of these Bylaws, shall be appointed by the Board of Directors, subject to the rights, if any, of an officer under any contract of employment.

5.3 SUBORDINATE OFFICERS.

The Board of Directors may appoint, or empower the chief executive officer or the president to appoint, such other officers and agents as the business of the Corporation may require, each of whom shall hold office for such period, have such authority, and perform such duties as are provided in these Bylaws or as the Board of Directors may from time to time determine.

5.4 REMOVAL AND RESIGNATION OF OFFICERS.

Subject to the rights, if any, of an officer under any contract of employment, any officer may be removed, either with or without cause, by an affirmative vote of the majority of the Board of Directors or, except in the case of an officer chosen by the Board of Directors, by any officer upon whom such power of removal may be conferred by the Board of Directors.

Any officer may resign at any time by giving written notice to the attention of the secretary of the Corporation. Any resignation shall take effect at the date of the receipt of that notice or at any later time specified in that notice; and, unless otherwise specified in that notice, the acceptance of the resignation shall not be necessary to make it effective. Any resignation is without prejudice to the rights, if any, of the Corporation under any contract to which the officer is a party.

5.5 VACANCIES IN OFFICES.

Any vacancy occurring in any office of the Corporation shall be filled by the Board of Directors.

5.6 CHIEF EXECUTIVE OFFICER.

Subject to such supervisory powers, if any, as may be given by the Board of Directors to the chairperson of the board, if any, the chief executive officer of the Corporation shall, subject to the control of the Board of Directors, have general supervision, direction, and control of the business and the officers of the Corporation. He or she shall preside at all meetings of the stockholders and, in the absence or nonexistence of a chairperson of the board, at all meetings of the Board of Directors and shall have the general powers and duties of management usually vested in the office of chief executive officer of a corporation and shall have such other powers and duties as may be prescribed or delegated by the Board of Directors or these Bylaws.

5.7 PRESIDENT.

Subject to such supervisory powers, if any, as may be given by the Board of Directors to the chairperson of the board (if any) or the chief executive officer, the president shall have general supervision, direction, and control of the business and other officers of the Corporation. He or she shall have the general powers and duties of management usually vested in the office of president of a corporation and such other powers and duties as may be prescribed or delegated by the Board of Directors or these Bylaws.

5.8 VICE PRESIDENTS.

In the absence or disability of the chief executive officer and president, the vice presidents, if any, in order of their rank as fixed by the Board of Directors or, if not ranked, a vice president designated by the Board of Directors, shall perform all the duties of the president and when so acting shall have all the powers of, and be subject to all the restrictions upon, the president. The vice presidents shall have such other powers and perform such other duties as from time to time may be prescribed or delegated to them respectively by the Board of Directors, these Bylaws, the president or the chairperson of the board.

5.9 SECRETARY.

The secretary shall keep or cause to be kept, at the principal executive office of the Corporation or such other place as the Board of Directors may direct, a book of minutes of all meetings and actions of directors, committees of directors, and stockholders. The minutes shall show the time and place of each meeting, the names of those present at directors' meetings or committee meetings, the number of shares present or represented at stockholders' meetings, and the proceedings thereof.

The secretary shall keep, or cause to be kept, at the principal executive office of the Corporation or at the office of the Corporation's transfer agent or registrar, as determined by resolution of the Board Of Directors, a share register, or a duplicate share register, showing the names of all stockholders and their addresses, the number and classes of shares held by each, the number and date of certificates evidencing such shares, and the number and date of cancellation of every certificate surrendered for cancellation.

The secretary shall give, or cause to be given, notice of all meetings of the stockholders and of the Board of Directors required to be given by law or by these Bylaws. He or she shall keep the seal of the Corporation, if one be adopted, in safe custody and shall have such other powers and perform such other duties as may be prescribed or delegated by the Board of Directors or by these Bylaws.

5.10 CHIEF FINANCIAL OFFICER.

The chief financial officer shall keep and maintain, or cause to be kept and maintained, adequate and correct books and records of accounts of the properties and business transactions of the Corporation, including accounts of its assets, liabilities, receipts, disbursements, gains, losses, capital retained earnings, and shares. The books of account shall at all reasonable times be open to inspection by any director.

The chief financial officer shall deposit all moneys and other valuables in the name and to the credit of the Corporation with such depositories as may be designated by the Board of Directors. He or she shall disburse the funds of the Corporation as may be ordered by the Board of Directors, shall render to the president, the chief executive officer, or the directors, upon request, an account of all his or her transactions as chief financial officer and of the financial condition of the Corporation, and shall have other powers and perform such other duties as may be prescribed or delegated by the Board of Directors or the Bylaws.

5.11 REPRESENTATION OF SHARES OF OTHER CORPORATIONS.

The chairperson of the board, the chief executive officer, the president, any vice president, the chief financial officer, the secretary or assistant secretary of this Corporation, or any other person authorized by the Board of Directors or the chief executive officer or the president or a vice president, is authorized to vote, represent, and exercise on behalf of this Corporation all rights incident to any and all shares of any other corporation or corporations held by this Corporation. The authority granted herein may be exercised either by such person directly or by any other person authorized to do so by proxy or power of attorney duly executed by the person having such authority.

5.12 AUTHORITY AND DUTIES OF OFFICERS.

In addition to the foregoing authority and duties, all officers of the Corporation shall respectively have such authority and perform such duties in the management of the business of the Corporation as may be designated or delegated from time to time by the Board of Directors.

ARTICLE VI

INDEMNIFICATION OF DIRECTORS, OFFICERS, EMPLOYEES, AND OTHER AGENTS

6.1 RIGHT TO INDEMNIFICATION.

Each person who was or is made a party or is threatened to be made a party to or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (hereinafter a "proceeding"), by reason of the fact that he or she is or was a director or an officer of the Corporation or is or was serving at the request of the Corporation as a director, officer or trustee of another corporation or of a partnership, joint venture, trust or other enterprise, including service with respect to an employee benefit plan (hereinafter an "indemnitee"), whether the basis of such proceeding is alleged action in an official capacity as a director, officer or trustee or in any other capacity while serving as a director, officer or trustee, shall be indemnified and held harmless by the Corporation to the fullest extent permitted by Delaware law, as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than such law permitted the Corporation to provide prior to such amendment), against all expense, liability and loss (including attorneys' fees, judgments, fines, ERISA excise taxes or penalties and amounts paid in settlement) reasonably incurred or suffered by such indemnitee in connection therewith; provided, however, that, except as provided in Section 6.3 of this Article VI with respect to proceedings to enforce rights to indemnification, the Corporation shall indemnify any such indemnitee in connection with a proceeding (or part thereof) initiated by such indemnitee only if such proceeding (or part thereof) was authorized by the Board of Directors of the Corporation.

6.2 POWER TO ADVANCE EXPENSES

The Corporation shall have the power to advance expenses to any person to the fullest extent permitted by law.

6.3 RIGHT OF INDEMNITEE TO BRING SUIT.

If a claim under Section 6.1 of this Article VI is not paid in full by the Corporation within sixty (60) days after a written claim has been received by the Corporation, the indemnitee may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim. To the fullest extent permitted by law, if successful in whole or in part in any such suit, the indemnitee shall be entitled to be paid also the expense of prosecuting or defending such suit. In any suit brought by the indemnitee to enforce a right to indemnification hereunder it shall be a defense that the indemnitee has not met any applicable standard for indemnification set forth in the DGCL. Neither the failure of the Corporation (including its directors who are not parties to such action, a committee of such directors, independent legal counsel, or its stockholders) to have made a determination prior to the commencement of such suit that indemnification of the indemnitee is proper in the circumstances because the indemnitee has met the applicable standard of conduct set forth in the DGCL, nor an actual determination by the Corporation (including its directors who are not parties to such action, a committee of such directors, independent legal counsel, or its stockholders) that the indemnitee has not met such applicable standard of conduct, shall create a presumption that the indemnitee has not met the applicable standard of conduct or, in the case of such a suit brought by the indemnitee, be a defense to such suit. In any suit brought by the indemnitee to enforce a right to indemnification hereunder, the burden of proving that the indemnitee is not entitled to be indemnified, under this Article VI or otherwise shall be on the Corporation.

6.4 NON-EXCLUSIVITY OF RIGHTS.

The rights to indemnification conferred in this Article VI shall not be exclusive of any other right which any person may have or hereafter acquire under any statute, the Corporation's Restated Certificate of Incorporation, Bylaws, agreement, vote of stockholders or directors or otherwise.

6.5 INSURANCE.

The Corporation may maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the DGCL.

6.6 INDEMNIFICATION OF EMPLOYEES AND AGENTS OF THE CORPORATION.

The Corporation may, to the extent authorized from time to time by the Board of Directors, grant rights to indemnification and to the advancement of expenses to any employee or agent of the Corporation to the fullest extent permitted by law.

6.7 NATURE OF RIGHTS.

(a) The rights conferred upon indemnitees in this Article VI shall be contract rights and such rights shall continue as to an indemnitee who has ceased to be a director, officer

or trustee and shall inure to the benefit of the indemnitee's heirs, executors and administrators. Any amendment, alteration or repeal of this Article VI that adversely affects any right of an indemnitee or its successors shall be prospective only and shall not limit, eliminate, or impair any such right with respect to any proceeding involving any occurrence or alleged occurrence of any action or omission to act that took place prior to such amendment or repeal.

ARTICLE VII

RECORDS AND REPORTS

7.1 MAINTENANCE AND INSPECTION OF RECORDS; STOCKLIST.

The Corporation shall, either at its principal executive offices or at such place or places as designated by the Board of Directors, keep a record of its stockholders listing their names and addresses and the number and class of shares held by each stockholder, a copy of these Bylaws as amended to date, accounting books, and other records.

The officer who has charge of the stock ledger of the Corporation shall, at least ten (10) days before every meeting of stockholders, prepare and make a complete list of stockholders entitled to vote at any meeting of stockholders, provided, however, if the record date for determining the stockholders entitled to vote is less than ten (10) days before the meeting date, the list shall reflect the stockholders entitled to vote as of the tenth (10^{th}) day before the meeting date, arranged in alphabetical order for each class of stock and showing the address of each such stockholder and the number of shares registered in his or her name. Such list shall be open to the examination of any stockholder for a period of at least ten (10) days prior to the meeting in the manner provided by law.

A stock list shall also be open to the examination of any stockholder during the whole time of the meeting as provided by law. This list shall presumptively determine (a) the identity of the stockholders entitled to examine such stock list and to vote at the meeting and (b) the number of shares held by each of them.

ARTICLE VIII

GENERAL MATTERS

8.1 CHECKS.

From time to time, the Board of Directors shall determine by resolution which person or persons may sign or endorse all checks, drafts, other orders for payment of money, notes or other evidences of indebtedness that are issued in the name of or payable to the Corporation, and only the persons so authorized shall sign or endorse those instruments.

8.2 EXECUTION OF CORPORATE CONTRACTS AND INSTRUMENTS.

The Board of Directors, except as otherwise provided in these Bylaws, may authorize any officer or officers, or agent or agents, to enter into any contract or execute any

instrument in the name of and on behalf of the Corporation; such authority may be general or confined to specific instances. Unless so authorized or ratified by the Board of Directors or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the Corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

8.3 STOCK CERTIFICATES.

The shares of the Corporation shall be represented by certificates, provided that the Board of Directors of the Corporation may provide by resolution or resolutions that some or all of any or all classes or series of its stock shall be uncertificated shares. Any such resolution shall not apply to shares represented by a certificate until such certificate is surrendered to the Corporation. Each holder of stock represented by certificates shall be entitled to a certificate signed by, or in the name of the Corporation by, the President or a Vice President, and by the Secretary or an Assistant Secretary, or the Treasurer or an Assistant Treasurer, certifying the number of shares owned by him or her. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate has ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if he or she were such officer, transfer agent or registrar at the date of issue. Notwithstanding any other provision in these Bylaws, the Corporation may adopt a system of issuance, recordation and transfer of shares of the Corporation by electronic or other means not involving any issuance of certificates, including provisions for notice to purchasers in substitution for any required statements on certificates, and as may be required by applicable corporate securities laws, which system has been approved by the Securities and Exchange Commission. Any system so adopted shall not become effective as to issued and outstanding certificated securities until the certificates therefor have been surrendered to the Corporation.

8.4 LOST, STOLEN OR DESTROYED CERTIFICATES.

Except as provided in this Section 8.4, no new certificates for shares shall be issued to replace a previously issued certificate unless the latter is surrendered to the Corporation and canceled at the same time. The Corporation may issue a new certificate of stock or uncertificated shares in the place of any certificate previously issued by it, alleged to have been lost, stolen or destroyed, and the Corporation may require the owner of the lost, stolen or destroyed certificate, or the owner's legal representative, to give the Corporation a bond sufficient to indemnify it against any claim that may be made against it on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate or uncertificated shares.

8.5 CONSTRUCTION; DEFINITIONS.

Unless the context requires otherwise, the general provisions, rules of construction, and definitions in the DGCL shall govern the construction of these Bylaws. Without limiting the generality of this provision, the singular number includes the plural, the plural number includes the singular, and the term "person" includes both a corporation and a natural person.

8.6 DIVIDENDS.

The directors of the Corporation, subject to any restrictions contained in (a) the DGCL or (b) the Restated Certificate of Incorporation, may declare and pay dividends upon the shares of its capital stock. Dividends may be paid in cash, in property, or in shares of the Corporation's capital stock.

The directors of the Corporation may set apart out of any of the funds of the Corporation available for dividends a reserve or reserves for any proper purpose and may abolish any such reserve. Such purposes shall include but not be limited to equalizing dividends, repairing or maintaining any property of the Corporation, and meeting contingencies.

8.7 FISCAL YEAR.

The fiscal year of the Corporation shall be fixed by resolution of the Board of Directors and may be changed by the Board of Directors.

8.8 REGISTERED STOCKHOLDERS.

The Corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends and to vote as such owner, shall be entitled to hold liable for calls and assessments the person registered on its books as the owner of shares, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of another person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

8.9 TIME PERIODS.

In applying any provision of these Bylaws which requires that an act be done or not be done a specified number of days prior to an event or that an act be done during a period of a specified number of days prior to an event, calendar days shall be used, the day of the doing of the act shall be excluded, and the date of the event shall be included.

ARTICLE IX

NOTICE BY ELECTRONIC TRANSMISSION

9.1 NOTICE BY ELECTRONIC TRANSMISSION.

Without limiting the manner by which notice otherwise may be given effectively to stockholders pursuant to the DGCL, the Restated Certificate of Incorporation or these Bylaws, any notice shall be effective if given by a form of electronic transmission in the manner provided in Section 232 of the DGCL.

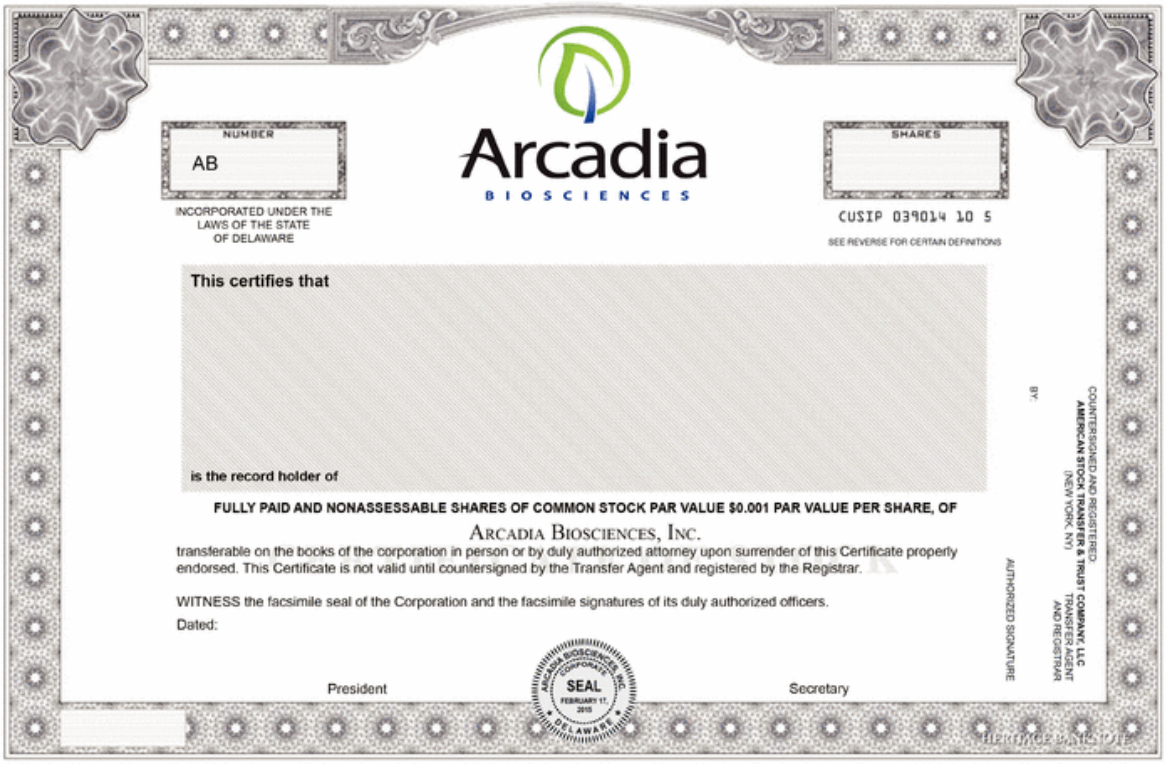
ARTICLE X

AMENDMENTS

In furtherance and not in limitation of the powers conferred by law, the Board of Directors is expressly authorized to adopt, amend and repeal these Bylaws subject to the power of the holders of capital stock of the Corporation to adopt, amend or repeal the Bylaws; provided, however, that, with respect to the power of holders of capital stock to adopt, amend and repeal Bylaws of the Corporation, notwithstanding any other provision of these Bylaws or any provision of law which might otherwise permit a lesser vote or no vote, but in addition to any affirmative vote of the holders of any particular class or series of the capital stock of the Corporation required by law, these Bylaws or any preferred stock, the affirmative vote of the holders of at least sixty-six and two-thirds percent ($66^{2}/_{3}$)% of the voting power of all of the then-outstanding shares entitled to vote generally in the election of directors, voting together as a single class, shall be required to adopt, amend or repeal any provision of these Bylaws.

* * *

Exhibit 4.1



NUMBER

AB

INCORPORATED UNDER THE
LAWS OF THE STATE
OF DELAWARE

Arcadia
BIOSCIENCES

SHARES

CUSIP 039014 10 5

SEE REVERSE FOR CERTAIN DEFINITIONS

This certifies that

is the record holder of

FULLY PAID AND NONASSESSABLE SHARES OF COMMON STOCK PAR VALUE $0.001 PAR VALUE PER SHARE, OF

ARCADIA BIOSCIENCES, INC.

transferable on the books of the corporation in person or by duly authorized attorney upon surrender of this Certificate properly endorsed. This Certificate is not valid until countersigned by the Transfer Agent and registered by the Registrar.

WITNESS the facsimile seal of the Corporation and the facsimile signatures of its duly authorized officers.

Dated:

President

ARCADIA BIOSCIENCES, INC. CORPORATE SEAL FEBRUARY 17, 2015 DELAWARE

Secretary

COUNTERSIGNED AND REGISTERED
AMERICAN STOCK TRANSFER & TRUST COMPANY, LLC
(NEW YORK, NY)
TRANSFER AGENT
AND REGISTRAR

BY:

AUTHORIZED SIGNATURE

HERITAGE PAYNE PDF

The Corporation shall furnish without charge to each stockholder who so requests a statement of the powers, designations, preferences and relative, participating, optional or other special rights of each class of stock of the Corporation or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights. Such requests shall be made to the Corporation's Secretary at the principal office of the Corporation.

KEEP THIS CERTIFICATE IN A SAFE PLACE. IF IT IS LOST, STOLEN,OR DESTROYED THE CORPORATION WILL REQUIRE A BOND INDEMNITY AS A CONDITION TO THE ISSUANCE OF A REPLACEMENT CERTIFICATE.

The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM	–	as tenants in common
TEN ENT	–	as tenants by the entireties
JT TEN	–	as joint tenants with right of survivorship and not as tenants in common
COM PROP	–	as community property

UNIF GIFT MIN ACT – ..... Custodian .....
(Cust) (Minor)
under Uniform Gifts to Minors Act.....
(State)

UNIF TRF MIN ACT – ..... Custodian (until age .....)
(Cust)
.....under Uniform Transfers to Minors Act.....
(Minor) (State)

Additional abbreviations may also be used though not in the above list.

FOR VALUE RECEIVED, _____ hereby sell(s), assign(s) and transfer(s) unto

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER OF ASSIGNEE

_____
(PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS, INCLUDING ZIP CODE, OF ASSIGNEE)

_____

_____

_____ shares of the capital stock represented by within Certificate, and do hereby irrevocably constitute and appoint

_____ attorney-in-fact to transfer the said stock on the books of the within named Corporation with full power of the substitution in the premises.

Dated _____

X _____

X _____

Signature(s) Guaranteed:

NOTICE: THE SIGNATURE TO THIS ASSIGNMENT MUST CORRESPOND WITH THE NAME AS WRITTEN UPON THE FACE OF THE CERTIFICATE IN EVERY PARTICULAR, WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATSOEVER.

By _____

THE SIGNATURE(S) SHOULD BE GUARANTEED BY AN ELIGIBLE GUARANTOR INSTITUTION, (BANKS, STOCKBROKERS, SAVINGS AND LOAN ASSOCIATIONS AND CREDIT UNIONS WITH MEMBERSHIP IN AN APPROVED SIGNATURE GUARANTEE MEDALLION PROGRAM), PURSUANT TO S.E.C. RULE 17Ad-15. GUARANTEES BY A NOTARY PUBLIC ARE NOT ACCEPTABLE. SIGNATURE GUARANTEES MUST NOT BE DATED.

SECURITIES SUBJECT HERETO HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR ANY OTHER FEDERAL, PROVINCIAL OR STATE SECURITIES LAWS AND NEITHER SUCH SECURITIES NOR ANY INTEREST THEREIN MAY BE OFFERED, SOLD, PLEDGED, ASSIGNED OR OTHERWISE TRANSFERRED UNLESS (1) A REGISTRATION STATEMENT WITH RESPECT THERETO IS EFFECTIVE UNDER THE ACT AND ANY OTHER APPLICABLE SECURITIES LAWS, OR (2) THE COMPANY RECEIVES AN OPINION OF COUNSEL TO THE OWNER OF SUCH SECURITIES, WHICH COUNSEL AND OPINION ARE REASONABLY SATISFACTORY TO THE COMPANY, THAT SUCH SECURITIES, OR INTEREST THEREIN, MAY BE OFFERED, SOLD, PLEDGED, ASSIGNED OR TRANSFERRED IN THE MANNER CONTEMPLATED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT UNDER THE ACT OR ANY OTHER APPLICABLE SECURITIES LAWS.

NOTE AND WARRANT PURCHASE AGREEMENT

Arcadia Biosciences, Inc., an Arizona corporation
4222 E Thomas Rd, Suite 245
Phoenix, AZ 85018

Ladies and Gentlemen:

1. Subscription.

(a) Mahyco International Pte Ltd., a company formed under the laws of Singapore ("Subscriber"), hereby subscribes to purchase from Arcadia Biosciences, Inc., an Arizona corporation (the "Company"), and the Company hereby agrees to sell to Subscriber, an unsecured US$5,000,000 Convertible Promissory Note in the form attached hereto as Exhibit A (the "Note"), and a Stock Purchase Warrant in the form attached hereto as Exhibit B (the "Warrant") to purchase up to 302,665 shares (the "Warrant Shares") of the Company's common stock, no par value ("Common Stock"), all on the terms and subject to the conditions set forth in this Note and Warrant Purchase Agreement (the "Agreement"), for the aggregate purchase price of US$5,000,000. The parties agree to allocate US$3,026.65 of such aggregate US$5,000,000 purchase price to the Warrant, subject each party's right to adjust its own allocation to properly reflect advice from its auditor post-Closing.

(b) Subscriber shall return two (2) executed, completed copies of this Agreement to the Company at its address set forth above, accompanied by Subscriber's check or wire transfer in the full amount of the purchase price. The Company's wire transfer instructions are set forth on Schedule 1(b) attached hereto.

(c) The Company shall hold a closing (the "Closing") promptly after the Company receives the documents and payment contemplated by Section 1(b). At the Closing, the Company shall issue to Subscriber the Note and the Warrant, each dated the date of Closing, and shall deliver to Subscriber a fully executed copy of this Agreement.

(d) **The Company strongly advises Subscriber to review the Company's financial statements, business, properties and affairs before entering into this Agreement or subscribing for the Note and the Warrant.**

2. Conditions. This subscription is made subject to the following terms and conditions:

(a) The Company shall have executed and delivered this Agreement, and all the representations and warranties set forth herein shall have been true and correct when made and as of the date of the Closing.

(b) Subscriber and its counsel shall have received a true and complete copy of the resolutions adopted by the Board of Directors of the Company authorizing the execution, delivery and performance of this Agreement and the transactions contemplated hereby.

This Agreement shall automatically terminate if the foregoing conditions are not satisfied and the Closing does not occur on or before October 31, 2013.

3. Representations and Warranties of Subscriber. As of the date of issuance to Subscriber of each of the Note, Conversion Shares, Warrant and Warrant Shares (collectively, the "Securities"), Subscriber hereby makes the following representations and warranties to the Company and Subscriber agrees to indemnify, hold harmless, and pay all judgments and claims against the Company from any liability or injury (including, but not limited to, that arising under federal or state securities laws in the United States, Singapore and any other jurisdiction applicable to Subscriber) incurred as a result of any misrepresentation by Subscriber herein or any covenants not performed by Subscriber.

(a) Investor Representations.

(i) Subscriber is the sole and true party-in-interest and is not purchasing for the benefit of any other person.

(ii) Except as expressly set forth in this Agreement, no person or entity has made any representation or warranty with respect to any matter concerning the Company, and Subscriber is purchasing the Securities based solely upon its own investigation and evaluation.

(iii) Subscriber is not a U.S. Person as defined in Rule 902(k), promulgated under the Act.

(iv) Subscriber is aware that an investment in the Securities is highly speculative and subject to substantial risks. Subscriber acknowledges that Subscriber is capable of bearing the high degree of economic risk and burdens of this investment, including, but not limited to, the possibility of the complete loss of the value of the investment and the limited transferability of the Securities, which may make the liquidation of this investment impossible for the indefinite future.

(v) An affiliate of Subscriber has a pre-existing substantive relationship with the Company. In making an investment in the Securities, Subscriber has relied exclusively on information provided by the Company in writing.

(vi) The Securities are being purchased solely for Subscriber's own account, for investment, and are not being purchased with a view to the resale, distribution, subdivision or fractionalization thereof, except pursuant to a registration statement qualified in the United States or pursuant to an available exemption from applicable federal and state securities laws in the United States, Singapore and any other jurisdiction applicable to any such resale or other transaction.

(vii) Subscriber is purchasing the Securities in an "offshore transaction" as defined in Rule 902(h), promulgated under the Act.

(b) Organization, Qualification and Company Power. Subscriber is a company duly formed, validly existing and in good standing under the laws of Singapore. The Company has the company power and authority to execute, deliver and perform this Agreement and the transactions contemplated hereby.

(c) Authorization; Validity. Subscriber has full power and authority to enter into this Agreement and the transactions contemplated hereby. This Agreement, when executed and delivered by Subscriber, will constitute valid and legally binding obligations of Subscriber, enforceable in accordance with their terms, except as limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, and any other laws of general application affecting enforcement of creditors' rights generally, and as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies.

(d) No Conflicts, Defaults, etc. The execution, delivery and performance of this Agreement by Subscriber does not (i) conflict with or result in a violation of any of Subscriber's charter documents, or (ii) conflict with, or constitute a default (or an event which, with notice or lapse of time or both, would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation of any agreement, indenture or instrument to which Subscriber is a party, or result in a violation of any law, rule, regulation, order, judgment or decree applicable to Subscriber.

(e) No Consents. No consent, approval, order, or authorization of, or registration, qualification, designation, declaration, notice or filing with, any governmental authority, agency or regulatory body of the United States, any state thereof or any foreign jurisdiction is required on the part of Subscriber in connection with its execution and delivery of this Agreement and the consummation of the transactions contemplated hereby.

4. Restrictions on Transferability of Securities. Subscriber understands that:

(a) The Securities are "restricted securities" as defined in Rule 144, promulgated under the Act. In addition to restrictions on resale required by Regulation S (described in clauses (b) through (e) below), the Securities will be subject to all additional restrictions which may be placed on Securities if they were sold to accredited investors who are "U.S. Persons" as defined in Rule 902(k) promulgated under the Act.

(b) The Securities may not be offered or sold to a U.S. Person or for the account or benefit of a U.S. Person (other than a distributor) for a period of one year after their acquisition.

(c) If Securities are offered or sold during the one-year restricted period, any offer or sale will be pursuant to the following conditions:

(i) the purchaser of the Securities (other than a distributor) must certify that it is not a U.S. Person and it is not acquiring the Securities for the account or benefit of any U.S. Person, or is a U.S. Person who purchased securities in a transaction that did not require registration under the Act;

(ii) the purchaser of the Securities (other than a distributor) must agree to resell the Securities only in accordance with the provisions of Regulation S, pursuant to registration under the Act, or pursuant to an available exemption from registration; and

(iii) Subscriber will provide a legal opinion from counsel reasonably acceptable to the Company that the transaction is exempt from registration under applicable U.S. securities laws.

(d) Stop transfer instructions will apply which require the Company to refuse to register any transfer of the Securities not made in accordance with the provisions of Regulation S or other restrictions applicable to the Securities. The Company may require the delivery of an opinion of counsel, certification and/or other information satisfactory to the Company prior to any offer, sale or transfer of the Securities.

(e) Certificates evidencing the Securities shall bear the following, or a substantially similar, legend and such other legends as may be required by applicable securities laws:

"The securities represented by this certificate have not been registered under the Securities Act of 1933 (the "Act"), or any other federal, provincial or state securities laws and neither such securities nor any interest therein may be offered, sold, pledged, assigned or otherwise transferred unless (1) a registration statement with respect thereto is effective under the Act and any other applicable securities laws, or (2) the Company receives an opinion of counsel to the holder of such securities, which counsel and opinion are reasonably satisfactory to the Company, that such securities may be offered, sold, pledged, assigned or transferred in the manner contemplated without an effective registration statement under the Act or any other applicable securities laws."

(f) Subscriber and the Company acknowledge that the representations, warranties and agreements made by them herein shall survive the execution and delivery of this Agreement.

5. Representations and Warranties of the Company. The Company hereby makes the following representations and warranties to Subscriber and the Company agrees to

indemnify, hold harmless and pay all judgments and claims against Subscriber from any liability or injury (including, but not limited to, that arising under federal or state securities laws in the United States, Singapore and any other jurisdiction applicable to the Company) incurred as a result of any misrepresentation by the Company herein or any covenants not performed by the Company.

(a) Organization, Qualifications and Corporate Power. The Company is a corporation duly incorporated, validly existing and in good standing under the laws of the State of Arizona. The Company has the corporate power and authority to (A) execute, deliver and perform this Agreement, (B) issue, sell and deliver the Note and Warrant hereunder, (C) issue, sell and deliver the shares of capital stock issuable upon conversion of the Note (the "Conversion Shares"), and (D) issue, sell and deliver the Warrant Shares issuable upon exercise of the Warrant.

(b) Authorization of Agreements. The execution and delivery by the Company of this Agreement, the Note and the Warrant (collectively, the "Transaction Documents"), the performance by the Company of its obligations hereunder and thereunder, and the issuance, sale and delivery by the Company of the Securities, have been duly authorized by all requisite corporate action. The Note and Warrant have been duly authorized by the Company and, when issued and delivered in accordance with this Agreement, will be validly issued and outstanding. The Conversion Shares and Warrant Shares have been duly authorized by the Company and, when issued and delivered upon conversion of the Note in accordance with its terms and exercise of the Warrant in accordance with its terms, respectively, will be validly issued and outstanding, fully paid and non-assessable.

(c) Validity. The Transaction Documents have each been duly executed and delivered by the Company and constitute legal, valid and binding obligations of the Company enforceable in accordance with their terms (subject to applicable bankruptcy, reorganization, insolvency and similar laws and to moratorium laws from time to time in effect).

(d) Subsidiaries. Except for Anawah, Inc. (the "Subsidiary") and as set forth on Schedule 5(d), the Company does not (a) own of record or beneficially, directly or indirectly, (i) any shares of capital stock or securities convertible into capital stock of any other corporation or (ii) any participating interest in any partnership, joint venture or other non-corporate business enterprise, or (b) control, directly or indirectly, any other business entity. The Subsidiary has been duly incorporated, is validly existing as a corporation in good standing under the laws of Washington, has the corporate power and authority to own its properties and to conduct its business and is duly registered, qualified and authorized to transact business and is in good standing in each jurisdiction in which the conduct of its business or the nature of its properties requires such registration, qualification or authorization. All of the issued and outstanding capital stock of the Subsidiary has been duly authorized and validly issued, is fully paid and non-assessable, and is owned by the Company free and clear of any mortgage, pledge, lien, encumbrance, security interest, claim or equity.

(e) Charter Documents. The Company has delivered to Subscriber complete and current copies of the Company's Amended and Restated Articles of Incorporation, including all amendments thereto (the "Restated Articles"), and the Company's bylaws (the "Bylaws" and,

collectively with the Restated Articles, the "Charter Documents"). The Company is not in violation or default of any provision of its Charter Documents.

(f) Capitalization and Voting Rights. The authorized capital of the Company consists of:

(i) Preferred Stock. 100,000,000 shares of preferred stock, no par value ("Preferred Stock"), of which (i) 68,000,000 shares have been designated Series A Preferred Stock ("Series A Preferred Stock"), 67,063,127 of which are issued and outstanding, (ii) 17,000,000 shares have been designated Series B Preferred Stock ("Series B Preferred Stock"), 16,890,690 of which are issued and outstanding, and (iii) 9,586,346 shares have been designated Series C Preferred Stock ("Series C Preferred Stock") (the Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock shall be referred to as the "Preferred Stock"), all of which are issued and outstanding. The rights, privileges and preferences of the Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock are as stated in the Restated Articles.

(ii) Common Stock. 135,000,000 shares of Common Stock, of which 8,226,236 shares are issued and outstanding.

(iii) Valid Issuance. The outstanding shares of Common Stock and Preferred Stock are all duly and validly authorized and issued, fully paid and non-assessable, and were issued in accordance with the registration or qualification provisions of the Securities Act of 1933, as amended (the "Act"), and any relevant state securities laws, or pursuant to valid exemptions therefrom.

(iv) Other Rights. Except for (A) the conversion privileges of the Preferred Stock, (B) the rights provided in the Amended and Restated Investors' Rights Agreement, among the Company and the shareholders party thereto (the "Investors' Rights Agreement"), (C) the right of first negotiation set forth in Section 4.2(b) of the Stock Purchase Agreement between the Company and Vilmorin & Cie dated April 30, 2010; (D) the engagement letter between the Company Piper Jaffray that contemplates a private placement of up to US$30 million in equity securities of the Company; and (E) currently outstanding options to purchase 14,731,870 shares of Common Stock granted to employees and other service providers pursuant to the Arcadia Biosciences, Inc. 2006 Stock Plan (the "Stock Plan"), there are no outstanding options, warrants, rights (including conversion or preemptive rights) or agreements for the purchase or acquisition from or by the Company of any shares of its capital stock. The Company has reserved an aggregate of 18,000,000 shares of Common Stock for issuance upon exercise of options or restricted stock purchase awards pursuant to the Stock Plan. Except for certain provisions relating to the election of directors pursuant to the Investors' Rights Agreement, the Company is not a party or subject to any agreement or understanding, and, to the Company's knowledge, there is no agreement or understanding between any Persons and/or entities, which affects or relates to the voting or giving of written consents with respect to any security of the Company.

(g) No Conflicts, Defaults, etc. The execution, delivery and performance of this Agreement by the Company does not (i) conflict with or result in a violation of any of the

Charter Documents, or (ii) conflict with, or constitute a default (or an event which, with notice or lapse of time or both, would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation of any agreement, indenture or instrument to which the Company is a party, or result in a violation of any law, rule, regulation, order, judgment or decree (including (assuming the accuracy of the representations and warranties of the Subscriber) the United States federal and state securities laws and regulations) applicable to the Company or by which any property or asset of the Company is bound or affected. No event has occurred and no condition exists which, upon notice or the passage of time (or both), would constitute a material default under any material agreements of the Company or in any material license, permit or authorization to which the Company or any subsidiary is a party or by which any of them may be bound.

(h) No Consents. Except for requisite notices to the Securities and Exchange Commission ("SEC") and under any applicable state "blue sky" laws, no consent, approval, order, or authorization of, or registration, qualification, designation, declaration, notice or filing with, any federal, state, local or foreign governmental authority, agency or regulatory body on the part of the Company is required in connection with its execution and delivery of this Agreement and the consummation of the transactions contemplated hereby.

(i) Absence of Litigation; Compliance with Laws. There is no action, suit, proceeding, inquiry or investigation before or by any court, public board, government agency, self-regulatory organization or body pending or, to the knowledge of the Company, threatened against or affecting the Company, the Subsidiary or any of its directors or officers in their capacities as such. Neither the Company nor the Subsidiary is a party or subject to, and none of its assets is bound by, the provisions of any order, writ, injunction, judgment, or decree of any court or government agency or instrumentality. The Company and the Subsidiary have been since the respective date of their incorporation, and are, in compliance in all material respects with all laws and regulations applicable to them, their properties or assets and have not received any written notice of any violation with respect to any laws or regulations.

(j) Dividends and Distributions; Indebtedness; Material Agreements.

(i) Since December 31, 2012, and except as expressly set forth on Schedule 5(j), there has been no material adverse change in the condition, financial or otherwise, of the Company and the Subsidiary taken as a whole or in their assets, liabilities, properties, profits, results of operations or business, or material loss, destruction or damage to any property of the Company or the Subsidiary, and the Company has not (i) declared, set aside or paid any dividends, or authorized or made any distribution upon or with respect to any class or series of its capital stock, (ii) incurred outside the ordinary course of business any indebtedness for money borrowed or incurred any other liabilities individually in excess of Twenty-Five Thousand Dollars (US$25,000) or in excess of One Hundred Thousand Dollars (US$100,000) in the aggregate, other than the Existing Notes (as defined below) and that certain promissory note dated August 7, 2013 in the principal amount of $2,000,000 issued to the William C. Lewis Trust (the "Lewis Note"), (iii) made any loans or advances to any Person, other than ordinary advances to employees for travel expenses, (iv) except for the Company's negative pledge described in the Lewis Note, sold, exchanged or otherwise disposed of any of its assets or rights, other than the sale of its inventory for fair value in the ordinary course of business or (v) acquired or disposed

of any assets (or any contract or arrangement therefor), or entered into any material transaction otherwise than for fair value in the ordinary course of business. For the purposes of this Section 5(j), all indebtedness, liabilities, agreements, understandings, instruments, contracts and proposed transactions involving the same Person (including Persons the Company has reason to believe are affiliated with each other) shall be aggregated for the purpose of meeting the individual minimum dollar amounts of such subsection.

(ii) The Company is not a guarantor or indemnitor of any indebtedness of any other Person.

(k) Governmental Approvals. No registration or filing with, or consent or approval of or other action by, any federal, state or other governmental agency or instrumentality, domestic or foreign, under laws and regulations thereof is or will be necessary for the valid execution, delivery and performance by the Company of this Agreement, or the issuance, sale and delivery of the Securities.

(l) Real Property; Tangible Assets. The Company does not own any real property. The Company and the Subsidiary have good title to their assets and good title to all leasehold estates, in each case, as are necessary for the operations of the Company and the Subsidiary as now conducted and as presently contemplated to be conducted.

(m) Condition of Properties. All facilities, machinery, equipment, fixtures, vehicles and other properties owned, leased or used by the Company and the Subsidiary are in good operating condition and repair, are reasonably fit and usable for the purposes for which they are being used and are presently contemplated to be used, are adequate and sufficient, in all material respects, for the Company's or the Subsidiary's business as now conducted and as presently contemplated to be conducted and conform in all material respects with all applicable ordinances, regulations and laws.

(n) Intellectual Property Rights.

(i) Subscriber acknowledges that Company has provided to Subscriber a schedule of intellectual property rights that sets forth all of the patents, patent rights, patent applications, trademarks, trademark applications, service marks, service mark applications, trade names, registered copyrights and plant variety protection certificates, and all applications for such that are owned by or registered in the name of the Company or the Subsidiary, or of which the Company or the Subsidiary is a licensor or licensee and for which the Company or the Subsidiary has the right to control prosecution and maintenance of the same. The Company has good and valid title to, and owns free and clear of all liens, or has the exclusive license to use, sell, transfer, license, and sublicense, and has the right to bring actions for the infringement of, all of the Intellectual Property Rights listed on such schedule (the "Company IP Rights"). With respect to each item of the Company IP Rights that is licensed to the Company or the Subsidiary: (i) the license, sublicense or other agreement covering such item is legal, valid, binding, enforceable and in full force and effect and (ii) neither the Company, the Subsidiary nor, to the knowledge of the Company, any other party to such license, sublicense or other agreement, is in breach or default, and no event has occurred which with notice or lapse of

time would constitute a breach or default or permit termination, modification or acceleration thereunder.

(ii) All Company IP Rights are valid and in full force and effect, and no claim is pending or, to the Company's knowledge, threatened to the effect that any of the Company's IP Rights are invalid or unenforceable by the Company or that contests the Company's ownership rights in or license rights to use the Company IP Rights, and there is no reasonable basis for such claim. Neither the present nor proposed use of the Company IP Rights violates or infringes or, to the Company's knowledge, will violate or infringe any rights of any third party including, without limitation, any Intellectual Property Rights of any third party, or any license or other agreement to which the Company or the Subsidiary is a party, and the Company has not received any notice or other claim from any Person asserting any such violation or infringement, nor, to the Company's knowledge, is there any reasonable basis for any such notice of claim. The Company is not aware of any infringement by others of any Company IP Rights or any violation of the confidentiality of any of its proprietary information.

(iii) The Company has taken all reasonable measures to protect and preserve the security, confidentiality and value of its Intellectual Property Rights, including the Company IP Rights. All present and former officers, employees, consultants and independent contractors of the Company have executed a non-disclosure and assignment of inventions agreement sufficient to protect the confidentiality and value of the Company IP Rights and to vest in the Company exclusive ownership of such Company IP Rights, and all such agreements are valid and enforceable and in full force and effect and no such officers, employees, consultants and independent contractors have contested the ownership of any such Company IP Rights by Company and, to the Company's knowledge, there is no reasonable basis for such contesting of ownership rights.

(iv) For purposes of this Agreement, "Intellectual Property Rights" means all intellectual property, including all:

(A) patents, pending applications for patents, and rights to apply for patents in any part of the world;

(B) copyrights, design rights, Internet domain names, and database rights, whether registered or unregistered, and software;

(C) pending trademark and service mark applications, registered trademarks and service marks, registered designations of origin, unregistered trademarks and service marks, including common law trademarks and service marks, rights to trade dress and company names, and in each case with any and all associated goodwill;

(D) plant breeders' rights, including all plant variety protection certificates, and any applications for plant breeders' rights in any part of the world;

(E) genetic material;

(F) inventions and related improvements, if any, processes, designs, formulae, trade secrets, know-how, industrial models, non-public technical and business

information, manufacturing, engineering and technical drawings, and product specifications, if any;

(G) reissues, divisions, continuations, continuations-in-part, renewals, extensions and registrations or foreign counterparts of any of the foregoing; and

(H) rights to claim priority, reciprocity, or national treatment in the United States or any other country based on the foregoing.

(o) Proprietary Information of Third Parties.

(i) No third party has claimed or, to the knowledge of the Company, has reason to claim that any Person currently or formerly employed by or affiliated with the Company has (i) violated or may be violating any of the terms or conditions of his or her employment, non-competition, non-disclosure, invention or similar agreement with such third party, (ii) disclosed or may be disclosing or utilized or may be utilizing any trade secret or proprietary information or documentation of such third party or (iii) interfered or may be interfering in the employment relationship between such third party and any of its present or former employees. No third party has requested information from the Company that suggests that such a claim might be contemplated. To the knowledge of the Company, no Person currently or formerly employed by or affiliated with the Company has (a) employed or proposes to employ any trade secret or any information or documentation proprietary to any former employer or (b) violated any confidential relationship which such Person may have had with any third party, in connection with the development, manufacture, license or sale of any product or proposed product or the development, license or sale of any service or proposed service of the Company, and the Company has no reason to believe there will be any such employment or violation. The Company is not making unlawful use of any confidential information or trade secrets of any current or former officers, employees, consultants or independent contractors of the Company. To the Company's knowledge, none of the execution or delivery of this Agreement, or the carrying on of the Business of the Company by any officer, director, employee, consultant or independent contractor of the Company, or the conduct or proposed conduct of the Business of the Company, will conflict with or result in a breach of the terms, conditions or provisions of or constitute a default under any non-competition, non-disclosure, inventions or similar agreement under which any such Person is obligated. At no time during the conception or reduction of any of the Company IP Rights was any developer, inventor or other contributor to such Company IP Rights operating under any grants from any governmental entity or agency or private source, performing research sponsored by any governmental entity or agency or private source or, to the knowledge of the Company, subject to any employment, invention assignment, non-disclosure or similar agreement or other obligation with any third party, in each case that could materially adversely affect the Company IP Rights or otherwise have a material adverse effect on the Company.

(ii) To the Company's knowledge, the Company's transmission, reproduction, use, display or modification (including framing, and linking web site content) or other practices do not infringe or violate any proprietary or other right of any other Person and, to the Company's knowledge, no claim relating to such infringement or violation is threatened or pending.

(iii) The Company and the Subsidiary own or have valid licenses to use, reproduce, modify, distribute and sublicense all copies of the operating and applications computer software programs and databases used by the Company and the Subsidiary (the "Software"), and neither the Company nor the Subsidiary has sold, licensed, leased or otherwise transferred or granted any interest or rights in or to any portion thereof. To the knowledge of the Company, none of the Software used by the Company or the Subsidiary, nor any use thereof, conflicts with, infringes upon or violates any intellectual property or other proprietary right of any other Person and, to the knowledge of the Company, no claim, suit, action or other proceeding with respect to any such infringement or violation is threatened or pending. The Company and the Subsidiary have taken the steps reasonably necessary to protect its right, title and interest in and to the Software, including, without limitation, the execution of appropriate confidentiality agreements.

(p) Transactions with Affiliates. Except as set forth in Schedule 5(p) hereto, there are no agreements, understandings or proposed transactions between the Company and any of its officers, directors, consultants or employees, or any affiliate or family members thereof. All of the agreements identified on Schedule 5(p) hereto were entered into by the Company in good faith and are on terms no less favorable to the Company than those that the Company could have obtained from non-affiliates. To the Company's knowledge after reasonable inquiry, except as set forth in the Amended and Restated Investors' Rights Agreement (listed on Schedule 5(p)), there exist no agreements among shareholders of the Company to act in concert with respect to their voting or holding of Company securities.

(q) Financial Statements.

(i) The draft consolidated financial statements of the Company and the Subsidiary as of and for the year ended December 31, 2012, for which the audit has not yet been completed, and the unaudited consolidated financial statements of the Company and the Subsidiary as of and for the six months ended June 30, 2013 have been provided to Subscriber prior to Closing and fairly present the consolidated financial position of the Company and Subsidiary as at the dates thereof, and the related consolidated statements of income, retained earnings and changes in financial position for the fiscal periods ended on such dates fairly present the consolidated results of operations and changes in financial position of the Company and Subsidiary for the respective periods indicated. All such financial statements including the schedules and notes thereto, were prepared in accordance with U.S. generally accepted accounting principles ("GAAP") applied consistently throughout the periods involved. The books and accounts of the Company are correct in all material respects and fairly reflect all of the transactions, items of income and expense and all assets and liabilities of the Company.

(ii) The Company has established or is in the process of establishing a system of internal accounting controls sufficient to provide reasonable assurance that: (i) transactions are executed in accordance with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

(r) Tax Matters. There are no federal, state, county or local taxes due and payable by the Company or the Subsidiary that have not been paid. The Company and the Subsidiary have duly filed all federal, state, county and local tax returns required to have been filed by them and there are in effect no waivers of applicable statutes of limitations with respect to taxes for any year.

(s) Employee Benefit Plans. All "employee benefit plans" (as defined in Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA")) and all other employee benefits and all other employee benefit arrangements, policies or payroll practices, including, without limitation, any arrangement, policy or payroll practices providing severance pay, bonuses, commissions, profit-sharing, savings, incentive, change of control, parachute, stock purchase, stock options, insurance, deferred compensation, or other similar fringe or employee benefits covering former or current employees of the Company or the Subsidiary or under which the Company or the Subsidiary has any obligation or liability (each, a "Benefit Arrangement"), are and have been maintained and administered in all material respects in accordance with their express terms and with the requirements of applicable law. The Company's payment to current or former employees pursuant to the Benefit Arrangements are and have been fully deductible under the Code.

(t) Environmental Matters. The operations of the Company through the date hereof would not reasonably be expected to result, either individually or in the aggregate, in any material claim or proceeding alleging liability for (i) pollution or contamination of the air, surface water, groundwater or land; (ii) waste generation, handling, treatment, storage, disposal or transportation; or (iii) handling, treatment, storage, disposal or transportation of or exposure to any chemicals, materials or substances that are defined or regulated as dangerous, toxic, explosive, corrosive, flammable, infectious, radioactive, carcinogenic, mutagenic or otherwise hazardous or toxic or as a pollutant or contaminant under any applicable law ("Hazardous Materials"). To the Company's knowledge, (i) there are no underground storage tanks on any real property leased or otherwise utilized by the Company that are not properly registered or permitted under applicable laws or that at any time have released, leaked, disposed of or otherwise discharged Hazardous Materials and (ii) there are no asbestos containing materials or PCBs on any real property leased or otherwise utilized by the Company.

(u) Disclosure. The Company has provided Subscriber with all information requested by Subscriber in connection with Subscriber's decision to purchase the Note and the Warrant, including all information the Company reasonably believes is necessary to make such investment decision. To the best of Company's knowledge and belief, neither this Agreement, the Schedules and Exhibits hereto, nor any other document or certificate delivered by the Company to Subscriber or their attorneys or agents in connection herewith or therewith or with the transactions contemplated hereby or thereby, contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements contained herein or therein, in light of the circumstances under which they were made, not misleading. To the best of Company's knowledge and belief, there is no fact which materially and adversely affects, or which in the future may (so far as the Company can reasonably foresee) materially and adversely affect, the business, properties, operations, condition (financial or otherwise), intellectual property rights, prospects or affairs of the Company (except for general economic conditions

which are beyond the control of the Company), which has not been expressly set forth in this Agreement or otherwise disclosed to Subscriber, including the Schedules and Exhibits hereto.

(v) Offering. Subject to the truth and accuracy of Subscriber's representations and warranties set forth in this Agreement, as of the date hereof, the offer, sale and issuance of the Securities to Subscriber as contemplated by this Agreement are exempt from the registration requirements of the Securities Act and do not require registration or qualification under any applicable state blue sky or securities laws. Neither the Company nor any agent on its behalf has solicited or shall solicit any offer to sell or has offered to sell or shall offer to sell all or any part of the Securities to any Person so as to bring the sale of such Securities by the Company within the registration provisions of the Securities Act or any state securities laws.

6. Covenants.

(a) Subordination of Existing Notes to Subscriber's Note. The Company will obtain, not later than September 30, 2013, a subordination agreement from that Company shareholder currently holding Company promissory notes in the principal amount of approximately US$8.5 million (the "Existing Notes"), confirming that the Note issued to Subscriber under this Agreement will be senior with respect to priority and payment to the Existing Notes in substantially the form attached hereto as Exhibit C (the "Subordination of Existing Notes Agreement").

(b) Senior Indebtedness; Subordination of Subscriber's Note to Senior Indebtedness(i). To the extent that the Company determines in its good faith discretion that the timing of receipt of the amounts Subscriber advances to the Company pursuant to the Notes issued to Subscriber under this Agreement are insufficient to meet the Company's capital needs, or such advances are otherwise untimely or delayed by Subscriber, the following shall apply:

(i) Senior Indebtedness. The Company shall be entitled to incur indebtedness for money borrowed by the Company (whether or not secured) from one or more banks, commercial finance lenders, equipment lenders, insurance companies, financial institutions or other qualified investors (together with the Lewis Note, the "Senior Indebtedness"), and any such indebtedness or any debentures, notes, or other evidence of indebtedness issued in exchange for or to refinance such Senior Indebtedness, or any indebtedness arising from the satisfaction of such Senior Indebtedness by a guarantor. At or before the Closing, Subscriber shall execute a subordination agreement in substantially the form attached hereto as Exhibit D (the "Subordination of Mahyco Note Agreement") confirming that the Note issued to Subscriber under this Agreement will be junior with respect to priority and payment to the Senior Indebtedness, except with respect to the Subscriber Settlement Right (as defined below), which shall be senior to the Senior Indebtedness.

(ii) Subscriber Settlement Right. The "Subscriber Settlement Right" means Subscriber's right from time to time to demand immediate settlement of a portion of the outstanding balance of the Note (including outstanding unpaid interest), the amount of which will be agreed upon by the Company and Subscriber prior to such settlement ("Settlement Amount"). In order to exercise the Subscriber Settlement Right, Subscriber must first provide written notice to the Company for payment under the Settlement Right, which notice shall set

forth the Settlement Amount required to be paid by the Company to the Subscriber under the Note (the "Subscriber Notice"). Within thirty (30) days of receipt by the Company of the Subscriber Notice, the Company shall pay the Settlement Amount to Subscriber as settlement of a portion of the Note.

(c) Company Right to Prepay Note. The Company has the right to make accelerated repayment of the Note (including interest) in full or in part, by giving at least ninety (90) days' notice to Subscriber. Subscriber may, at its option, on or prior the expiration of such 90-day notice period, elect to exercise its right to convert all or part of the outstanding balance of the Note (including outstanding unpaid interest) into Common Stock as described in Section 6(d) below.

(d) Subscriber's Right to Convert Note. At any time and from time to time prior to maturity and the pre-payment of the Note in accordance with Section 6(c) above, Subscriber has the right to convert all or any part of the outstanding balance of the Note (including outstanding unpaid interest), into that number of shares of Common Stock of the Company determined by dividing the outstanding balance of the Note (including outstanding unpaid interest) being converted by US$4.13 (the "Conversion Rate"), and the Company shall duly comply.

(e) Subscriber's Right to Provide Further Financing. The parties hereby agree that, during the 5-year period following the Closing, notwithstanding anything to the contrary contained in this Agreement, Subscriber shall have the right, in its discretion, to extend an additional convertible loan in amount(s) not exceeding US$5,000,000 (in such tranches as Subscriber deems appropriate) to the Company, on the same terms as the initial Note issued pursuant to this Agreement, except that:

(i) Such additional loan shall not have any warrant coverage;

(ii) Such additional loan will be:

(A) Expressly subordinated in right of priority and payment to the priority and payment of all Company indebtedness existing at the time such additional loan is funded to the same extent that the Existing Notes are subordinated in right of priority and payment to the Note issued to Subscriber pursuant to this Agreement, and Subscriber agrees to execute and deliver to the lender of any such Company indebtedness a subordination agreement in substantially the form of the Subordination of Mahyco Note Agreement, except that such additional loan shall be junior to such Company indebtedness; and

(B) Senior (to the same extent that the Note issued to Subscriber pursuant to this Agreement is senior to the Existing Notes) to all Company indebtedness incurred by the Company after such additional loan is funded.

(iii) The parties hereby agree that the Conversion Rate for such additional loan shall be:

(A) If Subscriber exercises this right during the first 3 years of the 5-year period following the Closing, the Conversion Rate set forth in Section 6(d) above; and

(B) If Subscriber exercises this right during the last 2 years of the 5-year period following the Closing, instead of the Conversion Rate set forth in Section 6(d) above, Subscriber shall have the right to convert all or any part of the outstanding balance of such additional loan (including outstanding unpaid interest), into Common Stock at a conversion price per share equal to 90% of the purchase price per Common Stock equivalent issued in the then-most recent, arms'-length equity funding transaction of at least US$1,000,000 consummated by the Company (excluding issuance(s) of convertible debt).

(f) Confidentiality. Subscriber agrees to keep confidential the existence and the terms and conditions of this Agreement and any information Subscriber receives from the Company pursuant to this Agreement other than information that (i) has been voluntarily disclosed to the general public by the Company or its affiliates, (ii) has been independently developed and disclosed to the general public by others through lawful means, or (iii) otherwise enters the public domain through lawful means; provided, however, Subscriber may disclose such information (A) to its attorneys, accountants and other professionals and representatives to the extent necessary or appropriate in connection with its investment in the Company, (B) to any affiliate of Subscriber (including, without limitation, partners, members and directors), so long as such affiliate agrees to be bound by the provisions of this Section 6(f), and (C) subject to prior consent of the Company, to any other holder of Company securities or any other person or entity.

(g) Further Assurances. Subsequent to the Closing, each party shall take such further action as the other party reasonably requests to effect the provisions of this Agreement.

(h) Adjustment to Conversion Shares. In case the Company takes any of the following actions while the Note and the Warrant remain outstanding, the number and kind of Conversion Shares and Warrant Shares (as the case may be) will be subject to adjustment as follows:

(i) Dividends. In the event the Company shall make or issue, or shall fix a record date for the determination of holders of Common Stock entitled to receive a dividend or other distribution with respect to the Common Stock payable in securities of the Company or other assets (excluding cash dividends or distributions), then and in each such event provision shall be made so that, upon conversion of the Warrant and/or amount then outstanding under the Note, Subscriber shall receive, in addition to the number of shares of Common Stock receivable upon conversion thereof, the number of securities or such other assets of the Company which Subscriber would have received had such Warrant and/or amount (as the case may be) been converted into Common Stock immediately prior to the consummation of such event and had Subscriber thereafter, during the period from the date of such event to and including Subscriber's conversion of the Warrant and/or Note, retained such securities or such other assets receivable by them during such period, subject to further adjustment as provided in this Section 6(h).

(ii) Capital Reorganization or Reclassification. If the Common Stock issuable upon the conversion of the Warrant and/or Note shall be changed into the same or different number of shares of any class or classes of capital stock, whether by capital reorganization, recapitalization, reclassification or otherwise (other than a subdivision or combination of shares or stock dividend provided for in Section 6(h)(i)), or a merger, consolidation or sale of all or substantially all of the Company's capital stock or assets to any

other person), then and in each such event Subscriber shall have the right thereafter to convert the Warrant and/or the then outstanding amount under the Note (or portion thereof) into the kind and amount of shares of capital stock and other securities and property receivable upon such reorganization, recapitalization, reclassification or other change which Subscriber would have received if such amount had been converted into Common Stock immediately prior to the consummation of such reorganization, recapitalization, reclassification or change, subject to further adjustment as provided in this Section 6(h).

(iii) Certificate as to Adjustments; Notice by Company. In each case of an adjustment or readjustment of the Conversion Shares and/or Warrant Shares (as the case may be), the Company at its expense will furnish Subscriber with a certificate prepared by the Treasurer or Chief Financial Officer of the Company, showing such adjustment or readjustment, and stating in detail the facts upon which such adjustment or readjustment is based.

(iv) No Issuance of Fractional Conversion Share. No fraction of a Conversion Share and/or Warrant Share (as the case may be) or scrip representing a fraction of a Conversion Share and/or Warrant Share (as the case may be) shall be issued upon conversion of the Note and/or Warrant (as the case may be). Instead, any fraction of a Conversion Share and/or Warrant Share (as the case may be) that would otherwise be issuable upon conversion of the Note and/or Warrant (as the case may be) shall be rounded up to the next whole Conversion Share and/or Warrant Share (as the case may be) issuable upon the conversion of the Note and/or Warrant (as the case may be). With respect only to Conversion Shares, the determination as to whether any fraction shall be rounded up shall be made with respect to the aggregate principal and interest balance of the Note being converted at any one time.

(v) Partial Conversion. In the event some but not all of the outstanding balance of the Note and/or Warrant (as the case may be) is converted, the Company shall execute and deliver to Subscriber, at the expense of the Company, a new Warrant representing the number of Warrant Shares outstanding and/or a new Note representing the principal and interest balance of the Note that was not converted (as the case may be).

(vi) Reservation of Common Stock. The Company shall at all times reserve and keep available out of its authorized but unissued shares of capital stock, solely for the purpose of effecting the conversion of the Warrant and the Note, such number of its shares of capital stock as shall from time to time be sufficient to effect the conversion of all the amount then outstanding under the Warrant and the Note, and if at any time the number of authorized but unissued shares of capital stock shall not be sufficient to effect the conversion of the Warrant and the amount then outstanding under the Note in their entirety, the Company shall take such action as may be necessary to increase its authorized but unissued shares of capital stock to such number of shares of capital stock as shall be sufficient for such purpose.

7. Information Rights. As long as Subscriber continues to own the Note, the Warrant, any Conversion Shares or any Warrant Shares, Subscriber shall be entitled to receive, and the Company shall provide to Subscriber, at the times specified, the following:

(a) as soon as practicable, but in any event within ninety (90) days of the end of each of the first three quarters of the fiscal year, an unaudited consolidated profit or loss statement of the Company such fiscal quarter;

(b) as soon as practicable, but in any event within ninety (90) days of the end of each fiscal year, a consolidated balance sheet of the Company as of the end of each fiscal year and the related consolidated statements of income, shareholders' equity, and cash flows for each fiscal year, prepared in accordance with GAAP and, if audited, accompanied by the audit report of the Company's independent public accountants;

(c) promptly upon sending, making available, or mailing the same, all press releases, reports, and financial statements that the Company sends or makes available generally to its shareholders;

(d) promptly after the commencement thereof, notice of all actions suits, claims, proceedings, investigations, and inquiries that are likely to materially and adversely affect the Company;

(e) promptly after receipt thereof, notice of all "Events of Default" under any material financial obligation to which the Company or any wholly-owned subsidiary is a party, including all Senior Indebtedness;

(f) promptly after Board approval thereof, copies of all amendments to the Company's Charter Documents; and

(g) promptly, from time to time, such other material information regarding the business, financial condition, operations, property or affairs of the Company as Subscriber may reasonably request.

8. Miscellaneous.

(a) Notice. Any notice or other communication required or permitted to be given hereunder shall be in writing and shall be mailed by certified mail, return receipt requested, or by Federal Express or similar overnight delivery or courier service or delivered by facsimile or e-mail transmission to whom it is to be given, if to the Company, at the address set forth on the first page hereof, if to Subscriber, at the address set forth on the signature page hereof, or in either case, to such other address, facsimile number, or e-mail address as the party shall have furnished in writing in accordance with the provisions of this Section 8(a). Notice to the estate of any party shall be sufficient if addressed to the party as provided in this Section 8(a). Any notice or other communication given by certified mail shall be deemed given at the time of certification thereof, except for a notice changing a party address which shall be deemed given at the time of receipt thereof. Any notice given by other means permitted by this Section 8(a) shall be deemed given at the time of receipt thereof.

(b) Binding Agreement. This Agreement shall be binding upon and inure to the benefit of the parties hereto, the successors and assigns of the Company, and the permitted successors, assigns, heirs and personal representatives of Subscriber. Absent the prior written consent of the Company, Subscriber may not assign this Agreement, the Note or the Warrant to any person or entity other than to affiliates of Subscriber (including, without limitation, partners, members and directors).

(c) Headings. The headings in this Agreement are solely for convenience of reference and shall be given no effect in the construction or interpretation of this Agreement.

(d) Choice of Law. This Agreement shall be governed by, and construed in accordance with, the laws of the State of Arizona, irrespective of any conflict of laws provision thereof.

(e) Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

(f) Entire Agreement; Amendment, Modification or Waiver. This Agreement represents the entire agreement of the parties with respect to the subject matter hereof, and all agreements entered into prior hereto are revoked and superseded by this Agreement, and no representations, warranties, inducements or oral agreements have been made by any of the parties except as expressly set forth herein and therein. The terms of this Agreement may be amended, modified or waived only upon the written consent of the Company and Subscriber, and any amendment effected in accordance with this Section 8(f) shall be binding on the Company and Subscriber, and its successors and assigns.

(g) Expenses. The Company and Subscriber shall each bear their own expenses incurred on their own behalf with respect to this Agreement and the transactions contemplated hereby.

(h) Arbitration. If the parties should have a dispute arising out of or relating to the Transaction Documents, or the parties' respective rights and duties thereunder, then the parties will resolve such dispute in the following manner: (i) either party may at any time deliver to the other a written dispute notice setting forth a brief description of the issue(s) for which such notice initiates the dispute resolution mechanism contemplated by this Section 8(h); (ii) during the thirty (30) day period following the delivery of the notice described in Section 8(h), appropriate representatives of the various parties will meet and seek to resolve the disputed issue(s) through negotiation, (iii) if representatives of the parties are unable to resolve the disputed issue(s) through negotiation, then within fifteen (15) days after the period described in Section 8(h), either party may file an arbitration demand with the American Arbitration Association ("AAA") for final and binding arbitration (to the exclusion of a court of law) in Arizona in accordance with the then existing Commercial Arbitration Rules (the "Rules") of the AAA, and judgment upon the award rendered by the arbitrators may be entered in any court having jurisdiction thereof; provided, however, that the law applicable to any controversy shall be as set forth in Section 8(d). In any arbitration pursuant to this Agreement, the award or decision shall be rendered by a panel of three arbitrators (unless the Company and Subscriber

mutually agree to a single arbitrator, in which case there shall be a single arbitrator) who shall be appointed by mutual agreement of the Company and Subscriber. In the event of the failure of the Company and Subscriber to agree within forty-five (45) days after the commencement of the arbitration proceeding upon the appointment of panel of arbitrators (three or one), the panel shall be appointed in accordance with the Rules. Upon the completion of the selection of the panel, an award or decision shall be rendered as soon as practicable. Notwithstanding the foregoing, the request by either party for preliminary or permanent injunctive relief, whether prohibitive or mandatory, shall not be subject to arbitration and may be adjudicated only by the U.S. District Court for the District of Arizona.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of September 27, 2013.

THE COMPANY:

ARCADIA BIOSCIENCES, INC., an Arizona corporation

By: /s/ Eric J. Rey
Name: Eric J. Rey
Title: President & CEO
Address: 4222 E Thomas Rd, Suite 245
Phoenix, AZ 85018

Facsimile: (530) 756-7027
E-mail: eric.rey@arcadiabio.com

SUBSCRIBER:

MAHYCO INTERNATIONAL PTE LTD.

By: /s/ Raju Barwale
Name: Raju Barwale
Title: Director
Address:

Facsimile:
E-mail:

[Signature Page to Note and Warrant Purchase Agreement]

Schedules:

A Schedule of Exceptions
- Schedule 1(b) — Arcadia Wire Transfer Information
- Schedule 5(d) — Subsidiaries
- Schedule 5(j) — Dividends and Distributions; Indebtedness; Material Agreements
- Schedule 5(p) — Transactions with Affiliates

Exhibits:

A Form of Convertible Promissory Note
B Form of Stock Purchase Warrant
C Form of Subordination of Existing Notes Agreement
D Form of Subordination of Mahyco Note Agreement

SCHEDULE A

SCHEDULE OF EXCEPTIONS

These Schedules are being delivered pursuant to the Note and Warrant Purchase Agreement, dated September , 2013 (the "Agreement") by and between Arcadia Biosciences, Inc. (the "Company"), and Mahyco International Pte Ltd. ("Mahyco"). Capitalized terms used but not defined herein shall have the respective meanings assigned to such terms in the Agreement, unless the context otherwise requires.

The representations and warranties of the Company set forth in Section 5 of the Agreement are made and given subject to these Schedules and are qualified in their entirety hereby. The representations and warranties made by the Company in the Agreement are exclusive and the Company makes no representations or warranties whatsoever except as set forth in the Agreement. These Schedules should be read in their entirety.

In addition, these Schedules are subject to the following terms and conditions:

1. All references to Section numbers are to Sections of the Agreement, unless otherwise stated or the context otherwise requires.

2. The headings and descriptions of representations, warranties, and covenants herein are for descriptive purposes and convenience of reference only and should not be deemed to affect such representations, warranties, or covenants or to limit the exceptions made hereby or the provisions hereof.

SCHEDULE 1(b)

Arcadia Biosciences Wire Transfer Instructions

Wells Fargo Bank, NA.
8601 N. Scottsdale Road, Suite 150
Scottsdale, AZ 85253

Account Title: Arcadia Biosciences, Inc.
SWIFT CODE: [...*...]
Account Number: [...*...]
Account Type: Savings
FIN: [...*...]

Bank Contact Name: Jaimee Pascale
Bank Contact Number: (480) 348-4397
Email: jaimee.l.pascale@wellsfargo.com

SCHEDULE 5(d)

Subsidiaries

Entity	Legal Relationship	Comments
Limagrain Cereal Seeds, LLC	Joint venture with Limagrain USA, Inc., a wholly-owned subsidiary of Vilmorin & Cie	Minority ownership interest
Verdeca LLC	Joint venture with Bioceres, Inc., a wholly-owned subsidiary of Bioceres S.A.	50% ownership interest
Bioceres S.A.	Shareholder	Arcadia owns 632 shares of Bioceres S.A. common stock

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SCHEDULE 5(j)

Dividends and Distributions; Indebtedness; Material Agreements

Entity	Title	Date	Description
Farnam Street Financial, Inc.	Equipment Lease	4/1/2013; amended 7/1/2013	Lease for laboratory equipment; 18 month term (from 7/1/2013); total payments US$125,000

SCHEDULE 5(p)

Transactions with Affiliates

Entity	Title	Date	Description
Blue Horse Labs, Inc.	Sponsored Research & Development Agreement	1/1/2003	Agreement under which BHL provided funding for certain research activities
Blue Horse Labs, Inc.	Intellectual Property License	1/1/2003; amended 8/1/2009	Exclusive license of certain patent assets wholly developed with BHL funding from Sponsored R&D Agreement
Moral Compass Corporation	Agreement for the Purchase and Sale of Stock	2/26/2010	Purchase of 642,857 shares of Company common stock
Moral Compass Corporation	Series A Preferred Stock Purchase Agreements	1/15/2007; 6/29/2007; 4/9/2008; 7/24/2008	Purchase of 60,681,806 shares of Company Series A Preferred stock
Moral Compass Corporation	Series B Preferred Stock Purchase Agreement	6/30/2009	Purchase of 15,391,005 shares of Company Series B Preferred stock
Moral Compass Corporation	Series C Preferred Stock Purchase Agreement	10/14/2009	Commitment to Purchase 9,345,794 shares of Company Series C Preferred stock
Moral Compass Corporation	Amended and Restated Investors' Rights Agreement	4/30/2010	Investors' Rights Agreement
Moral Compass Corporation	Loan Agreement	7/23/2012	US$8,000,000 loan; 3 year term
Moral Compass Corporation	Short-Term Loan Agreement	7/18/2013	US$500,000 loan; 3 month term
Verdeca LLC	Technology Licenses	2/28/2012	Contractual commitment to grant certain technology licenses to Verdeca LLC for utilization in soybeans; reciprocal commitment from joint venture partner

Note: Agreements with Moral Compass Corporation having effective dates prior to July 23, 2012 were executed under prior legal names of Moral Compass Corporation, *i.e.*, Moral Hazard Corporation and Exeter, Inc.

EXHIBIT A

[Form of Convertible Promissory Filed as Exhibit 4.5]

EXHIBIT B

[Form of Stock Purchase Warrant attached]

THE SECURITIES REPRESENTED BY THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 (THE **"ACT"**) OR UNDER THE SECURITIES LAWS OF ANY STATE. THESE SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, OR OTHERWISE TRANSFERRED, EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT FILED UNDER THE SECURITIES ACT OF 1933 OR PURSUANT TO AN EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF SUCH ACT, THE AVAILABILITY OF WHICH EXEMPTION MUST BE ESTABLISHED TO THE REASONABLE SATISFACTION OF THE COMPANY. THE TRANSFER OF THIS INSTRUMENT IS RESTRICTED AS DESCRIBED HEREIN.

Issue Date: September , 2013

STOCK PURCHASE WARRANT
ARCADIA BIOSCIENCES, INC.

This Warrant is issued, for value received, to Mahyco International Pte Ltd., a company formed under the laws of Singapore (**"Holder"**), by Arcadia Biosciences, Inc., an Arizona corporation (**"Company"**), pursuant to that certain Note and Warrant Purchase Agreement between Company and Holder dated September , 2013 (the **"Purchase Agreement"**). Capitalized terms not defined herein shall have the meanings ascribed to such terms in the Purchase Agreement.

l. Purchase of Shares. Subject to the terms and conditions as hereinafter set forth, the Holder of this Warrant is entitled, upon surrender of this Warrant to the Company, to purchase from the Company up to 302,665 shares of the Company's Common Stock (the **"Exercise Stock"**).

2. Exercise Period. The purchase price for each share of Exercise Stock subject to this Warrant will be equal to US$4.13 per share (the **"Exercise Price"**).

3. Exercise Period. This Warrant shall immediately vest on the Issue Date stated above and remain exercisable until and including the fifth anniversary of the Issue Date.

4. Method of Exercise: Expenses.

(a) While this Warrant remains outstanding and exercisable in accordance with Section 3 above, the Holder may exercise, in whole or in part, and from time to time, the purchase rights evidenced hereby. Such exercise will be effected by:

(i) the surrender of this Warrant, together with a duly executed copy of the form of subscription attached hereto, to the Secretary of the Company at its principal offices; and

(ii) the payment to the Company in cash or check of an amount equal to the aggregate Exercise Price for the number of shares of Exercise Stock being purchased.

(b) The Company will pay all expenses, taxes (other than transfer taxes) and other charges payable in connection with the preparation, issuance and delivery of this Warrant and the Exercise Stock.

(c) Each exercise of this Warrant will be deemed to have been effected immediately prior to the close of business on the day on which this Warrant will have been surrendered to the Company as provided in Section 4(a) above. At such time, the person or persons in whose name or names any certificates for the shares of Exercise Stock will be issuable upon such exercise will be deemed to have become the Holder or holders of record of the Exercise Stock represented by such certificates.

(d) If this Warrant is exercised in part only, the Company shall, if this Warrant is surrendered for cancellation, execute and deliver a new Warrant of the same tenor evidencing the right of the Holder to purchase the balance of the Exercise Stock hereunder upon the same terms and conditions as herein set forth.

5. Certificates for Shares. Upon the exercise of the purchase rights evidenced by this Warrant, one or more certificates for the number of shares of Exercise Stock so purchased will be issued as soon as practicable thereafter, and in any event within 10 business days of the delivery of the subscription notice.

6. Valid Issuance of Shares. The Company covenants that: (i) it will at all times keep reserved for issuance upon exercise hereof such number of shares of Exercise Stock as will be issuable upon such exercise, and (ii) the shares of Exercise Stock, when issued pursuant to the exercise of this Warrant, will be duly and validly issued, fully paid and nonassessable and free from all taxes, liens, charges and preemptive or similar rights with respect to the issuance thereof.

7. Adjustment of Exercise Price and Type and Number of Shares.

(a) The Exercise Price and the number and kind of shares of Exercise Stock (or other securities) purchasable hereunder will be subject to adjustment as follows: In case the Company will at any time prior to the expiration of this Warrant, (i) pay a dividend or make a distribution on the outstanding shares of Exercise Stock, (ii) subdivide the outstanding shares of Exercise Stock into a larger number of shares of Exercise Stock, (iii) combine the outstanding shares of Exercise Stock into a smaller number of shares of Exercise Stock, or (iv) issue any equity interest in a reclassification of Exercise Stock, then, and in each such case, the Exercise

Price and number of shares of Exercise Stock (or other securities) purchasable hereunder in effect immediately prior to such event will be adjusted (and any other appropriate actions will be taken by the Company) so that the Holder of this Warrant will be entitled to receive, for the same aggregate consideration, the number of shares of Exercise Stock or other securities of the Company that the Holder would have owned or been entitled to receive upon or by reason of any of the events described above, had this Warrant been exercised immediately prior to the occurrence of such event with respect to any unexercised portion of this Warrant. Any adjustment made pursuant to this Section 7(a) will become effective (x) in the case of any such dividend or distribution, on the date immediately following the close of business on the record date for the determination of Holders of Exercise Stock entitled to receive such dividend or

distribution or (y) in the case of any such subdivision, combination or reclassification, on the close of business on the day upon which such corporate action becomes effective.

(b) If after the date hereof the Company shall enter into any Reorganization (as hereinafter defined), then, as a condition of such Reorganization, lawful provisions shall be made, and duly executed documents evidencing the same from the Company or its successor shall be delivered to the Holder, so that the Holder shall thereafter have the right to exercise this Warrant as provided in Section 1 prior to the consummation of such Reorganization, and shall receive, in lieu of the Exercise Stock (or other securities) issuable upon such an exercise prior to such consummation or such effective date, the stock and other securities and property (including cash) to which the Holder is entitled upon the consummation of such Reorganization. The Company shall notify the Holder of its plan to enter into any Reorganization at least thirty (30) days prior to the consummation of such Reorganization and shall make the aforesaid lawful provisions and deliver the aforesaid duly executed documents as soon as possible after providing such notice, but in any event prior to the consummation of such Reorganization. If the Holder elects not to exercise this Warrant prior to consummation of such Reorganization, this Warrant will terminate in its entirety on consummation of such Reorganization. For the purposes of this Section 7(b), the term **"Reorganization"** shall include without limitation any reclassification, capital reorganization, conversion or change of the Exercise Stock (other than as a result of a subdivision, combination or stock dividend provided for in Section 7(a) hereof), or any consolidation of the Company with, or merger of the Company into, another corporation or other business organization (other than a merger in which the Company is the surviving corporation and which does not result in any reclassification or change of the outstanding Exercise Stock), or any sale or conveyance to another corporation or other business organization of all or substantially all of the assets of the Company.

(c) When any adjustment is required to be made in the number or kind of shares purchasable upon exercise of the Warrant, or in the Exercise Price, the Company will promptly notify the Holder of this Warrant of such event and of the number of shares of Exercise Stock or other securities or property thereafter purchasable upon exercise of this Warrant.

8. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares will be issued upon the exercise of this Warrant, but in lieu of such fractional shares the Company will make a cash payment therefor on the basis of the Exercise Price then in effect.

9. No Stockholder Rights. Prior to exercise of this Warrant, the Holder will not be entitled to any rights of a stockholder with respect to the shares of Exercise Stock, including (without limitation) the right to vote such shares, receive dividends or other distributions thereon, or be notified of stockholder meetings.

10. Transferability. Subject to compliance with applicable federal and state securities laws in the United States, Singapore and any other jurisdiction applicable to Holder, including without limitation the restrictions set forth in Section 4 of the Purchase Agreement, this Warrant and all rights hereunder are transferable in whole or in part by the Holder of this Warrant to any affiliate of the Holder (including, without limitation, partners, members and directors) upon written notice to the Company. Absent the prior written consent of the Company, Holder may

not assign this Warrant to any other person or entity. In the event of a partial transfer, the Company will issue to Holder and the permitted transferee one or more appropriate new warrants.

11. Successors and Assigns. The terms and provisions of this Warrant will inure to the benefit of, and be binding upon, the Company and the Holders hereof and their respective successors and permitted assigns.

12. Amendments and Waivers. Any waiver or amendment of any term of this Warrant must be in writing signed by the Holder and by the Company and will be binding upon any subsequent holder of this Warrant.

13. Notices. All notices, requests, consents and other communications hereunder will be in writing, will be addressed to the receiving party's address as set forth on the books of the Company or to such other address as a party may designate by notice hereunder, and will be either (i) delivered by hand, (ii) sent by reputable overnight courier, or (iii) sent by registered or certified mail, return receipt requested, postage prepaid. All notices, requests, consents, and other communications hereunder will be deemed to have been given either (x) if by hand, at the time of the delivery thereof to the receiving party at the address of such party set forth above, (y) if sent by overnight courier, on the next business day following the day such notice is delivered to the courier service, or (z) if sent by registered or certified mail, on the 5th business day following the day such mailing is made.

14. Governing Law. This Warrant will be governed by the laws of the State of Arizona (without giving effect to the conflict of law principles thereof).

THE COMPANY:

Arcadia Biosciences, Inc., an Arizona corporation

By: _____
Name: Eric J. Rey
Title: President & CEO
Address: 4222 E Thomas Rd, Suite 245
Phoenix, AZ 85018

SUBSCRIPTION

Arcadia Biosciences, Inc., an Arizona corporation
Attention: Corporate Secretary

The undersigned, the Holder of the attached Warrant, hereby irrevocably elects to purchase, pursuant to the provisions of the attached Warrant, shares of Exercise Stock of Arcadia Biosciences, Inc., an Arizona corporation

Payment of the exercise price per share required under such Woman accompanies this Subscription.

WARRANT HOLDER:

Name of Holder: _____

By: _____
Print Name: _____
Print Title _____
Date: _____

EXHIBIT C

[Form of Subordination of Existing Notes Agreement attached]

SUBORDINATION AGREEMENT

This Subordination Agreement ("Agreement") dated as of September , 2013 ("Effective-Date"), is made by Moral Compass Corporation, an Arizona corporation with its principal place of business at 4835 E. Exeter Blvd., Phoenix, AZ 85018, and/or its affiliates and subsidiaries ("Subordinated Creditor"), for the benefit of Mahyco International Pte Ltd., a company formed under the laws of Singapore ("Mahyco") and the William C. Lewis Trust dated August 1, 1989, William C. Lewis trustee residing at 6525 N. 26th Street, Phoenix, AZ 85016 ("Lewis"). Each of Mahyco and Lewis are referred to herein as "Lender" and, collectively, as "Lenders").

Subordinated Creditor currently holds unsecured promissory notes issued to it by Arcadia Biosciences, Inc., an Arizona corporation ("Borrower") in the principal amount of US$8.5 million, plus interest ("Existing Notes").

Mahyco currently holds or intends to hold unsecured promissory notes evidencing Borrower indebtedness in the aggregate principal amount of up to US$5 million, whether such indebtedness now exists or is hereafter created or incurred, and whether it is or may be direct or indirect, due or to become due, absolute or contingent primary or secondary, liquidated or unliquidated, or joint, several or joint and several, all interest thereon, all renewals, extensions and modifications thereof and any notes issued in whole or partial substitution therefor ("Mahyco Notes").

Lewis currently holds or intends to hold an unsecured promissory note evidencing Borrower indebtedness in the aggregate principal amount of up to US$2 million, whether such indebtedness now exists or is hereafter created or incurred, and whether it is or may be direct or indirect, due or to become due, absolute or contingent, primary or secondary, liquidated or unliquidated, or joint, several or joint and several, all interest thereon, all renewals, extensions and modifications thereof and any notes issued in whole or partial substitution therefor ("investor Note" and, collectively with Mahyco Notes, the "Senior Debt").

As a condition to making any loan or extension of credit to Borrower, Lenders have required that the Subordinated Creditor subordinate the payment of Existing Notes and other financial accommodations relating thereto to the payment of Senior Debt in accordance with the terms hereof.

ACCORDINGLY, in consideration of the Senior Debt and other financial accommodations relating thereto made by Lender for the benefit of Borrower, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Subordinated Creditor hereby agrees as follows:

l. Definitions. As used herein, the following terms have the meanings set forth below:

"Borrower Default" means a Default or Event of Default as defined in any agreement or instrument evidencing, governing, or issued in connection with Senior Debt.

"Subordinated Indebtedness" means all obligations arising under Existing Notes and each and every other debt, liability and obligation of every type and description that Borrower may now or at any time hereafter owe to Subordinated Creditor in connection with the Existing Notes, whether such debt, liability or obligation now exists or is hereafter created or incurred, and whether it is or may be direct or indirect, due or to become due, absolute or contingent, primary or secondary, liquidated or unliquidated, or joint, several or joint and several, all interest thereon, all renewals, extensions and modifications thereof and any notes issued in whole or partial substitution therefor.

2. Subordination. The payment of all Subordinated Indebtedness is hereby expressly subordinated to the extent and in the manner hereafter set forth to the payment in full of Senior Debt.

3. No Principal Payments on Subordinated Indebtedness while Blocking Notice is in Effect. Unless Senior Debt has previously been paid in full, during the period that a Blocking Notice (as defined below) is in effect, Subordinated Creditor shall not demand, receive or accept any payment from Borrower in respect of Subordinated Indebtedness, or exercise any right of or permit any setoff in respect of Subordinated Indebtedness, other than payment of interest, without the prior written consent of the Lender(s) issuing the Blocking Notice. A "Blocking Notice" is a written notice from one or more Lenders to Subordinated Creditor in accordance with paragraph 9 below that a Borrower Default has occurred and is continuing with respect to the Senior Debt. From and after the delivery of a Blocking Notice, Subordinated Creditor is prohibited from demanding, receiving or accepting payment of principal in respect of Subordinated Indebtedness unless and until such Borrower

Default is waived in writing by the Lender(s) issuing the Blocking Notice or cured by Borrower. Nothing contained herein shall prevent the Subordinated Creditor from accelerating any Subordinated Indebtedness or receiving or accepting payments in respect of the Subordinated Indebtedness when a Blocking Notice is not in effect.

4. Receipt of Prohibited Payments. If Subordinated Creditor receives any payment on Subordinated Indebtedness that Subordinated Creditor is not entitled to receive under the provisions of this Agreement, Subordinated Creditor will hold the amount so received in trust for Lenders and will forthwith turn over such payment to Lenders in the form received (except for the endorsement of Subordinated Creditor where necessary) for application to then-existing Senior Debt in such manner as Lenders may deem appropriate in compliance with any written subordination agreement by, between or among the Lenders. If Subordinated Creditor exercises any right of setoff that Subordinated Creditor is not permitted to exercise under the provisions of this Agreement, Subordinated Creditor will promptly pay over to Lenders, in immediately available funds, an amount equal to the amount of the claims or obligations offset for application to then-existing Senior Debt in such manner as Lenders may deem appropriate in compliance with any written subordination agreement by, between or among the Lenders. If Subordinated Creditor fails to make any endorsement required under this Agreement, each Lender, through its officers, employees or agents, is hereby irrevocably appointed as the attorney-in-fact (which appointment is coupled with an interest) for Subordinated Creditor to make such endorsement in Subordinated Creditor's name.

5. Bankruptcy and Insolvency. In the event of any receivership, insolvency, bankruptcy, assignment for the benefit of creditors, reorganization or arrangement with creditors, whether or not pursuant to bankruptcy law, the sale of all or substantially all of the assets of Borrower, dissolution, liquidation or any other marshalling of the assets or liabilities of Borrower, Subordinated Creditor will file all claims, proofs of claim or other instruments of similar character necessary to enforce the obligations of Borrower in respect of Subordinated Indebtedness and, unless and until Senior Debt has been paid in full, Subordinated Creditor will hold in trust for and will forthwith turn over to Lenders in the form received (except for the endorsement of Subordinated Creditor where necessary) any and all moneys, dividends or other assets received in any such proceedings on account of Subordinated Indebtedness for application to then-existing Senior Debt in such manner as Lenders may deem appropriate in compliance with any written subordination agreement by, between or among the Lenders. If Subordinated Creditor fails to make any endorsement required under this Agreement, each Lender, through its officers, employees or agents, is hereby irrevocably appointed as the attorney-in-fact (which appointment is coupled with an interest) for Subordinated Creditor to make such endorsement in Subordinated Creditor's name, with the power but not the duty to demand, sue for, collect and receive any and all such moneys, dividends or other assets and give acquittance therefor and to file any claim, proof of claim or other instrument of similar character; and Subordinated Creditor will execute and deliver to Lenders such other and further powers-of-attorney or instruments as Lenders may request in order to accomplish the foregoing.

6. Restrictive Legend: Transfer of Subordinated Indebtedness. Subordinated Creditor will cause the Existing Notes and all other notes, bonds, debentures or other instruments evidencing the Subordinated Indebtedness or any part thereof to contain a specific statement thereon to the effect that the indebtedness thereby evidenced is subject to the provisions of this Agreement, and Subordinated Creditor will mark its books conspicuously to evidence the subordination effected hereby. As of the date hereof, Subordinated Creditor is the lawful holder of Existing Notes and has not transferred any interest therein to any other person.

7. Term. This Agreement shall commence on the Effective Date and continue in full force and effect until the Senior Debt is paid in full.

8. No Commitment. None of the provisions of this Agreement shall be deemed or construed to constitute or imply any commitment or obligation on the part of any Lender to make any future loans or other extensions of credit or financial accommodations to Borrower.

9. Notice. All notices and communications hereunder shall be in writing and shall be (i) personally delivered, (ii) transmitted by certified mail, return receipt requested, postage prepaid, or (iii) transmitted by telecopy, in each case addressed to the party to whom notice is being given at the address of such party first set forth above, or at such other address as may hereafter be designated in writing by that party. All such notices or other communications shall be deemed to have been given on (i) the date received if delivered personally, (ii) three (3) business days after the date of posting if delivered by mail, or (iii) the next business day after the date sent by overnight courier.

10. Conflict in Agreement. If the subordination provisions of any instrument evidencing Subordinated Indebtedness conflict with the terms of this Agreement, the terms of this Agreement shall govern the relationship between Lenders and Subordinated Creditor.

11. No Waiver. No waiver shall be deemed to be made by any Lender of any of its rights hereunder unless the same shall be in writing signed on behalf such Lender, and each such waiver, if any, shall be a waiver only with respect to the specific matter or matters to which the waiver relates and shall in no way impair the rights of such Lender or the obligations of subordinated creditor to such Lender in any other respect at any time.

12. Binding Effect: Acceptance. This Agreement shall be binding upon Subordinated Creditor and its successors and assigns and shall inure to the benefit of each Lender and each Lender's successors and assigns. Notice of acceptance by each Lender of this Agreement or of reliance by each Lender upon this Agreement is hereby waived by Subordinated Creditor.

13. Miscellaneous. The paragraph headings herein are included for convenience of reference only and shall not constitute a part of this Agreement for any other purpose. This Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one instrument.

14. Governing Laws; Consent to Jurisdiction and Venue. This Agreement shall be governed by and construed in accordance with the substantive laws (other than conflict laws) of the State of Arizona. Each party consents to the personal jurisdiction of the state and federal courts located in the State of Arizona in connection with any controversy related to this Agreement, waives any argument that venue in any such forum is not convenient, and agrees that any litigation initiated by any of them in connection with this Agreement shall Use venued in either the Superior Court of Maricopa County, Arizona or the United States District Court, District of Arizona.

[Signature Page Follows]

IN WITNESS WHEREOF, Subordinated Creditor has executed this Agreement as of the Effective Date first above-written.

SUBORDINATED CREDITOR:

Moral Compass Corporation

By: _____
Print Name: _____
Print Title: _____

Acknowledgement by Borrower

The undersigned, being the Borrower referred to in the foregoing Agreement, hereby (i) acknowledges receipt of a copy thereof, (ii) agrees to all of the terms and provisions thereof, (iii) agrees to and with each of the Lenders that it shall make no payment on Subordinated Indebtedness that Subordinated Creditor would not be entitled to receive under the provisions of the Agreement, (iv) agrees that any such payment will constitute a default under the Senior Debt, and (v) agrees to mark its books conspicuously to evidence the subordination of Subordinated Indebtedness effected hereby.

Arcadia Biosciences, Inc.

By: _____
Print Name: Eric J. Rey
Print Title: President & CEO

EXHIBIT D

[Form of Subordination of Mahyco Note Agreement attached]

SUBORDINATION AGREEMENT

This Subordination Agreement ("Agreement") dated as of September , 2013 ("Effective Date"), is made by Mahyco International Pte Ltd., a company formed under the laws of Singapore, and/or its affiliates and subsidiaries ("Subordinated Creditor"), for the benefit of the William C. Lewis Trust dated August l, l989, William C. Lewis trustee residing at 6525 N. 26th Street, Phoenix, AZ 85016 ("Lewis").

Subordinated Creditor currently holds one or more unsecured promissory notes issued to it by Arcadia Biosciences, Inc., an Arizona corporation ("Borrower") in the principal amount of US$5 million, plus interest ("Mahyco Notes").

Lewis currently holds or intends to hold an unsecured promissory note evidencing Borrower indebtedness in the aggregate principal amount of up to US$2 million, whether such indebtedness now exists or is hereafter created or incurred, and whether it is or may be direct or indirect, due or to become due, absolute or contingent, primary or secondary, liquidated or unliquidated, or joint, several or joint and several, all interest thereon, all renewals, extensions and modifications thereof and any notes issued in whole or partial substitution therefor ("Senior Debt").

As a condition to making any loan or extension of credit to Borrower, Lewis has required that the Subordinated Creditor subordinate the payment of Mahyco Notes and other financial accommodations relating thereto to the payment of Senior Debt in accordance with the terms hereof.

ACCORDINGLY, in consideration of the Senior Debt and other financial accommodations relating thereto made by Lewis for the benefit of Borrower, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Subordinated Creditor hereby agrees as follows:

1. Definitions. As used herein, the following terms have the meanings set forth below:

"Borrower Default" means a Default or Event of Default as defined in any agreement or instrument evidencing, governing, or issued in connection with Senior Debt.

"Subordinated Indebtedness" means all obligations arising under Mahyco Notes and each and every other debt, liability and obligation of every type and description that Borrower may now or at any time hereafter owe to Subordinated Creditor in connection with the Mahyco Notes, whether such debt, liability or obligation now exists or is hereafter created or incurred, and whether it is or may be direct or indirect, due or to become due, absolute or contingent, primary or secondary, liquidated or unliquidated, or joint, several or joint and several, all interest thereon, all renewals, extensions and modifications thereof and any notes issued in whole or partial substitution therefor.

"Subordinated Creditor Settlement Right" means Subordinated Creditor's right from time to time to demand immediate settlement of that portion of the outstanding

balance of the Mahyco Notes (including outstanding unpaid interest) equal to the dollar amount accruing on or after April 1, 2013 and paid by Subordinated Creditor to Borrower for milestone fees, annual license maintenance fees, research fees, and/or commercial option exercise fees, in each case under any existing agreement between Subordinated Creditor and Borrower, net of any applicable tax withholding.

2. Subordination. The payment of all Subordinated Indebtedness is hereby expressly subordinated to the extent and in the manner hereafter set forth to the payment in full of Senior Debt; provided, however, that the Subordinated Indebtedness shall not be subordinated to the payment of Senior Debt insofar as Subordinated Creditor shall maintain the right to exercise the Subordinated Creditor Settlement Right (defined as "Subscriber Settlement Right" in the Note and Warrant Purchase Agreement between Borrower and Subordinated Creditor relating to the Mahyco Notes).

3. No Principal Payments on Subordinated Indebtedness while Blocking Notice is in Effect. Unless Senior Debt has previously been paid in full, during the period that a Blocking Notice (as defined below) is in effect, Subordinated Creditor shall not demand, receive or accept any payment from Borrower in respect of Subordinated Indebtedness, or exercise any right of or permit any setoff in respect of Subordinated Indebtedness, other than payment of interest, without the prior written consent of Lewis. A "Blocking Notice" is a written notice from Lewis to Subordinated Creditor in accordance with paragraph 9 below that a Borrower Default has occurred and is continuing with respect to the Senior Debt. From and after the delivery of a Blocking Notice, Subordinated Creditor is prohibited from demanding, receiving or accepting payment of principal in respect of Subordinated Indebtedness unless and until such Borrower Default is waived in writing by Lewis or cured by Borrower. Nothing contained herein shall prevent the Subordinated Creditor from accelerating any Subordinated Indebtedness or receiving or accepting payments in respect of the Subordinated Indebtedness when a Blocking Notice is not in effect.

4. Receipt of Prohibited Payments. If Subordinated Creditor receives any payment on Subordinated Indebtedness that Subordinated Creditor is not entitled to receive under the provisions of this Agreement, Subordinated Creditor will hold the amount so received in trust for Lewis and will forthwith turn over such payment to Lewis in the form received (except for the endorsement of Subordinated Creditor where necessary) for application to then-existing Senior Debt in such manner as Lewis may deem appropriate in compliance with any written subordination agreement by Lewis. If Subordinated Creditor exercises any right of setoff that Subordinated Creditor is not permitted to exercise under the provisions of this Agreement, Subordinated Creditor will promptly pay over to Lewis, in immediately available funds, an amount equal to the amount of the claims or obligations offset for application to then-existing Senior Debt in such manner as Lewis may deem appropriate in compliance with any written subordination agreement by Lewis. If Subordinated Creditor fails to make any endorsement required under this Agreement, Lewis, through its officers, employees or agents, is hereby irrevocably appointed as the attorney-in-fact (which appointment is coupled with an interest) for Subordinated Creditor to make such endorsement in Subordinated Creditor's name.

5. Bankruptcy and Insolvency. In the event of any receivership, insolvency, bankruptcy, assignment for the benefit of creditors, reorganization or arrangement with creditors,

whether or not pursuant to bankruptcy law, the sale of all or substantially all of the assets of Borrower, dissolution, liquidation or any other marshalling of the assets or liabilities of Borrower, Subordinated Creditor will file all claims, proofs of claim or other instruments of similar character necessary to enforce the obligations of Borrower in respect of Subordinated Indebtedness and, unless and until Senior Debt has been paid in full, Subordinated Creditor will hold in trust for and will forthwith turn over to Lewis in the form received (except for the endorsement of Subordinated Creditor where necessary) any and all moneys, dividends or other assets received in any such proceedings on account of Subordinated Indebtedness for application to then-existing Senior Debt in such manner as Lewis may deem appropriate in compliance with any written subordination agreement by Lewis. If Subordinated Creditor fails to make any endorsement required under this Agreement, Lewis, through its officers, employees or agents, is hereby irrevocably appointed as the attorney-in-fact (which appointment is coupled with an interest) for Subordinated Creditor to make such endorsement in Subordinated Creditor's name, with the power but not the duty to demand, sue for, collect and receive any and all such moneys, dividends or other assets and give acquittance therefor and to file any claim, proof of claim or other instrument of similar character; and Subordinated Creditor will execute and deliver to Lewis such other and further powers-of-attorney or instruments as Lewis may request in order to accomplish the foregoing.

6. Restrictive Legend: Transfer of Subordinated Indebtedness. Subordinated Creditor will cause the Mahyco Notes and all other notes, bonds, debentures or other instruments evidencing the Subordinated Indebtedness or any part thereof to contain a specific statement thereon to the effect that the indebtedness thereby evidenced is subject to the provisions of this Agreement, and Subordinated Creditor will mark its books conspicuously to evidence the subordination effected hereby. As of the date hereof, Subordinated Creditor is the lawful holder of Mahyco Notes and has not transferred any interest therein to any other person.

7. Term. This Agreement shall commence on the Effective Date and continue in full force and effect until the Senior Debt is paid in full.

8. No Commitment. None of the provisions of this Agreement shall be deemed or construed to constitute or imply any commitment or obligation on the part of Lewis to make any future loans or other extensions of credit or financial accommodations to Borrower.

9. Notice. All notices and communications hereunder shall be in writing and shall be (i) personally delivered, (ii) transmitted by certified mail, return receipt requested, postage prepaid, or (iii) transmitted by telecopy, in each case addressed to the party to whom notice is being given at the address of such party first set forth above, or at such other address as may hereafter be designated in writing by that party. All such notices or other communications shall be deemed to have been given on (i) the date received if delivered personally, (ii) three (3) business days after the date of posting if delivered by mail, or (iii) the next business day after the date sent by overnight courier.

10. Conflict in Agreements. If the subordination provisions of any instrument evidencing Subordinated Indebtedness conflict with the terms of this Agreement, the terms of this Agreement shall govern the relationship between Lewis and Subordinated Creditor.

1l. No Waiver. No waiver shall be deemed to be made by Lewis of any of its rights hereunder unless the same shall be in writing signed on behalf of Lewis, and each such waiver, if any, shall be a waiver only with respect to the specific matter or matters to which the waiver relates and shall in no way impair the rights of Lewis or the obligations of Subordinated Creditor to Lewis in any other respect at any time.

12. Binding Effect: Acceptance. This Agreement shall be binding upon Subordinated Creditor and its successors and assigns and shall inure to the benefit of Lewis and Lewis's successors and assigns. Notice of acceptance by Lewis of this Agreement or of reliance by Lewis upon this Agreement is hereby waived by Subordinated Creditor.

13. Miscellaneous. The paragraph headings herein are included for convenience of reference only and shall not constitute a part of this Agreement for any other purpose. This Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one instrument.

14. Governing Laws: Consent to Jurisdiction and Venue. This Agreement shall be governed by and construed in accordance with the substantive laws (other than conflict laws) of the State of Arizona. Each party consents to the personal jurisdiction of the state and federal courts located in the State of Arizona in connection with any controversy related to this Agreement waives any argument that venue in any such forum is not convenient, and agrees that any litigation initiated by any of them in connection with this Agreement shall be venued in either the Superior Court of Maricopa County, Arizona or the United States District Court, District of Arizona.

[Signature Page Follows]

IN WITNESS WHEREOF, Subordinated Creditor has executed this Agreement as of the Effective Date first above-written.

SUBORDINATED CREDITOR:

Mahyco international Pte Ltd.

By: _____
Print Name: _____
Print Title: _____

Acknowledgement by Borrower

The undersigned, being the Borrower referred to in the foregoing Agreement, hereby (i) acknowledges receipt of a copy thereof, (ii) agrees to all of the terms and provisions thereof, (iii) agrees to and with Lewis that it shall make no payment on Subordinated Indebtedness that Subordinated Creditor would not be entitled to receive under the provisions of the Agreement, (iv) agrees that any such payment will constitute a default under the Senior Debt, and (v) agrees to mark its books conspicuously to evidence the subordination of Subordinated Indebtedness effected hereby.

Arcadia Biosciences, Inc.

By: _____
Print Name: Eric J. Rey
Print Title: President & CEO

[Arcadia Biosciences Logo]

October 31, 2013

Directors
Mahyco International Pte Limited
70 Joo Chiat Walk
Singapore, 427130

Dear Sirs,

We, Arcadia Biosciences, Inc. (“Company”) and you, Mahyco International Pte (“Subscriber”) have entered into a Note and Warrant Purchase Agreement dated September 27, 2013 (the “Agreement”), pursuant to which Subscriber will lend to the Company, and the Company will borrow from Subscriber, an amount of up to USD 5,000,000/- (the “Loan”) in accordance with the general terms and conditions set forth therein, including that the Loan will be in the form of one or more convertible promissory notes (the “Note(s)”).

The terms of the Agreement provide at Section 2(b) that the Agreement shall automatically terminate if certain conditions detailed therein are not satisfied and the Closing does not occur on or before October 31, 2013. Pursuant to our discussions concerning your request for an extension of the Closing date by a period of two weeks owing to an administrative delay in the process for effecting the remittance of the Loan, and pursuant to the approval by the Company’s board of such extension, this letter is to confirm that the Closing date as specified in Section 2(b) of the Agreement stands extended to November 15, 2013.

Accordingly, Section 2(b) of the Agreement stands amended in terms of Section 8(f) to the limited extent that the date of October 31, 2013 occurring therein shall now be read as November 15, 2013.

Please sign this as your acknowledgement and agreement to the above extension and amendment, and return the copy to us at your earliest.

ARCADIA BIOSCIENCES, INC., an Arizona corporation		MAHYCO INTERNATIONAL PTE LTD.	
By:	/s/ Eric J. Rey	By:	/s/ Matthew C. Beckwith
Name:	Eric J. Rey	Name:	Matthew C. Beckwith
Title:	President & CEO	Title:	Director
Address:	4222 E Thomas Rd, Suite 245 Phoenix, AZ 85018	Address:	

[Arcadia Biosciences Logo]

November 15, 2013

Directors
Mahyco International Pte Limited
70 Joo Chiat Walk
Singapore, 427130

Re: Letter of Extension dated October 31, 2013 (“LoE”)

Dear Sirs,

This is with reference to the above referred LoE. extending by a period of two weeks the date of Closing provided at Section 2(b) of the Note and Warrant Purchase Agreement dated September 27, 2013 (the “Agreement”) that we, Arcadia Biosciences, Inc. (“Company”) and you. Mahyco International Pte (“Subscriber”) have entered into, pursuant to which Subscriber will lend to the Company, and the Company will borrow from Subscriber, an amount of up to USD 5,000,000/- (the “Loan”) in accordance with the general terms and conditions set forth therein, including that the Loan will be in the form of one or more convertible promissory notes (the “Note(s)”).

Pursuant to our discussions concerning your request for a further extension of the Closing date by a period of forty-six (46) days from November 15, 2013. owing to an unforeseen delay in the process for effecting the remittance of the Loan, and pursuant to the approval by the Company’s Board of such extension, this letter is to confirm that the Closing date as specified in Section 2(b) of the Agreement stands extended to December 31, 2013.

Accordingly, Section 2(b) of the Agreement stands amended in terms of Section 8(f) to the limited extent that the date of October 31, 2013 occurring therein and extended to November 15, 2013 by the LoE, shall now stand further extended to, and be read as, December 31, 2013.

Please sign this as your acknowledgement and agreement to the above extension and amendment, and return the copy to us at your earliest.

ARCADIA BIOSCIENCES, INC., an Arizona corporation	MAHYCO INTERNATIONAL PTE LTD.
By: /s/ Eric J. Rey	By: /s/ Matthew C. Beckwith
Name: Eric J. Rey	Name: Matthew C. Beckwith
Title: President & CEO	Title: Director
Address: 4222 E Thomas Rd. Suite 245 Phoenix, AZ 85018	Address:

[…*…] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 406 OF THE SECURITIES ACT OF 1933, AS AMENDED.

INTELLECTUAL PROPERTY LICENSE AGREEMENT

This Intellectual Property License Agreement ("Agreement"), effective *nunc pro tunc* as of January 1, 2003 (the "Effective Date"), is entered into by and between Arcadia Biosciences, Inc. an Arizona corporation with a principal office at 202 Cousteau Place, Suite 200, Davis, CA 95616 ("ARCADIA") and Blue Horse Labs, Inc., an Arizona corporation with a principal office at […*…] ("BLUE HORSE"). The parties to this Agreement are collectively referred to as the "Parties" and individually as a "Party".

WHEREAS, BLUE HORSE and ARCADIA entered into that certain Sponsored Research and Development Agreement (the "R&D Agreement"), having an effective date of January 1, 2003, which agreement is incorporated herein by reference;

WHEREAS, pursuant to the R&D Agreement, BLUE HORSE funded the development of certain intellectual property by ARCADIA and became the sole owner of such intellectual property (the "Blue Horse IP") that it funded; and

WHEREAS, BLUE HORSE desires to grant and ARCADIA desires to obtain a license to the Blue Horse IP in accordance with the terms and conditions of this Agreement;

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

AGREEMENT

1. DEFINITIONS.

Terms in this Agreement defined in the singular have the same meanings when used in the plural and vice versa. For purposes of this Agreement, the following words and phrases shall have the following meanings:

1.1. "Affiliate" means with respect to any person or entity, any other person or entity that directly or indirectly controls, is controlled by or is under common control with such person or entity. A person or entity shall be deemed to be "controlled" by any other person or entity if such other person or entity (i) possesses, directly or indirectly, power to direct or cause the direction of the management and policies of such person or entity whether by contract or otherwise, (ii) has direct or indirect ownership of at least fifty percent (50%) (in the aggregate) of the voting power of all outstanding shares entitled to vote at a general election of directors of the person or entity, or (iii) has direct or indirect ownership of at least fifty percent (50%) of the equity interests in a partnership or a limited liability company. Notwithstanding the foregoing, for purposes of this Agreement, "Affiliates" shall not include BLUE HORSE.

1.2. "Field of Use" as used herein shall mean development and commercialization of methods, products, and services related to plants, which shall include, but not be limited to, production of plants, seed, crops, and products therefrom.

1.3. "Blue Horse IP" as used herein shall mean the intellectual property listed in Appendix A, which is the subject of this Agreement, the development of which was funded by BLUE HORSE pursuant to the R&D Agreement.

1.4. "Product" means any product, good, or service, the use, manufacture, sale, offer for sale, import, or export of which Product would, absent the licenses granted hereunder, infringe an issued and unexpired claim of the Blue Horse IP that has not been held unenforceable or invalid by a court or other governmental agency of competent jurisdiction in an unappealed or unappealable decision and that has not been disclaimed or admitted to be invalid or unenforceable through reissue or otherwise.

1.5. "Net Revenues" means the gross amount invoiced by ARCADIA or its Affiliates for the sale or other disposition of Products during the applicable period in arm's length transactions after deduction of the following items, provided and to the extent such items are actually incurred and do not exceed reasonable and customary amounts in each market in which such sales or other dispositions occurred: (i) commissions paid to non-Affiliated third parties; (ii) royalties paid for licenses necessary to develop and/or commercialize Products; (iii) trade and quantity discounts and rebates; (iv) credits or allowances made for rejection or return of previously sold Products; (v) any tax or government charge levied on the sale, such as value added tax (but not including income tax); (vi) any charges for freight or insurance, and (vii) bad debts and/or uncollectible amounts, provided that all such amounts have been formally designated as such in accordance with generally accepted accounting principles (GAAP), and further provided that such allowance shall not be applicable in the event and to the extent ARCADIA ultimately collects any such designated amounts. In the event that the Products are sold or otherwise transferred to an Affiliate or a third party for a price lower than if they had been sold to a third party in an arm's length transaction ("fair market value"), then Net Revenues shall be the fair market value of the Products to an end-user of the Products to whom ARCADIA customarily in the ordinary course of its business sells Products. Net Revenues also shall include all amounts received by ARCADIA in connection with any license of all or part of the Blue Horse IP, including, without limitation, license fees, license maintenance fees, and milestone payments, but not including equity consideration or reimbursements for actual research and development costs incurred by ARCADIA.

1.6. "Term" has the meaning provided in Section 3.1.

2. GRANT OF LICENSE; ELECTION TO PURCHASE.

2.1. Exclusive License Grant. Subject to the terms and conditions contained in this Agreement, BLUE HORSE grants to ARCADIA and its Affiliates, and ARCADIA accepts for itself and on behalf of its Affiliates, an exclusive, worldwide, sublicensable license under the Blue Horse IP to (i) research, develop, make, have made, use, have used, import, export, distribute, sell, have sold, offer for sale, and otherwise exploit Products in the Field of Use for commercial and/or research purposes, and (ii) otherwise utilize the Blue Horse IP for any reasonable commercial and/or research purposes (the "Exclusive ARCADIA License").

2.2. Sublicenses. ARCADIA and its Affiliates are entitled to grant sublicenses under the Exclusive ARCADIA License.

[…*…] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 406 OF THE SECURITIES ACT OF 1933, AS AMENDED.

2.3. Election to Purchase Intellectual Property Rights.

2.3.1. At any time during the Term of this Agreement, ARCADIA shall have the right to purchase all or part of BLUE HORSE's rights under this Agreement including (i) all rights of BLUE HORSE in the Blue Horse IP, and (ii) BLUE HORSE's right to receive a share of Net Revenues. ARCADIA may exercise this right by providing BLUE HORSE with a Notice of Election. The purchase price of BLUE HORSE's rights shall be the fair market value of that portion of the Blue Horse IP proposed to be purchased as determined by averaging the appraised value of that portion of the Blue Horse IP as determined in good faith by an appraiser retained by ARCADIA and an appraiser retained by BLUE HORSE. Each Party shall bear the cost associated with its respective appraiser. The payment of fair market value and documentation of any required assignment of rights (and recordation thereof, if applicable, with the United States Patent and Trademark Office) shall occur within ninety (90) days of ARCADIA's Notice of Election unless otherwise mutually agreed in writing by the Parties. In determining the purchase price of BLUE HORSE's rights under this Agreement, the value of BLUE HORSE's right to receive a share of Net Revenues shall be equal to the fair market value of BLUE HORSE's right to receive the stated share of Net Revenues as of the date of ARCADIA's Notice of Election.

2.3.2. In the event that BLUE HORSE ceases to do business or otherwise terminates its business operations, BLUE HORSE shall promptly provide ARCADIA with written notice of the same, and ARCADIA shall have thirty (30) days from receipt of such written notice in which to exercise a first right of refusal to purchase all or part of BLUE HORSE's rights under this Agreement, including (i) all rights of BLUE HORSE in the Blue Horse IP, and (ii) BLUE HORSE's right to receive a share of Net Revenues. ARCADIA may exercise this right by notifying BLUE HORSE in writing of its election ("Notice of Election"). Where ARCADIA's Notice of Election has not been received by BLUE HORSE within thirty (30) days of ARCADIA's receipt of BLUE HORSE's written notification, ARCADIA shall be deemed to have waived its purchase rights. The purchase price of BLUE HORSE's rights shall be the fair market value of that portion of the Blue Horse IP proposed to be purchased as determined by averaging the appraised value of that portion of the Blue Horse IP as determined in good faith by an appraiser retained by ARCADIA and an appraiser retained by BLUE HORSE. Each Party shall bear the cost associated with its respective appraiser. The payment of fair market value and documentation of any required assignment of rights (and recordation thereof, if applicable, with the United States Patent and Trademark Office) shall occur within ninety (90) days of ARCADIA's Notice of Election unless otherwise mutually agreed in writing by the Parties. In determining the purchase price of BLUE HORSE's rights under this Agreement, the value of BLUE HORSE's right to receive a share of Net Revenues shall be the fair market value of BLUE HORSE's right to receive the stated share of Net Revenues as of the date of ARCADIA's Notice of Election. Where ARCADIA elects not to purchase BLUE HORSE's rights herein, and any rights of BLUE HORSE in this Agreement and/or the Blue Horse IP are transferred to a third party as a result of the termination or cessation of business of BLUE HORSE, this Agreement shall not terminate and the successor in interest to BLUE HORSE shall automatically succeed to all BLUE HORSE's rights and obligations hereunder without change in the terms or other provisions of this Agreement.

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TERM; TERMINATION.

3.1. Term. The Agreement will begin on the Effective Date and will expire concurrently with the last to expire patent contained within the Blue Horse IP (the "Term").

3.2. Early Termination. Either Party may, upon notice to the other, terminate this Agreement if the other Party materially breaches this Agreement and fails to cure such breach within ninety (90) days after receiving written notice thereof from the non-breaching Party. For the avoidance of doubt, termination of this Agreement shall be effective only if (i) the non-breaching Party provides notice of breach to the other Party, (ii) such breach is not cured within ninety (90) days, and (iii) the non-breaching Party then provides the other Party notice of termination upon expiration of such cure period. The effective date of termination shall be the date of receipt of such notice of termination by the breaching Party. If the default is cured during such period, the notice will have no force or effect. The Parties acknowledge that termination of this Agreement for breach shall terminate any licenses granted hereunder to ARCADIA and its Affiliates in the Blue Horse IP, as well as any and all sublicenses thereto.

4. PAYMENTS; REPORTING; RECORDS.

4.1. Revenue Sharing. In consideration of the Exclusive ARCADIA License pursuant to which the Blue Horse IP is herein licensed by BLUE HORSE to ARCADIA, ARCADIA agrees to pay BLUE HORSE a royalty of **[…*…]** percent **[…*…]** of the total Net Revenues received by ARCADIA and/or its Affiliates during the Term.

4.2. Form of Payment. For any payment due to BLUE HORSE in accordance with Section 4.1, BLUE HORSE may, in its sole discretion and upon ARCADIA's written request, elect to accept ARCADIA stock in lieu of a cash payment. If BLUE HORSE so elects, then, subject to compliance with all applicable laws (including all applicable federal and state securities laws), ARCADIA shall issue to BLUE HORSE a number of shares of Arcadia Capital Stock having a then-current fair market value equivalent to the cash amount due pursuant to Section 4.1. The Capital Stock so issued shall be Preferred Stock of ARCADIA having terms, rights, and preferences at least equal to any outstanding series or class of ARCADIA Preferred Stock or, if no ARCADIA Preferred Stock is outstanding, shall be Common Stock of ARCADIA. In any event, the ARCADIA Capital Stock to be issued shall be valued by averaging the appraised value of the shares to be issued as determined in good faith by an appraiser retained by ARCADIA and an appraiser retained by BLUE HORSE, each to bear the cost of its appraiser.

4.3. Reporting. Within thirty (60) days of the end of the applicable annual period (based on a calendar year) following the first commercial sale of a Product and within thirty (60) days after the end of each annual period thereafter, ARCADIA shall make a written report to BLUE HORSE setting forth that information, including that of Affiliates and sublicensees, necessary to permit BLUE HORSE to calculate and confirm the revenue share payment due BLUE HORSE, even if no payment is due. At the time each report is made, ARCADIA shall pay to BLUE HORSE or any Affiliate of BLUE HORSE as BLUE HORSE may direct, the amounts shown by such report to be payable hereunder. Payments due on sales in foreign

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currency shall be calculated in United States dollars on the basis of the exchange rate in effect for purchase of dollars at Chase Manhattan Bank, New York, New York, on the last business day of the last-preceding December.

4.4. Books and Records for Payments. ARCADIA shall keep, and shall cause its Affiliates to keep, books and records in such reasonable detail as will permit the reports provided for in this Section to be made and the revenue share payable hereunder to be determined. ARCADIA further agrees to permit its and its Affiliates' books and records to be inspected and audited from time to time (but not more often than once annually) during reasonable business hours by an independent auditor, designated by BLUE HORSE and approved by ARCADIA, which approval will not be unreasonably withheld, to the extent necessary to verify the reports provided for in this Section; provided, however, that such auditor shall indicate to BLUE HORSE only whether the reports and revenue share paid are correct, and if not, the reason why not. In the event that such an audit results in additional revenue share being owed to BLUE HORSE, such amount shall be paid within twenty (20) days from written notice of deficiency along with interest calculated as from the date the correct payment was due to the date of actual payment at an annual rate of five (5) percentage points above the prime rate quoted by Chase Manhattan Bank, New York, New York, on the day payment was due, or at the greatest rate permitted by law, if lower, until paid. If the original revenue share payment was more than ten percent (10%) less than it should have been, the cost of the audit shall be reimbursed by ARCADIA.

4.5. Late Payment. If any revenue share payments owed under this Agreement are not paid when due, the unpaid amount shall bear interest, compounded annually, at an annual rate of two (2) percentage points above the prime rate quoted by Chase Manhattan Bank of New York on the day payment was due or at the greatest rate permitted by law, if lower, until paid or offset. Any amount that remains unpaid on account of a good faith dispute for which the provisions of Section 7.2 have been invoked shall, if ultimately deemed to be owed to BLUE HORSE, bear interest, compounded annually, at an annual rate equal to the prime rate quoted by Chase Manhattan Bank of New York on the day the amount was due.

5. CONFIDENTIALITY.

5.1. As used herein, "Confidential Information" means any information of a Party that is designated confidential in writing at the time of disclosure, or if disclosed orally, information which the receiving Party reasonably should have known was confidential or which is confirmed in writing as confidential within thirty (30) days.

5.2. Obligations. Should either Party disclose to the other any of such Party's Confidential Information (the "Disclosing Party"), the Party receiving the Confidential Information (the "Receiving Party") shall maintain the Confidential Information in confidence, shall use at least the same degree of care to maintain the secrecy of the Confidential Information as it uses in maintaining the secrecy of its own proprietary, confidential and trade secret information, shall always use at least a reasonable degree of care in maintaining the secrecy of the Confidential Information, shall use the Confidential Information only for the purpose of performing its obligations under this Agreement and exercising its rights under this Agreement unless otherwise agreed in writing by the Disclosing Party, and shall deliver to the Disclosing

Party, in accordance with any request from the Disclosing Party, all copies, notes, packages, diagrams, computer memory media and all other materials containing any portion of the Disclosing Party's Confidential Information which reasonably is not required by the Receiving Party to perform its obligations under and/or to exercise its rights under this Agreement. The Receiving Party shall not disclose any of the Disclosing Party's Confidential Information to any person except to those Receiving Party Affiliates, employees and consultants having a need to know such Confidential Information in order to accomplish the purposes and intent of this Agreement. The Receiving Party shall ensure that each such Affiliate, employee and consultant has been instructed to keep confidential the Confidential Information of the Disclosing Party and shall ensure that each such Affiliate, employee or consultant has signed a confidentiality agreement covering the Confidential Information of the Disclosing Party.

5.3. Exceptions. Notwithstanding Section 5.1:

5.3.1. A Receiving Party shall have no obligation with respect to any portion of Confidential Information of the Disclosing Party that (i) the Receiving Party is able to demonstrate, in writing, was rightfully known to the Receiving Party on a non-confidential basis prior to receipt of such information from the Disclosing Party, (ii) is lawfully obtained by the Receiving Party from a third party under no obligation of confidentiality, (iii) is independently developed by the Receiving Party without use of the Confidential Information of the Disclosing Party, or (iv) is or becomes publicly available other than as a result of any act or failure to act of the Receiving Party.

5.3.2. A Receiving Party may disclose the Confidential Information of the Disclosing Party pursuant to a subpoena or other legal process, provided that the Disclosing Party is provided prior notice reasonably sufficient to permit the Disclosing Party to obtain a protective order, and provided further that such disclosure shall not relieve the Receiving Party from future adherence to Section 5.1 with respect to such Confidential Information.

5.3.3. A Receiving Party may also disclose the Confidential Information of the Disclosing Party for purposes of soliciting or securing financing and/or in connection with the Receiving Party's licensing activities, provided that (i) such disclosure of Confidential Information is reasonably necessary to advance such financing and/or licensing activities, and (ii) the third party(ies) to whom such Confidential Information is disclosed agree(s), in writing, to maintain the confidentiality of such Confidential Information.

5.4. Reservation. Unless expressly provided for in this Agreement, a Disclosing Party shall retain all rights, title and interest in its own Confidential Information.

5.5. Agreement as Confidential Information. Neither Party shall issue a press release or other publication announcing the existence of this Agreement or disclose the terms and conditions of the Agreement to any third party without the prior written consent of the other Party; except, however, that each Party may disclose the terms and conditions of this Agreement: (i) as required by any court or other governmental body; (ii) as otherwise required by law; (iii) to its legal counsel; (iv) in confidence, to accountants, banks, and financing sources and their advisors solely for the purposes of a Party's securing financing; (v) in connection with the enforcement of this Agreement or rights under this Agreement; or (vi) in confidence, in

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connection with an actual or proposed merger, acquisition, license negotiation, or similar transaction solely for use in the due diligence investigation in connection with such transaction.

5.6. Actions on Termination. Upon any termination of this Agreement, BLUE HORSE agrees to return or permanently destroy, at ARCADIA's sole discretion and upon ARCADIA's written request, all Confidential Information owned by ARCADIA in BLUE HORSE's possession. Upon any termination of this Agreement, ARCADIA agrees to return or permanently destroy, at BLUE HORSE's sole discretion and upon BLUE HORSE's written request, all Confidential Information owned by BLUE HORSE in ARCADIA's possession.

6. REPRESENTATIONS AND WARRANTIES; LIMITATION OF LIABILITY.

6.1. Right to Enter Agreement. ARCADIA and BLUE HORSE each represent and warrant that they have the right to make conveyances and grants in accordance with this Agreement.

6.2. Limitation of Liability. EXCEPT FOR BREACHES OF THE CONFIDENTIALITY OBLIGATIONS HEREIN, NEITHER PARTY WILL BE LIABLE TO THE OTHER WITH RESPECT TO THE SUBJECT MATTER OF THIS AGREEMENT FOR ANY INCIDENTAL, INDIRECT, CONSEQUENTIAL, SPECIAL, OR PUNITIVE DAMAGES, OR LOST PROFITS OR THE COST OF PROCUREMENT OF SUBSTITUTE GOODS, TECHNOLOGY OR SERVICES REGARDLESS OF WHETHER ANY SUCH CLAIM FOR DAMAGES, LOST PROFITS OR OTHER COSTS IS BASED ON TORT, WARRANTY, CONTRACT OR ANY OTHER LEGAL THEORY, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

6.3. Risk of Failure; No Representations. ARCADIA and BLUE HORSE each recognize that risk is inherent in the collaborative efforts such as those being undertaken in this Agreement and each therefore voluntarily assumes this risk. Accordingly, subject to the rights to terminate provided in Section 2, any other failure of any Intellectual Property provided for use in connection with or developed under this Agreement to perform as desired despite the reasonable efforts of the responsible Party or Parties will not be deemed to be a breach of this Agreement. Other than as expressly set forth in this Agreement, NEITHER PARTY MAKES ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO INTELLECTUAL PROPERTY OWNED OR LICENSED BY THAT PARTY OR ANY KNOW-HOW INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF NONINFRINGEMENT, PATENTABILITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

7. APPLICABLE LAW; DISPUTE RESOLUTION.

7.1. Governing Law; Jurisdiction. The validity, interpretation and performance of this Agreement and any dispute connected with this agreement shall be governed by and determined in accordance with the statutory, regulatory, and decisional law of the state of Arizona and any legal actions or proceedings brought by either Party shall be subject to the exclusive jurisdiction of the state and federal courts in Maricopa County, Arizona, and any mediation or arbitration proceeding initiated by either Party pursuant to Section 7.2 shall occur in Maricopa County,

Arizona (unless otherwise agreed by both Parties), and each Party hereby consents to the jurisdiction of the courts as provided above.

7.2. Dispute Resolution. If a dispute arises out of or relates to this Agreement, or the breach thereof, and if the dispute cannot be settled through negotiation, the Parties agree first to try in good faith to settle the dispute by mediation before resorting to arbitration, litigation, or some other dispute resolution procedure. Unless the Parties agree otherwise, any such mediation shall be held in Phoenix, Arizona.

8. MISCELLANEOUS PROVISIONS.

8.1. Notices. All notices and other communications required or permitted under this Agreement shall be deemed to be properly given when in writing and sent by registered or certified mail, postage prepaid or by reputable courier service providing evidence of delivery or by facsimile with receipt confirmation, to the other Party at the address set forth below, or at such other address as either Party may in writing designate from time to time for these purposes.

If to BLUE HORSE: Blue Horse Labs, Inc.
[…*…]
[…*…]
[…*…]
Attention: President
Fax No.: […*…]

If to ARCADIA: Arcadia Biosciences, Inc.
202 Cousteau Place #200
Davis, CA 95616
Attention: President
Fax No.: 530-756-7027

8.2. Assignability. The rights and obligations acquired herein by the Parties are not assignable, transferable or otherwise conveyable, in whole or part (by operation of law or otherwise) to any third party without the consent of other Party, which shall not be unreasonably withheld; provided, however, that either Party may, without such consent, assign its rights and obligations hereunder to any purchaser of all or substantially all of the assets of the Party related to this Agreement or to any successor corporation resulting from any merger or consolidation of a Party. Moreover, either Party may, without the consent of the other Party, assign to any purchaser of all or substantially all of the assets of the Party related to any program identified in the Sponsored Research Agreement (i.e., [...*...]), its rights and obligations hereunder applicable to such program. Any attempted assignment conflicting with this Section shall be null and void and without effect.

8.3. Severability. In case any one or more of the provisions contained in this Agreement shall for any reason be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions hereof, but this Agreement shall be construed as if such invalid or illegal or unenforceable provisions had never been contained herein.

AMENDED.

8.4. Counterparts. This Agreement may be executed in two (2) counterparts, each of which shall be an original with the same effect as if the signatures thereto and hereto were upon the same instrument.

8.5. Headings. Headings as to the contents of particular Sections are for convenience only and are in no way to be construed as part of this Agreement or as a limitation of the scope of the particular Sections to which they refer.

8.6. Force Majeure. Except for payments of money, neither of the Parties shall be liable for any default or delay in performance of any obligation under this Agreement caused by any of the following: act of nature, war, riot, fire, explosion, accident, flood, sabotage, compliance with governmental requests, laws, regulations, orders or actions, national defense requirements or any other event beyond the reasonable control of such Party; or labor trouble, strike, lockout or injunction (provided that neither of the Parties shall be required to settle a labor dispute against its own best judgment). The Party invoking this subparagraph shall give the other Party written notice pursuant to Section 8.1 and full particulars of such force majeure event as soon as possible after the occurrence of the cause upon which said Party is relying. Both ARCADIA and BLUE HORSE shall use reasonable efforts to mitigate the effects of any force majeure on their respective part.

8.7. Negation of Agency. It is agreed and understood by the Parties hereto that each of BLUE HORSE and ARCADIA, in performance of its obligations and responsibilities under this Agreement, is an independent contractor and that nothing herein contained shall be deemed to create an agency, partnership, joint venture or similar relationship between the Parties. The manner by which each of BLUE HORSE and ARCADIA carries out its performance under this Agreement is within each of BLUE HORSE's and ARCADIA's sole discretion and control.

8.8. Other Requests. The Parties hereto agree that upon reasonable request of the other Party, each such Party shall execute and deliver such additional documents and Agreements, and take such further actions, as may be necessary in order to fulfill and give effect to the terms of this Agreement.

8.9. Integration; Amendment and Waiver. This Agreement, including any exhibits or other attachments hereto, constitutes the entire agreement of the Parties with respect to the subject matter hereof, and supersedes all prior or contemporaneous understandings or agreements, whether written or oral, between the Parties with respect to the subject matter hereof. This Agreement may be amended, modified, superseded or canceled, and any of the terms may be waived, only by a written instrument executed by both Parties or, in the case of waiver, by the Party or Parties waiving compliance. The delay or failure of any Party at any time or times to require performance of any provisions shall in no manner affect the rights at a later time to enforce the same. No waiver by any Party of any condition or of the breach of any term contained in this Agreement, whether by conduct, or otherwise, in any one or more instances, shall be deemed to be, or considered as, a further or continuing waiver of any such condition or of the breach of such term or any other term of this Agreement.

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IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed and delivered as of the Effective Date.

BLUE HORSE LABS, INC.		ARCADIA BIOSCIENCES, INC.	
By:	/s/ Jonathan Thatcher	By:	/s/ Eric J. Rey
Name:	Jonathan Thatcher	Name:	Eric J. Rey
Its:	Treasurer	Its:	President & CEO
Date:	5/19/08	Date:	5/15/08

Signature Page to Intellectual Property License Agreement

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APPENDIX A
BLUE HORSE IP

Country Code	Application Number	Title	Inventors	Filing Date	Patent Number
US	11/438,951	Safflower with elevated gamma-linolenic acid	Emlay, Donald Flider, Frank J. Knauf, Vic C. Rey, Eric Shewmaker, Christine	5/22/2006	
PCT	PCT/US2006/20047	Safflower with elevated gamma-linolenic acid	Emlay, Donald Flider, Frank J. Knauf, Vic C. Rey. Eric Shewmaker, Christine	5/22/2006	
AR	P060102090	Safflower with elevated gamma-linolenic acid	Emlay, Donald Flider, Frank J. Knauf, Vic C. Rey. Eric Shewmaker, Christine	5/22/2006	
US	11/644,321	Nitrogen-efficient monocot plants	Good, Allen G. Depauw, Mary Shrawat, Askok	12/21/2006	

			Theodoris, George Kridl, Jean C.	
PCT	PCT/US2006/49241	Nitrogen-efficient monocot plants	Good, Allen G. Depauw, Mary Shrawat, Askok Theodoris, George Kridl, Jean C.	12/21/2006
AR	60105745	Nitrogen-efficient monocot plants	Good, Allen G. Depauw, Mary Shrawat, Askok Theodoris, George Kridl, Jean C.	12/21/2006
TH	601006505	Nitrogen-efficient monocot plants	Good, Allen G. Depauw, Mary Shrawat, Askok Theodoris, George Kridl, Jean C.	12/22/2006

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Country Code	Application Number	Title	Inventors	Filing Date	Patent Number
US	11/644,453	Promoter sequence obtained from rice and methods of use	Good, Allen G. Depauw, Mary Shrawat, Askok	12/21/2006	
PCT	PCT/US2006/48875	Promoter sequence obtained from rice and methods of use	Good, Allen G. Depauw, Mary Shrawat, Askok	12/21/2006	
AR	60105746	Promoter sequence obtained from rice and methods of use	Good, Allen G. Depauw, Mary Shrawat, Askok	12/21/2006	
TH	601006506	Promoter sequence obtained from rice and methods of use	Good, Allen G. Depauw, Mary Shrawat, Askok	12/22/2006	
US	60/797,001	Nitrogen-efficient field-grown plants	Lu, Zhongjin	5/2/2006	

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AMENDMENT #1
TO
INTELLECTUAL PROPERTY LICENSE AGREEMENT

This AMENDMENT #1 ("Amendment") to the Intellectual Property License Agreement having an Effective Date of January 1, 2003 ("Agreement") by and between Arcadia Biosciences, Inc., an Arizona corporation having its principal address at 202 Cousteau Place, Suite 200, Davis, California 95616 ("ARCADIA"), and Blue Horse Labs, Inc., an Arizona corporation having its principal place of business at **[…*…]** ("BLUE HORSE"), shall be effective as of August 1, 2009 (the "Amendment Effective Date").

The parties to this Amendment are collectively referred to as the "Parties" and individually as a "Party".

The Parties agree to amend the Agreement as follows:

Section 4.3 of the Agreement shall be replaced, in its entirety, by the following:

"4.3 Reporting.

4.3.1 Within sixty (60) days of the end of the applicable annual period (based on a calendar year) following first commercial sale of a Product and within sixty (60) days after the end of each annual period thereafter, ARCADIA shall make a written report to BLUE HORSE setting forth that information, including that of its Affiliates, necessary to permit BLUE HORSE to calculate and confirm the revenue share payment due to BLUE HORSE pursuant to Section 4.1, even if no payment is due for such annual period.

4.3.2 Prior to first commercial sale of a Product, if ARCADIA receives Net Revenues in connection with any license of all or part of the Blue Horse IP during a particular annual period (based on a calendar year), ARCADIA shall make a written report to BLUE HORSE within sixty (60) days after the end of such annual period setting forth that information necessary to permit BLUE HORSE to calculate and confirm the revenue share payment due to BLUE HORSE pursuant to Section 4.1. Notwithstanding the foregoing, with respect to that portion of the Term commencing on the Effective Date and ending December 31, 2008, the Parties agree that the first written report due to BLUE HORSE pursuant to this Section 4.3.2 shall be due no later than August 31, 2009.

4.3.3 At the time any report is made pursuant to Section 4.3.1 or 4.3.2, ARCADIA shall pay to BLUE HORSE or any Affiliate of BLUE HORSE as BLUE HORSE may direct, the amounts shown by such report to be payable hereunder. Payments due on sales in foreign currency shall be calculated in United States dollars on the basis of the exchange rate in effect for purchase of dollars at Chase Manhattan Bank, New York, New York, on the last business day of the last-preceding December."

Any and all provisions of the Agreement not expressly modified by this Amendment shall remain unchanged and in full force and effect.

IN WITNESS WHEREOF, the Parties hereto have caused this Amendment to be duly executed by their authorized representatives effective as of the Amendment Effective Date.

ARCADIA BIOSCIENCES, INC.		**BLUE HORSE LABS, INC.**	
By:	/s/ Eric J. Rey	By:	/s/ Darby Shupp
Name:	Eric J. Rey	Name:	Darby Shupp
Title:	President & CEO	Title:	Treasurer

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Exhibit 10.3

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EXCLUSIVE LICENSE AGREEMENT

BETWEEN

ARCADIA BIOSCIENCES, INC.

AND

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

FOR

DROUGHT-RESISTANT PLANTS

UC Case No.: 2005-095

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**EXCLUSIVE LICENSE AGREEMENT FOR
DROUGHT-RESISTANT PLANTS**

U.C. Case No.: 2005-095

This EXCLUSIVE LICENSE AGREEMENT ("Agreement") is effective July 2, 2010 ("Effective Date"), by and between (a) The Regents of the University of California ("The Regents"), a California corporation, having its statewide administrative offices at 1111 Franklin Street, 12th Floor, Oakland, California 94607-5200, acting through its Davis Campus Technology Transfer Services, at the University of California, Davis, 1850 Research Park Drive, Suite 100, Davis, CA 95618-6134, and (b) Arcadia Biosciences, Inc. ("Licensee"), an Arizona corporation having a principal place of business at 202 Cousteau Place, Suite 200, Davis, California 95618. The Regents and Licensee will be referred to herein, on occasion, individually as a "Party" or collectively as the "Parties".

RECITALS

WHEREAS, the invention entitled "Drought-Resistant Plants" (the "Invention"), as described in The Regents' Case No. 2005-095, was conceived at the Davis campus of the University of California, Davis, by Dr. Eduardo Blumwald ("Eduardo Blumwald"), Dr. Amira Gepstein ("Amira Gepstein"), and Dr. Shimon Gepstein ("Shimon Gepstein"), with Eduardo Blumwald, Shimon Gepstein, and Amira Gepstein referred to herein collectively as "the Inventors";

WHEREAS, at the time the Invention was conceived, Amira Gepstein and Shimon Gepstein, while on leave from the Technion Research and Development Foundation ("Technion") of Haifa, Israel, were visiting scientists at the University of California, Davis, conducting research in the laboratory of Eduardo Blumwald;

WHEREAS, the Invention was conceived as a joint work of the Inventors, **[…*…]**

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[…*…]

WHEREAS, patent applications based on the Invention, which patent applications and any patents issued thereon are included within Patent Rights (as that term is defined herein), were filed at the request of The Regents;

WHEREAS, the Inventors signed certain Assignment documents by which the Inventors assigned all right, title, and interest in and to the Patent Rights, and to the Invention as disclosed in the Patent Rights, to The Regents;

WHEREAS, The Regents and Licensee entered into a Letter Agreement ("Letter Agreement") effective March 14, 2006 (UC Agreement Control No. 2006-30-0534), as extended by (1) the Extension Agreement effective September 11, 2006, (2) the Second Extension Agreement effective December 14, 2006, (3) the Third Extension Agreement effective March 21, 2007, and (4) the Fourth Extension Agreement effective June 26, 2007, which Letter Agreement, as so extended, terminated August 1, 2007, which granted Licensee an exclusive right to negotiate an option agreement, and under the terms of the option agreement, to negotiate an exclusive license under the Patent Rights;

WHEREAS, The Regents and Licensee entered into an Option Agreement effective August 1, 2007 (UC Agreement Control No. 2008-11-0080), which was subsequently modified by First Amendment (UC Control No. 2008-11-080 REVA) effective February 1, 2008, by Second Amendment (UC Control No. 2008-11-080 REVC) effective August 27, 2009, and by Third Amendment (UC Control No. 2008-11-0080 REVD) effective February 28, 2010, which Option Agreement granted Licensee an exclusive right to negotiate an exclusive license under the Patent Rights;

[…*…]

[…*…] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 406 OF THE SECURITIES ACT OF 1933, AS AMENDED.

[…*…]

[…*…]

[…*…]

[…*…]

WHEREAS, Licensee is a "small entity" as defined in 37 CFR 1.27;

WHEREAS, The Regents and Licensee desire to have the Invention developed and commercialized so that products resulting therefrom may be available for public use and benefit; and

WHEREAS, Licensee desires to acquire, and The Regents desires to grant to Licensee, an exclusive license under the Patent Rights to manufacture, have manufactured, use, have used, sell, have sold, offer for sale, and import products, methods and services falling within the scope of the claims of the Patent Rights, in accordance with the terms herein.

Now, therefore, the Parties agree as follows:

1. DEFINITIONS

1.1. "Affiliate" of Licensee (or Sublicensee, respectively) means any entity that, directly or indirectly, Controls Licensee (or Sublicensee, respectively), is Controlled by Licensee (or Sublicensee, respectively), or is under common Control with Licensee (or Sublicensee, respectively). "Control" means (i) having the actual, present capacity to elect a majority of the directors of such entity, (ii) having the power to direct at least forty percent (40%) of the voting rights entitled to elect directors of such entity, or (iii) in any country where the local law will not permit foreign equity participation of a majority of the outstanding stock or voting rights, the ownership or control, directly or indirectly, of the maximum percentage of such outstanding stock or voting rights permitted by local law.

1.2. "Joint Venture" means any separate entity established pursuant to an agreement between a third party and the Licensee, or between a third party and a Sublicensee, to constitute a vehicle for a joint venture, in which the separate entity manufactures, uses, purchases, Sells, or acquires Licensed Products or Licensed Services from the Licensee or from a Sublicensee.

1.3. "Licensed Field of Use" means all uses.

1.4. "Licensed Method" means any process or method the use or practice of which, but for the license granted pursuant to this Agreement, (a) would infringe, or contribute to or induce the infringement of, a Valid Claim of any issued, unexpired patent under the Patent Rights, or (b) is covered by a claim in a pending patent application under Patent Rights. As used in subsection (b) of this Paragraph 1.4, "covered by a claim in a pending patent application" means that such use or practice would, but for the license granted pursuant to this Agreement, constitute infringement, or contributory infringement, or inducement of infringement of such claim if such claim were issued.

1.5. "Licensed Product" means any product, material, kit, or other article of manufacture or composition of matter, the manufacture, use, Sale, offer for Sale, or import of which (a) would require the performance of Licensed Methods, or (b) but for the license granted pursuant to this Agreement, would infringe, or contribute to or induce the infringement of a Valid Claim of any issued, unexpired patent under Patent Rights, or (c) is covered by a claim in a pending patent application under the Patent Rights. As used in subsection (c)

above of this Paragraph 1.5, "covered by a claim in a pending patent application" means that such manufacture, use, Sale, offer for Sale or import would, but for the license granted pursuant to this Agreement, constitute infringement, or contributory infringement, or inducement of infringement of such claim if such claim were issued.

1.6. "Licensed Service" means a service provided using Licensed Products or Licensed Methods, including without limitation any such service provided in the form of contract research or other research performed by Licensee on behalf of a third party.

1.7. "Licensed Territory" means United States of America and its territories and possessions, and any foreign countries where Patent Rights exist.

1.8. "Net Invoice Price" means (a) the gross invoice price charged and received by Licensee for a Licensed Product or Licensed Service, and/or the fair market value of any other consideration received by Licensee for a Licensed Product or Licensed Service, or (b) in those instances where the Licensed Product or Licensed Service is combined in any manner with any other product or service, the gross invoice price charged and received by Licensee for the combined product or service, and/or the fair market value of any other consideration received by Licensee, less the following items, but only to the extent that they actually pertain to the disposition of such Licensed Product or Licensed Service, and are separately billed:

(a) allowances actually granted to customers for rejections, returns, or prompt payment or volume discounts;

(b) freight, transport packing, or insurance charges associated with transportation;

(c) taxes, including Deductible Value-Added Tax, tariffs or import/export duties based on Sales when included in the gross invoice price, but excluding value-added taxes other than Deductible Value-Added Tax; "Deductible Value-Added Tax" means value-added tax only to the extent that such value-added tax is actually incurred and is not reimbursable, refundable, or creditable under the tax authority of any country;

(d) discounts or rebates paid or credited to customers, third-party payers, health-care systems, or administrators solely to promote the inclusion of a Licensed Product or Licensed Service in formulary programs;

(e) wholesaler's discounts or rebates to customers, third-party payers, health-care systems, or administrators solely to promote the inclusion of a Licensed Product or Licensed Service in formulary programs; and

(f) rebates or discounts paid or credited pursuant to applicable law.

1.9. "Net Royalty Revenues" means the value of any royalty revenues, licensee fees, or other consideration received by Licensee from a Sublicensee for a Licensed Product or Licensed Service less the following:

(a) fees or commissions paid to any third party broker or the like in connection with the execution of the applicable Sublicense Agreement; and

(b) that part of any tax or duty, other than income tax, actually paid by Licensee in connection with any sublicensing activities for which Licensee is not eligible for a refund of the tax paid (for greater clarity, if Licensee is eligible for a partial refund, only the portion of the tax paid that is not eligible to be refunded will be included in the deduction from gross revenues).

1.10. "Net Sales" means the Net Invoice Price, provided that in the instances described in Subparagraphs (a) and (b) below of this Paragraph 1.10, Net Sales will have the meaning set forth in such Subparagraphs, as follows:

(a) In those instances where there is a Relationship-Influenced Sale of a Licensed Product or Licensed Service, Net Sales will be based on the Net Invoice Price at which the Relationship-Influenced Sale Purchaser resells such Licensed Product or Licensed Service.

(b) In those instances where a Licensed Product or Licensed Service is not Sold, but is otherwise exploited, the Net Sales for such Licensed Product or Licensed Service will be the Net Invoice Price of products or services of

the same or similar kind and quality, Sold in similar quantities, currently being offered for Sale by the Licensee. Where such products or services are not currently being offered for Sale by the Licensee, the Net Sales for a Licensed Product or Licensed Service otherwise exploited, for the purpose of computing royalties, will be the average Net Invoice Price at which products or services of the same or similar kind and quality, Sold in similar quantities, are then currently being offered for Sale by other manufacturers. Where such products or services are not currently Sold or offered for Sale by the Licensee, or others, then the Net Sales will be the Licensee's cost of manufacture of the Licensed Product or the cost of conducting the Licensed Service, determined by the Licensee's customary accounting procedures, plus ten percent (10%).

1.11. "Patent Rights" means rights owned by, or otherwise licensable by, The Regents and Technion in the claims of the following:

(a) U.S. National Stage Non-Provisional Patent Application Serial Number 11/909,262, entitled "Drought-Resistant Plants," filed March 21, 2006, based on PCT Patent Application Serial Number PCT/US2006/010678, entitled "Drought-Resistant Plants," filed March 21, 2006, which is in turn based on U.S. Provisional Patent Application Serial Number 60/664,035, entitled "Drought-Resistant Plants," filed March 21, 2005;

(b) Foreign National Stage Patent Applications in the following countries, based on the above-referenced PCT Patent Application:

(i) Australia Patent Application Serial Number 2006226863;

(ii) Brazil Patent Application Serial Number PI 0607732-3;

(iii) Canada Patent Application Serial Number 2601605;

(iv) China Patent Application Serial Number 200680009038.9;

(v) Europe Patent Application Serial Number 06739467.6;

(vi) India Patent Application Serial Number 4024/KOLNP/2007;

(vii) Indonesia Patent Application Serial Number W00200703096;

(viii) Mexico Patent Application Serial Number 2007/011612; and

(ix) South Africa Patent Application Serial Number 2007/07905.

(c) Continuing patent applications of any of the foregoing patent applications, including divisions, substitutions, extensions and continuations-in-part (but as to continuations-in-part, only to the extent the claims in the continuation-in-part applications are entitled to the priority date of any one or more of the foregoing patent applications);

(d) Any U.S. or foreign patent issuing on any of the foregoing patent applications or continuing patent applications.

1.12. "Related Party" means a corporation, a firm, or other entity with which, or an individual with whom, Licensee and/or any Sublicensee (or any of their respective stockholders, subsidiaries or Affiliates) have an agreement, understanding, or arrangement (for example, but not by way of limitation, an option to purchase stock or other equity interest, or an arrangement involving a division of revenue, profits, discounts, rebates, or allowances) unrelated to the Sale or exploitation of

Licensed Products or Licensed Services without which such agreement, understanding, or arrangement, the amounts, if any, charged by the Licensee or Sublicensee to such entity or individual for the Licensed Product or Licensed Service would be higher than the Net Invoice Price actually received, or if such agreement, understanding, or arrangement results in Licensee or a Sublicensee extending to such entity or individual lower prices for such Licensed Product or Licensed Service than those charged to others without such agreement, understanding, or arrangement buying similar products or services in similar quantities.

1.13. "Relationship-Influenced Sale" means a Sale of a Licensed Product or Licensed Service (a) between the Licensee and (i) an Affiliate of the Licensee, (ii) a Joint Venture of the Licensee, (iii) a Related Party of the Licensee, or (iv) a Sublicensee; or (b) between a Sublicensee and (i) an Affiliate of the Sublicensee, (ii) a Joint Venture of the Sublicensee, or (iii) a Related Party of the Sublicensee.

1.14. "Relationship-Influenced Sale Purchaser" means the purchaser of Licensed Product or Licensed Service in a Relationship-Influenced Sale.

1.15. "Sale" means, for Licensed Products and Licensed Services, the act of selling, leasing or otherwise transferring, providing, or furnishing such product or service for any consideration. Correspondingly, "Sell" means to make or cause to be made a Sale, and "Sold" means to have made or caused to be made a Sale.

1.16. "Sublicense" means a sublicense under this Agreement.

1.17. "Sublicensee" means a sublicensee under this Agreement.

1.18. "Sublicense Agreement" means a sublicense agreement under this Agreement.

1.19. "Valid Claim" means a claim of an issued patent in any country where the claim (i) has not expired, (ii) has not been disclaimed, (iii) has not been cancelled or superseded, or if cancelled or superseded, has been reinstated or is the subject of a continuation, continuation-in-part, reissue, or divisional application; and (iv) has not been revoked, held invalid, or otherwise declared unenforceable or not allowable by a tribunal or patent authority of competent jurisdiction over such claim in such country from which no further appeal has or may be taken.

2. GRANT

2.1. Subject to the limitations set forth in this Agreement, including without limitation the rights reserved in Paragraph 2.2, The Regents hereby grants to Licensee an exclusive license under the Patent Rights to make, have made, use, have used, offer for Sale, import, Sell and have Sold Licensed Products and Licensed Services, and to practice Licensed Methods in the Licensed Field of Use in the Licensed Territory.

2.2. The license grant of Paragraph 2.1 is subject to the following retained rights:

(a) the retained right of The Regents and Technion to publish any technical data and other information resulting from research performed by The Regents or by Technion, respectively, relating to the Invention, subject to (and only to the extent of) any obligations that The Regents or Technion, respectively, may owe Licensee with respect to such publishing (i) under any separate research funding agreement between The Regents or Technion, respectively, and Licensee or (ii) under any other separate agreement between The Regents or Technion, respectively, and Licensee, where such other separate agreement has a pre-publication review

clause (and other clauses as required under the policy of The Regents or Technion, respectively) similar to that found appropriate under the policy of The Regents or Technion, respectively, for research funding agreements;

(b) the retained right of The Regents and Technion to make and use the Invention and associated technology for educational and research purposes;

(c) the retained right of The Regents and Technion to practice the Patent Rights in order to make and use products, and to practice methods, for educational and research purposes; and

(d) the retained right of The Regents to allow other educational and non-profit institutions to do any one or more of the activities of Subparagraphs 2.2 (a), (b), and (c) above, for educational and research purposes.

2.3. Paragraph 2.2 notwithstanding, The Regents and Licensee understand and agree to the provisions set forth below in this Paragraph 2.3, which provisions are in accordance with the corresponding provisions of the Inter-Institutional Agreement between The Regents and Technion:

(a) It is the intent of The Regents and Licensee that licenses be granted by The Regents and/or Technion under the Patent Rights, for educational and research purposes, to any non-profit or educational institution, in order to promote research relating to the Invention worldwide.

(b) It is understood and agreed that each of The Regents and Technion may grant such licenses, provided that, (i) any such licenses granted by Technion will be subject to prior written approval by The Regents, with such approval to take place no later than ten (10) days following request by Technion for such approval and with such approval not to be unreasonably withheld (and it is understood and agreed that, for avoidance of doubt, The Regents' oversight of any such requested license by Technion is made only in order to ensure both consistency in the scope of such licenses and proper dovetailing of such licenses with the grant to Licensee under this Agreement); and (ii) The Regents will inform Technion of each license granted by The Regents for educational and research purposes to any non-profit or educational institution, every six (6) months.

AMENDED.

(c) It is understood and agreed that every six (6) months The Regents will inform Technion of each such license granted by The Regents for educational and research purposes, to any non-profit or educational institution.

(d) It is understood and agreed that, for avoidance of doubt, Technion has the right to provide license rights to Technion's SARK:IPT construct and Technion's transgenic plants containing the SARK:IPT construct, solely for educational and research purposes, to any non-profit or educational institution.

(e) It is understood and agreed that The Regents and Technion have the reserved right to make and use the Invention, and to practice the Patent Rights, for educational and research purposes ("Further Research"), and that the results of such Further Research and any intellectual property rights generated therein (including without limitation, any inventions, developments, advancements or improvements to the Invention, know-how, technology or technological information) will belong solely to the inventing Party and will not be part of, and will not be considered as part of, the Inter-Institutional Agreement or this Agreement.

(f) It is understood and agreed that either The Regents or Technion, or both, may engage in sponsored research with Licensee, for further research and development based on the Invention, with no accounting of The Regents and Technion to each other, and that each of The Regents and Technion may freely and solely negotiate and agree on terms and conditions of such sponsored research as long as such sponsored research complies with the terms of the Inter-Institutional Agreement and this Agreement.

2.4. Nothing in this Agreement will be deemed to grant any rights or licenses to (a) The Regents, (b) Technion, or (c) any third party, to any of Licensee's technology, including enabling technology needed to practice the Patent Rights.

3. SUBLICENSES

3.1. The Regents hereby further grants to Licensee the right to grant to Affiliates of Licensee and to third parties a Sublicense under the rights granted to Licensee hereunder. Every Sublicense will include:

(a) a statement setting forth the date upon which Licensee's exclusive license rights hereunder will expire;

(b) a provision requiring the performance of all the obligations due to The Regents and Technion (and, if applicable, the United States Government) under this Agreement other than those rights and obligations specified in Article 4 (License Issue Fee/Maintenance Fees) and Paragraph 5.1 (Earned Royalties);

(c) an equivalent provision for indemnification of The Regents and Technion as has been provided for in this Agreement.

3.2. Licensee will notify The Regents of each Sublicense granted hereunder and furnish to The Regents a copy of each such Sublicense Agreement and any amendments thereof.

3.3. Affiliates of Licensee and Affiliates of Sublicensee will have no licenses under Patent Rights except as granted by Sublicense pursuant to this Agreement.

3.4. Licensee will collect and guarantee payment of all monies and other consideration due The Regents from Sublicensees, and will deliver all reports due The Regents and received from Sublicensees.

3.5. Upon termination of this Agreement for any reason, all Sublicenses that are granted by Licensee pursuant to this Agreement, where the Sublicensee is in compliance with its Sublicense Agreement as of the date of such termination, will remain in effect and will be assigned to The Regents, except that The Regents will not be bound to perform any duties or obligations set forth in any Sublicenses that extend beyond the duties and obligations of The Regents set forth in this Agreement.

3.6. Licensee is responsible for enforcement of the terms of Sublicense Agreements.

4. LICENSE ISSUE FEE/MAINTENANCE FEES

4.1. Licensee will pay to The Regents a non-creditable, non-refundable license issue fee ("License Issue Fee") of **[…*…]** due within fifteen (15) days of the Effective Date of this Agreement. The License Issue Fee is non-refundable and not an advance against royalties or other payments due under this Agreement.

4.2. Licensee will pay to The Regents a license maintenance fee ("License Maintenance Fee") of **[…*…]**, the first of which will be due on the second anniversary

of the Effective Date, with each subsequent License Maintenance Fee becoming due on each subsequent anniversary of the Effective Date thereafter. Each License Maintenance Fee will be treated as a minimum annual royalty payment and will be credited against Earned Royalties due for the calendar year in which payment of the License Maintenance Fee is made.

5. ROYALTIES

5.1. Licensee will pay to The Regents earned royalties ("Earned Royalties") at the rate of **[…*…]** of the Net Sales of all Licensed Products and Licensed Services, and **[…*…]** of Net Royalty Revenues.

5.2. Notwithstanding the provisions of Paragraph 5.1, for each additional license to patent rights that is held by Licensee under a written, compensation-bearing agreement with a third party and that is necessary for Licensee to practice the Patent Rights in order to make Net Sales (which third party license agreements will be subject to verification by The Regents), the royalty rate for such Net Sales will be decreased by **[…*…]**. For example, if one such additional license is required, the royalty rate for Net Sales will be decreased to **[…*…]**, and if two such additional licenses are required, the royalty rate for Net Sales will be decreased to **[…*…]**. In no event will the royalty rate for Net Sales be less than **[…*…]**.

5.3. Earned Royalties accruing to The Regents will be paid to The Regents semi-annually within two (2) months after the end of each calendar half as follows: August 31 (for first half) and February 28 (for second half).

5.4. All payments due The Regents will be payable in United States dollars.

5.5. When Licensed Products and Licensed Services are Sold for monies other than United States dollars, Earned Royalties will first be determined in the foreign currency of the country in which the Sale was made and then converted into equivalent United States dollars. The exchange rate will be that rate quoted in the *Wall Street Journal* on the last business day of the reporting period.

5.6. Licensee will make all payments under this Agreement either by check or electronic transfer, payable to "The Regents of the University of California" and Licensee will

forward such payments to The Regents at the address shown in Paragraph 23.1 below. Payments due for Sales occurring in any country outside the United States will not be reduced by any taxes, fees, or other charges imposed by the government of such country on the remittance, except for and subject to offsets to Net Invoice Price in accordance with Subparagraphs 1.8 (a) — (f). Licensee will be responsible for all bank transfer charges.

5.7. If any patent or patent application, or any claim thereof, included within Patent Rights expires or is held invalid in a final decision by a court of competent jurisdiction and last resort and from which no appeal has been or can be taken, all obligation to pay Earned Royalties based on such patent, patent application or claim, or any claims patentably indistinct therefrom will cease as of the date of such expiration or final decision. Licensee will not, however, be relieved from paying any Earned Royalties that accrued before such expiration or decision or that are based on another valid patent or claim not expired or involved in such decision.

6. DILIGENCE

6.1. Licensee, upon execution of this Agreement, will diligently proceed with the development, manufacture, and Sale of Licensed Products, Licensed Services, and Licensed Methods, and will diligently market them in quantities sufficient to meet the market demand.

6.2. In addition to its obligations under Paragraph 6.1, Licensee specifically commits to achieving the following milestones (either itself, or through its Sublicensees) in its activities under this Agreement:

(a) Milestone #1: Greenhouse Proof of Concept — on or before **[…*…]**;

(b) Milestone #2: Field Proof of Concept — on or before **[…*…]**;

(c) Milestone #3: Regulatory Submission — on or before **[…*…]**;

(d) Milestone #4: Regulatory Approval — on or before **[…*…]**; and

(e) Milestone #5: Commercial Launch of a Licensed Product — on or before **[…*…]**.

6.3. If The Regents believes that Licensee has failed to meet any milestone set forth in Paragraphs 6.1 and 6.2 by the date set forth therein (if applicable), The Regents will provide written notice to Licensee of the same within a reasonable time. License will have one hundred and twenty (120) days from the date of such written notice ("Cure Period") to complete the stated milestone or otherwise fulfill the stated diligence obligations. If Licensee is unable to complete the stated milestone or otherwise fulfill the stated diligence obligations within the Cure Period, Licensee may extend the completion date of such milestone or diligence obligation for a period of six (6) months from the expiration of the Cure Period upon the payment of **[…*…]**, due within ten (10) days of expiration of the Cure Period. Licensee may further extend the completion date of any milestone or diligence obligation for an additional six (6) months upon payment of an additional **[…*…]**. Additional extensions may be granted only by mutual written agreement of the Parties. All such payments to extend deadlines are in addition to the annual License Maintenance Fee payment specified in Paragraph 4.2. Should Licensee opt not to pay to extend the completion date or if Licensee should fail to complete the stated milestone or otherwise fulfill the stated diligence obligations by any extended target date, then The Regents may provide written notice to Licensee that the license granted in Paragraph 2.1 has been converted to a non-exclusive license, effective as of the date of expiration of the Cure Period or any extended target date, whichever is later.

(a) Unless earlier terminated in accordance with other provisions of this Agreement, the non-exclusive license will remain in effect for one (1) year from the date of conversion under this Paragraph 6.3. If at the end of such one-year period, Licensee has satisfied its diligence obligations (allowing for any extensions pursuant to this Paragraph 6.3), then the non-exclusive license will continue in effect, provided that, subsequent to the end of such one-year

period, The Regents will not be entitled to grant any additional licenses to third parties under Patent Rights (for so long as Licensee continues to be in compliance with Licensee's diligence obligations under this Agreement), other than (i) the rights reserved by The Regents for other educational and non-profit institutions under Paragraph 2.2, (ii) licenses already granted by The Regents during such one-year period, and (iii)

licenses granted by The Regents in accordance with the terms of option agreements, agreements to negotiate, or letters of intent that are entered by The Regents during such one-year period.

(b) If at the end of such one-year period, Licensee has not satisfied its diligence obligations (allowing for any extensions pursuant to Paragraph 6.3), then The Regents may, at its sole discretion, exercise its rights under Article 10.

6.4. All notices referenced in this Article 6 will be subject to Article 22 (Notices).

7. PROGRESS AND ROYALTY REPORTS

7.1. For the period beginning July 1, 2010, within sixty (60) days of each subsequent June 30 and December 31, Licensee will submit to The Regents a semi-annual progress report ("Progress Report") covering Licensee's activities related to the development and testing of all Licensed Products, Licensed Services and Licensed Methods and the obtaining of necessary governmental approvals, if any, for marketing in the United States. The Progress Reports will be made for all development activities until the first Sale occurs in the United States.

7.2. Each Progress Report will be a sufficiently detailed summary of activities of Licensee and any Sublicensees so that The Regents may evaluate and determine Licensee's progress in development of Licensed Products, Licensed Services, and Licensed Methods, and in meeting its diligence obligations under Article 6, and will include (but not be limited to) the following: summary of work completed and in progress; current schedule of anticipated events and milestones, including diligence milestones under Paragraph 6.2; anticipated market introduction dates for the Licensed Territory; and Sublicensees' activities during the reporting period.

7.3. In Licensee's Progress Report immediately subsequent to the first Sale of Licensed Products or Licensed Services by Licensee or a Sublicensee, Licensee will report the date of such first Sale.

7.4. After the first Sale of a Licensed Product or Licensed Service, Licensee will make semi-annual royalty reports ("Royalty Reports") to The Regents within two (2) months after the

calendar halves ending June 30 and December 31 of each year. Each Royalty Report will include at least the following:

(a) The nature and number of Licensed Products and Licensed Services Sold during the reporting period;

(b) Calculation of Net Sales for the period pursuant to Paragraph 1.10;

(c) Calculation of Net Royalty Revenues for the period pursuant to Paragraph 1.9;

(d) Calculation of total Earned Royalties due The Regents pursuant to Paragraph 5.1; and

(e) Names and addresses of any new Sublicensees along with a summary of the material terms of each new Sublicense Agreement entered into during the reporting period.

7.5. If no Sales of a Licensed Product or Licensed Service have occurred during the report period, a statement to this effect is required in the Progress Report or Royalty Report for that period.

8. BOOKS AND RECORDS

8.1. Licensee will keep full, true, and accurate books of accounts containing all particulars that may be necessary for the purpose of showing the amount of Earned Royalties payable to The Regents and Licensee's compliance with other obligations under this Agreement. Said books of accounts will be kept at Licensee's principal place of business or the principal place of business of the appropriate division of Licensee to which this Agreement relates. Said books and the supporting data will be open at all reasonable times during normal business hours upon reasonable notice, for two (2) years following the end of the calendar year to which they pertain, to the inspection and audit by representatives of The Regents for the purpose of verifying Licensee's royalty statement or compliance in other respects with this Agreement. Such representatives will be bound to hold all information in confidence except as necessary to communicate Licensee's non-compliance with this Agreement to The Regents.

8.2. The fees and expenses of The Regents' representatives performing such an examination will be borne by The Regents. However, if an error in underpaid Earned Royalties to The

Regents of more than ten percent (10%) of the total Earned Royalties due for any year is discovered, then the fees and expenses of these representatives will be borne by Licensee.

9. LIFE OF THE AGREEMENT

9.1. Unless otherwise terminated by the operation of law or by acts of the Parties in accordance with the terms of this Agreement, this Agreement will commence on the Effective Date and will remain in effect for the life of the last-to-expire patent or last-to-be-abandoned patent application licensed under this Agreement, whichever is later.

9.2. Any termination of this Agreement will not affect the rights and obligations set forth in the following articles:

Article 1	Definitions
Article 8	Books and Records
Article 9	Life of the Agreement
Article 12	Disposition of Licensed Products Upon Termination
Article 15	Use of Names and Trademarks
Article 16	Limited Warranties
Article 18	Indemnification
Article 22	Notices
Article 23	Payments
Article 25	Confidentiality
Article 28	Applicable Law; Venue; Attorneys' Fees
Article 29	Scope of Agreement

9.3. Any termination of this Agreement will not relieve Licensee of its obligation to pay any monies due or owing at the time of such termination and will not relieve any obligations, of either Party to the other Party, established prior to termination.

10. TERMINATION BY THE REGENTS

10.1. Except as otherwise provided in Article 6 (Diligence) of this Agreement, if Licensee should violate or fail to perform any term of this Agreement, then The Regents may give written notice of such default ("Notice of Default") to Licensee. If Licensee should fail to repair such default within sixty (60) days of the effective date of such notice, The Regents will have the right to terminate this Agreement and the licenses herein by a second written notice ("Notice of Termination") to Licensee. If a Notice of Termination is sent to Licensee, this Agreement will automatically terminate on the effective date of such notice. Such termination will not relieve Licensee of its obligation to pay any royalty or

license fees owing at the time of such termination and will not impair any accrued rights of The Regents. The aforementioned notices will be subject to Article 22 (Notices).

10.2. Notwithstanding Paragraph 10.1, this Agreement will terminate immediately, upon written notice given by The Regents in its sole discretion, if Licensee files a claim including in any way the assertion that any portion of The Regents' Patent Rights is invalid or unenforceable, where the filing of such claim is by the Licensee, by a third party on behalf of the Licensee, or by a third party at the written urging of the Licensee.

10.3. Notwithstanding Paragraph 10.1, this Agreement will terminate immediately, upon written notice given by The Regents in its sole discretion, in the event of the filing of a petition for relief under the United States Bankruptcy Code by or against Licensee as a debtor or alleged debtor.

11. TERMINATION BY LICENSEE

11.1. Licensee will have the right at any time to terminate this Agreement in whole or as to any portion of Patent Rights by giving notice in writing to The Regents. Such notice of termination will be subject to Article 22 (Notices) and, except as otherwise provided in Paragraph 13.4, termination of this Agreement (in whole or in part, as the case may be) will be effective sixty (60) days after the effective date of such notice.

11.2. Any termination pursuant to Paragraph 11.1 will not relieve Licensee of any obligation or liability accrued hereunder prior to such termination or rescind anything done by Licensee or any payments made to The Regents hereunder prior to the time such termination becomes effective, and such termination will not affect in any manner any rights of The Regents arising under this Agreement prior to such termination.

12. DISPOSITION OF LICENSED PRODUCTS UPON TERMINATION

12.1. Upon termination of this Agreement under Article 10 (Termination by The Regents) or Article 11 (Termination by Licensee) of this Agreement, for a period not to exceed three (3) years after the date of termination, Licensee may complete and Sell any partially made Licensed Products and continue to render any previously commenced Licensed Services, and continue the practice of Licensed Methods only to the extent necessary to do the foregoing; provided, that all such Sales will be subject to the terms of this Agreement

including, but not limited to, the payment of royalties at the rate and at the time provided herein and the rendering of reports thereon.

13. PATENT PROSECUTION AND MAINTENANCE

13.1. The Regents will diligently prosecute and maintain the United States and foreign patent applications and patents under Patent Rights, subject to Licensee's reimbursement of The Regents' out-of-pocket costs under Paragraph 13.3 below. The Regents will have sole responsibility for retaining and instructing patent counsel. The Regents will, however, promptly provide, subject to Article 25 (Confidentiality), Licensee with copies of all official patent office correspondence and other documentation relevant thereto so that Licensee may be informed of the continuing prosecution and may comment upon such correspondence sufficiently in advance of any initial deadline for filing a response; provided, however, if Licensee has not commented upon such documentation in reasonable time for The Regents to sufficiently consider Licensee's comments prior to the deadline for filing a response with the relevant government patent office, The Regents will be free to respond appropriately without consideration of Licensee's comments, if any.

13.2. The Regents will use reasonable efforts to prepare or amend any patent application within Patent Rights to include claims reasonably requested by Licensee and desirable to protect the Licensed Products or Licensed Services contemplated to be Sold or Licensed Methods to be practiced under this Agreement.

13.3. Subject to Paragraph 13.4, all costs actually incurred by The Regents during the term of this Agreement for prosecuting and maintaining, and if authorized by Licensee, for preparing and filing, all United States and corresponding foreign patent applications and resulting patents under Patent Rights ("Patent Prosecution Costs") which have not been previously paid by Licensee, will be paid by Licensee, so long as the licenses under Patent Rights granted to Licensee herein remain exclusive. The costs of all interferences, oppositions, reexaminations, and reissues will be deemed to be Patent Prosecution Costs and also will be borne by Licensee (but only to the extent authorized by Licensee and actually incurred by The Regents during the term of this Agreement). Licensee will reimburse The Regents for all eligible Patent Prosecution Costs within thirty (30) days following receipt of an itemized invoice from The Regents for Patent Prosecution Costs.

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If, however, The Regents reduces the exclusive licenses granted herein to non-exclusive licenses pursuant to Paragraph 6.3, and The Regents grants additional license(s) to all or a portion of the Patent Rights, the costs of preparing, filing, prosecuting and maintaining such subsequently licensed patent applications and patents will be divided equally among the licensed parties from the effective date of each subsequently granted license agreement.

13.4. Subject to the limitations set forth in Paragraph 13.3, Licensee's obligation to underwrite and to pay all United States and foreign patent filing, prosecution, and maintenance costs for Patent Rights will continue for so long as this Agreement remains in effect, provided however, that Licensee may terminate its obligation to pay Patent Prosecution Costs with respect to any particular patent application or patent under Patent Rights in any or all designated countries upon written notice to The Regents stating that further Patent Prosecution Costs with respect to that particular patent application or patent are no longer authorized, and further provided that such Patent Prosecution Costs either have not been incurred by The Regents as of such written notice or, if incurred by The Regents subsequent to such written notice, are actually and necessarily incurred by The Regents as a result of Licensee's notice occurring too late to cancel actions or withdraw instructions to act previously authorized by Licensee. The Regents may continue prosecution and/or maintenance of such patent application(s) or patent(s) at its sole discretion and expense, provided, however, that Licensee will have no further rights or licenses thereto under such Patent Rights. Licensee's decision to terminate its rights with respect to any specific patent(s) and/or patent application(s) within the Patent Rights will not affect Licensee's continuing rights in the remainder of the Patent Rights.

13.5. Licensee will promptly inform The Regents of any change in Licensee's small entity status, as defined in 37 CFR 1.27, or of any Sublicense to an entity which does not have small entity status, as defined in 37 CFR 1.27. With respect to all patents and patent applications in Canada, if any, The Regents is hereby advised that Licensee does not wish to claim small entity status, irrespective of whether Licensee would qualify as a small entity under Canadian law. Moreover, with respect to all patents and patent applications in the United States, The Regents is hereby advised that Licensee does not wish to claim small entity status.

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14. MARKING

14.1. Licensee will mark all Licensed Products Sold under this Agreement, or their containers, in accordance with applicable patent marking laws.

15. USE OF NAMES AND TRADEMARKS

15.1 This Agreement does not confer any right to use any name, trade name, trademark, or other designation of either Party or of Technion (including contraction, abbreviation or simulation of any of the foregoing) in advertising, publicity or other promotional activities. Such use of the name "The Regents of the University of California," or the name of any campus of the University of California, or the name and logo of Technion Research & Development Foundation Ltd, and/or the Technion — The Israel Institute of Technology, are prohibited.

16. LIMITED WARRANTIES

16.1. The Regents warrants that it has the lawful right to grant this license. As affirmed by Technion in the signature blocks below, Technion acknowledges and agrees that, by virtue of the Inter-institutional Agreement (which Technion has the right and authority to enter into), The Regents has the right to grant the exclusive license under this Agreement.

16.2. Licensee acknowledges The Regents' representation that, to the extent of the actual knowledge (as of the Effective Date) of The Regents' Executive Director of UC Davis InnovationAccess at the Davis campus, The Regents is not aware of any claim, action, proceeding or investigation, whether governmental or by a third party, pending or threatened, excluding any patent office proceeding, that questions the validity or enforceability of the Patent Rights, and that The Regents makes no warranty respecting the existence of any basis for any such claim, action, proceeding or investigation. Licensee acknowledges Technion's representation (which representation is affirmed by Technion in the signature blocks below) that, to the extent of the actual knowledge (as of the Effective Date) of Technion's Manager, Technion is not aware of any claim, action, proceeding or investigation, whether governmental or by a third party, pending or threatened,

excluding any patent office proceeding, that questions the validity or enforceability of the Patent Rights, and that Technion makes no warranty respecting the existence of any basis for any such claim, action, proceeding or investigation.

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16.3. Notwithstanding anything to the contrary in the foregoing Paragraphs 16.1 and 16.2, if Licensee becomes aware of any such third party right, dispute, claim, action, proceeding, or investigation after the Effective Date, Licensee may terminate this Agreement in accordance with Article 11 (Termination by Licensee) above.

16.4. Except as expressly set forth in Paragraphs 16.1 and 16.2 of this Agreement, the license granted and the associated Invention are provided WITHOUT WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED. THERE IS NO REPRESENTATION OR WARRANTY BY THE REGENTS OR TECHNION THAT THE INVENTION, THE PATENT RIGHTS, LICENSED PRODUCTS, LICENSED SERVICES OR LICENSED METHODS WILL NOT INFRINGE ANY PATENT OR OTHER PROPRIETARY RIGHT.

16.5. IN NO EVENT WILL THE REGENTS OR TECHNION BE LIABLE FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES RESULTING FROM EXERCISE OF THIS LICENSE OR THE USE OF THE INVENTION, THE PATENT RIGHTS, LICENSED METHODS, LICENSED SERVICES OR LICENSED PRODUCTS.

16.6. Nothing in this Agreement is or will be construed as:

(a) A warranty or representation by The Regents or Technion as to the validity, enforceability or scope of the Patent Rights; or

(b) A warranty or representation that anything made, used, or Sold under any license granted in this Agreement is or will be free from infringement of patents of third parties; or

(c) An obligation to bring or prosecute actions or suits against third parties for patent infringement, except as provided in Article 17; or

(d) Conferring by implication, estoppel, or otherwise any license or rights under any patents of The Regents or of Technion other than the Patent Rights, regardless of whether such patents are dominant or subordinate to the Patent Rights; or

(e) An obligation to furnish new developments, improvements, enhancements,

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advancement to the Invention and/or related know-how, data or information which are not included in the patents and patent applications under the Patent Rights.

17. PATENT INFRINGEMENT

17.1. In the event that Licensee learns of the substantial infringement of any Patent Rights, Licensee will promptly provide The Regents with notice and reasonable evidence of such infringement ("Infringement Notice"). During the period and in a jurisdiction where Licensee has exclusive rights under this Agreement, neither Party will notify a third party, including the infringer, of the infringement without first obtaining consent of the other Party, which consent will not be unreasonably withheld. Both Parties will use diligent efforts, in cooperation with each other, to terminate such infringement without litigation.

(a) If such infringing activity has not been abated within ninety (90) days following the effective date of the Infringement Notice, Licensee may institute suit for patent infringement against the infringer. The Regents may voluntarily join such suit at The Regents' expense, but The Regents may not thereafter separately commence suit against the infringer for the acts of infringement that are the subject of Licensee's suit or any judgment rendered in that suit. Licensee may not join The Regents or Technion ("Owners") in a suit initiated by Licensee without The Regents' prior written consent. If, in a suit initiated by Licensee, an Owner is involuntarily joined other than by Licensee, Licensee will pay any costs incurred by an Owner arising out of such suit, including but not limited to, any fees actually and necessarily incurred by an Owner for legal counsel that an Owner selects and retains to represent it in the suit.

(b) If, within one hundred twenty (120) days following the effective date of the Infringement Notice, the infringing activity has not been abated and if Licensee has not brought suit against the infringer, The Regents may in its sole discretion institute suit for patent infringement against the infringer. If The Regents institutes such suit, Licensee may not join such suit without The Regents' consent and may not thereafter separately commence suit against the infringer for the acts of infringement that are the subject of The Regents' suit or any judgment rendered

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in that suit.

17.2. Such legal action as is decided upon will be at the expense of the Party on account of whom suit is brought and all recoveries recovered thereby will belong to such Party, provided that legal action brought jointly by the Owners and Licensee and participated in by both will be at the joint expense of both the Owners and Licensee, and all recoveries will be allocated in the following order: (a) to each Owner and Licensee, reimbursement for its attorneys' costs, fees, and other

related out-of-pocket expenses to the extent each Owner and Licensee paid for such costs, fees, and expenses until all such costs, fees, and expenses are consumed for each Owner and Licensee; and (b) any remaining amount shared jointly by both the Owners and Licensee in proportion to the share of expenses paid by each Owner and Licensee, provided that (i) in no event will The Regents' share be less than five percent (5%) of such remaining amount if The Regents is a party to the suit, and (ii) in no event will Technion's share be less than five percent (5%) of such remaining amount if Technion is a party to the suit.

17.3. Each Party will cooperate with the other Party in litigation instituted hereunder but at the expense of the party on account of whom suit is brought. Such litigation will be controlled by the party bringing the action, except that the Owners may be represented by counsel of their choice in any suit brought by Licensee.

17.4. Any agreement made by Licensee for the purposes of settling litigation or other dispute will comply with the requirements of Article 3 above. In no event may Licensee admit liability or wrongdoing on behalf of The Regents or Technion without The Regents' or Technion's prior written consent.

17.5. The Parties acknowledge that Technion has obligations to The Regents, with respect to any legal action to enforce Patent Rights, in accordance with the provisions of the Inter-Institutional Agreement.

18. INDEMNIFICATION

18.1. Licensee will indemnify, hold harmless, and defend The Regents and Technion, and their respective officers, employees, and agents; the sponsor(s) of the research that led to the Invention; and the inventors of any patents and patent applications under Patent Rights and their employers, against any and all claims, suits, losses, damages, costs, fees, and

expenses resulting from or arising out of exercise of this license or any Sublicense. This indemnification will include, but not be limited to, any product liability.

18.2. Licensee, at its sole cost and expense, will insure its activities in connection with any work performed hereunder and will obtain, keep in force, and maintain the following insurance:

(a) Commercial Form General Liability Insurance (contractual liability included) with limits as follows:

Each Occurrence	$	3,000,000
Products/Completed Operations Aggregate	$	3,000,000
Personal and Advertising Injury	$	3,000,000
General Aggregate	$	3,000,000

(b) If the above insurance is written on a claims-made form, it will continue for three (3) years following termination or expiration of this Agreement. The insurance will have a retroactive date of placement prior to or coinciding with the Effective Date of this Agreement; and

(c) Worker's Compensation as legally required in the jurisdiction in which Licensee is doing business.

18.3. The coverage and limits referred to in Subparagraphs 18.2(a) and 18.2(b) will not in any way limit the liability of Licensee under this Article 18. Upon the execution of this Agreement, Licensee will furnish The Regents with certificates of insurance evidencing compliance with all requirements, and Licensee will promptly notify The Regents of any material modification of the insurance coverages. Such certificates will:

(a) provide for thirty (30) days' (ten (10) days for non-payment of premium) advance written notice to The Regents of any cancellation of insurance coverages;

(b) indicate that The Regents and Technion have each been endorsed as an additional insured under the coverage described above in Paragraph l8.2; and

(c) include a provision that the coverage will be primary and will not participate with, nor will be excess over, any valid and collectable insurance or program of self-insurance maintained by The Regents or Technion.

18.4. The Regents will promptly notify Licensee in writing of (a) any claim or suit brought against The Regents for which The Regents intends to invoke the provisions of this Article 18, and (b) any claim or suit brought against Technion for which Technion has informed The Regents that Technion intends to invoke the provisions of this Article 18. Licensee will keep The Regents and Technion, respectively, informed of Licensee's defense of any claims pursuant to this Article 18.

19. COMPLIANCE WITH LAWS/EXPORT CONTROLS

19.1. Licensee will comply with all applicable international, national, state, regional, and local laws and regulations in performing its obligations hereunder and in Licensee's use, manufacture, Sale, or import of the Licensed Products or Licensed Services, or in Licensee's practice of Licensed Methods. The Licensee will observe all applicable United States and foreign laws and regulations governing the transfer to foreign countries of technical data related to Licensed Products, including without limitation with respect to the International Traffic in Arms Regulations (ITAR) and the Export Administration Regulations.

19.2. Licensee understands that The Regents is subject to United States laws and regulations (including the Arms Export Control Act, as amended, and the Export Administration Act of 1979), controlling the export of technical data, computer software, laboratory prototypes and other commodities, and The Regents' obligations to Licensee under this Agreement are contingent on and subject to compliance with such laws and regulations. The transfer of certain technical data and/or commodities may require a license from the cognizant agency of the United States Government and/or written assurances by Licensee that Licensee will not export such technical data and/or commodities to certain foreign countries without prior approval of such agency. The Regents neither represents that such a license will not be required nor that, if required, it will be issued.

20. GOVERNMENT APPROVAL OR REGISTRATION

20.1. If this Agreement or any associated transaction is required by the law of any nation to be either approved or registered with any governmental agency, Licensee will assume all legal obligations to do so. Licensee will notify The Regents if it becomes aware that this Agreement is subject to a United States or foreign government reporting or approval requirement. Licensee will make all necessary filings and pay all costs including fees, penalties, and all other out-of-pocket costs associated with such reporting or approval process.

21. ASSIGNMENT

21.1. This Agreement is personal to Licensee. Licensee may not assign or transfer this Agreement, except by merger or acquisition of all or substantially all of Licensee's business to which this Agreement relates or by operation of law, without The Regents' prior written consent, which consent will not be unreasonably withheld. For purposes of this Paragraph 21.1, The Regents will be deemed to have reasonable grounds for such withholding of consent in the event that being in contractual privity with the proposed assignee would be inconsistent with maintenance of The Regents' reputation and status as a public university, or in the event that the proposed assignee in the view of The Regents would not be technically or financially capable of properly carrying out its duties under this Agreement. If The Regents refuse to grant such consent, The Regents will provide to Licensee, with particularity and in writing, a full explanation of the reasons for refusing consent. This Agreement is binding upon and will inure to the benefit of The Regents, its successors and assigns.

22. NOTICES

22.1. Any notice required to be given to either Party under this Agreement will be deemed to have been properly given and to be effective:

(a) on the date of delivery if delivered in person;

(b) on the date of mailing if mailed by first-class certified mail, postage paid; or

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(c) on the date of mailing if mailed by any global express carrier service that requires the recipient to sign the documents demonstrating the delivery of such notice or payment;

to the respective addresses given below, or to another address as designated in writing by the Party changing its address:

To The Regents:
UC Davis InnovationAccess
Technology Transfer Services
1850 Research Park Drive, Suite 100
Davis, CA 95618-6134
Attn.: Director (UC Case No.: 2005-095)

To Licensee:
Arcadia Biosciences, Inc.
202 Cousteau Place, Suite 200
Davis, CA 95616
Attn.: Eric J. Rey
President and CEO

22.2. Either Party may change its address upon written notice to the other Party.

23. PAYMENTS

23.1. Payments to The Regents will be made to the following address:

The Regents of the University of California
Innovation Alliances & Services
1111 Franklin Street, 5th Floor
Oakland, CA 94607-5200
Attention: Executive Director, Research Administration and Technology Transfer
Referring to: UC Case No. 2005-095

23.2. If monies owed to The Regents under this Agreement are not received by The Regents when due, Licensee will pay to The Regents interest charges at a rate of ten percent (10%) per annum. Such interest will be calculated from the date payment was due until actually received by The Regents. Such accrual of interest

will be in addition to, and not in lieu of, enforcement of any other rights of The Regents related to such late payment. Acceptance of any late payment will not constitute a waiver under Article 24 (Waiver) of this Agreement.

24. WAIVER

24.1. The failure of either Party to assert a right hereunder or to insist upon compliance with any term or condition of this Agreement will not constitute a waiver of that right or excuse a similar subsequent failure to perform any such term or condition by the other Party. None of the terms and conditions of this Agreement can be waived except by the written consent of the Party waiving compliance.

25. CONFIDENTIALITY

25.1. Subject to Paragraphs 25.3, 25.4 and 25.5, each Party will hold the other Party's proprietary business and technical information, data, experimental results, financial information and reports, patent prosecution material, and other proprietary information, including the negotiated terms of this Agreement (collectively "Proprietary Information"), in confidence and against disclosure to third parties with at least the same degree of care as it exercises to protect its own data and information of a similar nature, provided that, The Regents may disclose Proprietary Information of Licensee (including reports under Article 7 and including other Proprietary Information of Licensee which is directly related to the Patent Rights or licensing thereof) to Technion under the confidentiality provision of the Inter-Institutional Agreement, or under other written confidentiality agreement between The Regents and Technion. This obligation will expire five (5) years after the termination or expiration of this Agreement.

25.2. Written Proprietary Information may be labeled or marked confidential or proprietary. If the Proprietary Information is orally disclosed, it may be reduced to writing or some other physically tangible form, marked and labeled as confidential or proprietary by the disclosing Party and delivered to the receiving Party after the oral disclosure. In no event, however, will absence of labeling or marking affect the proprietary nature of Proprietary Information or the confidentiality obligations of the receiving Party.

25.3. Nothing contained herein will in any way restrict or impair the right of Licensee or The Regents to use, disclose, or otherwise deal with any information or data which:

(a) at the time of disclosure to a receiving Party is available to the public or thereafter becomes available to the public by publication or otherwise through no act or omission of the receiving Party; or

(b) the receiving Party can show by written records was in its possession prior to the time of disclosure to it hereunder and was not acquired directly or indirectly from the disclosing Party; or

(c) is independently made available to the receiving Party without restrictions as a matter of right by a third party; or

(d) is independently developed by employees of the receiving Party who did not have access to the information disclosed by the disclosing Party; or

(e) is subject to disclosure under the California Public Records Act or other requirements of law.

25.4. Licensee and The Regents may disclose Proprietary Information to their employees, agents, consultants, and contractors, provided that such Parties have a need to know such Proprietary Information and are bound by a like duty of confidentiality as that found in this Article 25. In addition, Licensee will be free to disclose to potential Sublicensees the terms and conditions of this Agreement upon their request, provided such disclosure is made under a suitable confidentiality agreement. Further, The Regents will be free to release to the inventors and senior administrators employed by The Regents the terms and conditions of this Agreement upon their request. If such release is made, The Regents will inform such employees of the confidentiality obligations set forth above and will request that they do not disclose such terms and conditions to others. Should a third party inquire whether a license to Patent Rights is available, The Regents may disclose the existence of this Agreement and the extent of the grant in Articles 2 and 3 to such third party, but will not disclose the name of Licensee unless (a) Licensee has already made such disclosure publicly, (b) Licensee otherwise consents to such disclosure, or (c) such disclosure is required under the California Public Records Act or other requirements of law.

25.5. Licensee and The Regents may disclose Proprietary Information that is required to be disclosed (i) to a governmental entity or agency in connection with seeking any governmental or regulatory approval, governmental audit, or other governmental requirement, (ii) or otherwise by law, provided that the receiving Party uses commercially reasonable efforts to give the other Party sufficient notice of such required disclosure to

allow such other Party reasonable opportunity to object to, and to take legal action to prevent, such disclosure.

25.6. Licensee and The Regents agree to destroy or return to the disclosing Party Proprietary Information received from the other in its possession within fifteen (15) days following the effective date of termination of this Agreement. However, each Party may retain one copy of Proprietary Information of the other solely for archival purposes in non-working files for the sole purpose of verifying the ownership of the Proprietary Information, provided such Proprietary Information will

be subject to the confidentiality provisions set forth in this Article 25. Licensee and The Regents agree to provide each other, within thirty (30) days following termination of this Agreement, with a written notice that Proprietary Information has been returned or destroyed.

26. FORCE MAJEURE

26.1. Except for Licensee's obligation to make any payments to The Regents hereunder, and subject to Paragraph 26.2, the Parties will not be responsible for any failure to perform due to the occurrence of any catastrophic or major events beyond their reasonable control that render their performance impossible or onerous, including, without limitation, accidents (environmental, toxic spill, etc.); acts of nature or natural disasters such as earthquakes, fires or floods; biological or nuclear incidents; casualties; governmental acts, orders, restrictions, laws, proclamations, edicts, ordinances, or regulations; war, riot, or insurrection; acts of terrorism; strikes, lockouts, or other serious labor disputes; local, national, or state emergency; and power failure and power outages. When any such events have abated, the Parties' respective obligations hereunder will resume.

26.2. Either Party to this Agreement will have the right to terminate this Agreement upon thirty (30) days' prior written notice if either Party is unable to fulfill its obligations under this Agreement due to any of the causes specified in Paragraph 26.1 continuing for a period of one (1) year or longer.

27. SEVERABILITY

27.1. The provisions of this Agreement are severable, and in the event that any provision of this Agreement is determined to be invalid, illegal or unenforceable under any controlling body of law, such invalidity, illegality, or enforceability will not in any way affect the

validity or enforceability of the remaining provisions hereof, and this Agreement will be construed as if such invalid, illegal, and/or unenforceable provisions had never been contained herein.

28. APPLICABLE LAW; VENUE; ATTORNEYS' FEES

28.1. THIS AGREEMENT WILL BE CONSTRUED, INTERPRETED, AND APPLIED IN ACCORDANCE WITH THE LAWS OF THE STATE OF CALIFORNIA, excluding any choice of law rules that would direct the application of the laws of another jurisdiction, except that the scope and validity of any patent or patent application under Patent Rights will be determined by the applicable law of the country of such patent or patent application. Any legal action brought by the Parties relating to this Agreement will be conducted in San Francisco, California. The prevailing Party in any legal action under this Agreement will be entitled to recover its reasonable attorneys' fees in addition to its costs and necessary disbursements.

29. SCOPE OF AGREEMENT

29.1. Neither Party will use this Agreement as a basis to invoke the CREATE Act, 35 U.S.C. 103 (c) (2), without the written consent of the other Party.

29.2. This Agreement (and the Inter-Institutional Agreement) incorporates the entire agreement between the Parties with respect to the subject matter hereof and supersedes all previous communications, representations, agreements, or understandings, whether oral or written, between the Parties relating to the subject matter hereof, including, but not limited to, the Option Agreement.

29.3. Headings appear solely for convenience of reference. Such headings are not part of this Agreement and will not be used to construe it.

29.4. No amendment or modification of this Agreement will be valid or binding upon the Parties unless made in writing and signed by an authorized representative of each Party.

IN WITNESS WHEREOF, the Parties have executed this Agreement (and Technion has signed to confirm its review and acknowledgment as a third-party beneficiary under this Agreement, and to affirm its acknowledgment and agreement under Paragraph 16.1 and its representation under Paragraph 16.2) below in triplicate originals, or counterparts thereof, by their respective duly authorized officers or representatives.

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

By /s/ David R. McGee
David R. McGee
Executive Director, UC Davis InnovationAccess

Date July 2, 2010

ARCADIA BIOSCIENCES, INC.

By /s/ Eric J. Rey
Eric J. Rey
President and CEO

Date July 2, 2010

REVIEWED AND ACKNOWLEDGED, AND AFFIRMED AS TO TECHNION'S ACKNOWLEGEMENT AND AGREEMENT IN PARAGRAPH 16.1 AND TECHNION'S REPRESENTATION IN PARAGRAPH 16.2:

TECHNION RESEARCH & DEVELOPMENT FOUNDATION

By: /s/
(Signature)

Name:
(Please print)

Title:

Date: July 2, 2010

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FIRST AMENDMENT TO

EXCLUSIVE LICENSE AGREEMENT

BETWEEN

ARCADIA BIOSCIENCES, INC.

AND

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

FOR

DROUGHT-RESISTANT PLANTS

UC Case No.: 2005-095

U.C. AGREEMENT
CONTROL NUMBER
2011-04-0033 REVA

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FIRST AMENDMENT TO
EXCLUSIVE LICENSE AGREEMENT FOR
DROUGHT-RESISTANT PLANTS

U.C. Case No.: 2005-095

THIS AMENDMENT ("First Amendment"), deemed effective as of July 2, 2010, is by and between Arcadia Biosciences, Inc., an Arizona corporation, at 202 Cousteau Place, Suite 200, Davis, CA 95618 USA ("Arcadia"), and The Regents of the University of California, on behalf of its Davis campus, at 1850 Research Park Drive, Suite 300, Davis, CA 95618 USA ("University") (Arcadia and University, the "Parties").

WHEREAS, the Parties executed an Exclusive License Agreement (UC Agreement No. 2011-04-0033 (2005-095-1)) effective July 2, 2010 ("Agreement"), under which Arcadia was granted research and commercial licenses to the invention entitled "Drought Resistant Plants" as detailed therein; and

WHEREAS, the Agreement requires Arcadia to timely achieve certain technical milestones pursuant to Section 6.2: and

WHEREAS, the Parties desire to modify the requirements of Section 6.2 of the Agreement as set forth herein.

NOW, THEREFORE, the Parties agree as follows:

1. Section 6.2 of the Agreement shall be replaced in its entirety by the following:

"6.2 In addition to its obligations under Paragraph 6.1, Licensee specifically commits to achieving the following milestones (either itself, or through its Sublicensees) in its activities under this Agreement:

(a) Milestone #1: Field Proof of Concept — on or before **[…*…]**

(b) Milestone #2: Regulatory Submission — on or before **[…*…]**

(c) Milestone #3: Regulatory Approval — on or before **[…*…]**

(d) Milestone #4: Commercial Launch of a Licensed Product — on or before **[…*…]**"

[…*…] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 406 OF THE SECURITIES ACT OF 1933, AS AMENDED.

2. All other provisions of the Agreement shall remain unchanged and in full force and effect.

IN WITNESS WHEREOF, the Parties hereto have caused this First Amendment to be executed and delivered as of the date shown above.

ARCADIA BIOSCIENCES, INC.		**THE REGENTS OF THE UNIVERSITY OF CALIFORNIA**	
By:	/s/ Eric J. Rey	By:	/s/ Clinton H. Neagley
Name:	Eric J. Rey	Name:	Clinton H. Neagley
Title:	President & CEO	Title:	Associate Director UC Davis InnovationAccess Technology Transfer Services
Date:	Aug 10, 2013	Date:	August 13, 2013

[…*…] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 406 OF THE SECURITIES ACT OF 1933, AS AMENDED.

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AMENDED AND RESTATED

LICENSE AGREEMENT

Between

ROSS PRODUCTS DIVISION OF ABBOTT LABORATORIES

And

ARCADIA BIOSCIENCES, INC.

Dated

JULY 25, 2007

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LICENSE AGREEMENT

This Amended and Restated Agreement, made and effective as of July 25, 2007 (this "Agreement"), by and between Arcadia Biosciences, Inc., a corporation of the State of Arizona, United States of America, having its principal place of business at 202 Cousteau Place, Suite 200, Davis California, 95616, U.S.A., (hereinafter "Arcadia") and Ross Products Division of Abbott Laboratories, a corporation of the State of Illinois, United States of America, having a place of business at 625 Cleveland Avenue, Columbus, Ohio 43215-1724, U.S.A. (hereinafter "Abbott").

WITNESSETH:

WHEREAS, Arcadia is interested in the production of gamma-linolenic acid ("GLA") and dihomo-gamma-linolenic acid ("DGLA") and arachidonic acid ("ARA") in plant seeds and tissues and microorganisms and their subsequent commercial exploitation;

WHEREAS, Abbott owns or co-owns and has the right to grant licenses under certain U.S. Patents and patent applications and their foreign counterparts which relate to the production of one or more of GLA, DGLA or ARA in plant seeds and tissues and microorganisms;

WHEREAS, subject to the outcome of such development and production, Arcadia desires to use and sell one or more of GLA, DGLA or ARA and both Arcadia and Abbott desire to sell certain products containing such one or more of GLA, DGLA or ARA as set forth in this Agreement, and Arcadia further desires to sell and supply to Abbott (and Abbott desires to purchase from Arcadia) the same for further formulation and combination in its products for commercial sale as set forth in this Agreement;

WHEREAS, the Parties desire to amend and restate the Agreement (the "Original Agreement") that was originally entered into as of October 30, 2003 ("Original Date") and the First Amendment dated March 24, 2006 which established a relationship pursuant to which the Parties shared their respective biotechnology skills, materials and rights in order for Arcadia to engage in the development and production of one or more of GLA, DGLA or ARA in plant seeds and tissues and microorganisms and their subsequent commercial exploitation by Arcadia or Abbott as set forth herein;

NOW, THEREFORE, in consideration of the premises and mutual covenants herein, the Parties (as hereinafter defined) agree as follows:

1. DEFINITIONS

Where used in this Agreement the following terms shall have the meanings ascribed below:

(a) "Abbott Fields" means the fields of Infant Formula, Medical Foods, Pharmaceuticals and Medical Nutritionals.

(b) "Abbott Co-Owned Patents" shall refer to: (i) the patents and patent applications listed in Exhibit A; (ii) the patents and patent applications arising under any Abbott Improvement; (iii) any continuations, continuations-in-parts, or divisionals of (i) or (ii); (iv) any extension, renewal, reexamination or reissue of a patent identified in (i), (ii) or, (iii); and (v) all foreign equivalents of (i), (ii), (iii) or (iv).

(c) "Abbott Only Patents" shall refer to: (i) the patents and patent applications listed in Exhibit A-1; (ii) the patents and patent applications arising under any Abbott Improvement; (iii) any continuations, continuations-in-parts, or divisionals of (i) or (ii); (iv) any extension, renewal, reexamination or reissue of a patent identified in (i), (ii) or, (iii); and (v) all foreign equivalents of (i), (ii), (iii) or (iv).

(d) "Abbott Transgenic Oil" means Transgenic Oil which has received Regulatory Approval and which conforms to Abbott's specific compositional requirements for use in Abbott products as specified in the Research Plan.

(e) "Affiliate" means any corporation, firm, limited liability company, partnership or other entity that directly or indirectly controls or is controlled by or is under common control with a Party to this Agreement. For the purpose of this definition, control means ownership, directly or through one or more Affiliates, of fifty percent (50%) (or such lesser percentage which is the maximum allowed to be owned by a foreign entity in a particular jurisdiction) or more of the shares of stock entitled to vote for the election of directors, in the case of a corporation, or fifty percent (50%) (or such lesser percentage which is the maximum allowed to be owned by a foreign entity in a particular jurisdiction) or more of the equity interests in the case of any other type of legal entity, status as a general partner in any partnership, or any other

arrangement whereby a Party controls or has the right to control the board of directors or equivalent governing body of a corporation or other entity. As applied to Arcadia, Affiliate shall solely refer to Exeter Life Sciences, Inc. or any of its subsidiaries. TAP Holdings Inc., a Delaware corporation, and TAP Pharmaceuticals Inc., a Delaware corporation that is a wholly-owned subsidiary thereof, are not Affiliates under this definition.

(f) "ARA" means Arachidonic Acid, esters thereof, amides thereof, and acid addition salts thereof.

(g) "ARA Transgenic Oil" means a Transgenic Oil containing a commercially significant concentration of ARA. For purposes of the nominal pricing structure(s), royalty rates, sales volumes, and the like set forth in this Agreement, the Parties have assumed a forty percent (40%) concentration of ARA in the ARA Transgenic Oil, and such concentration is specified where applicable. However, the Parties acknowledge and understand that the actual ARA concentration in the ARA Transgenic Oil may be greater than or less than 40%, and where ARA concentration is a consideration (e.g., for purposes of annual sales volumes and determining price), such consideration is specified herein.

(h) "Co-Assignee Oil" shall have the meaning set forth in Section 2(h) below.

(i) "Commercial Manufacture" means methods and processes used by or on behalf of a Party for producing, processing, extracting or isolating Transgenic Oil for Commercial Sale.

(j) "Calendar Quarter" means a three (3) calendar month period beginning on July 1, 2007, or any successive three (3) calendar month period.

(k) "Claims" shall have the meaning set forth in Section 11(a).

(l) "Commercial Sale" means the sale or transfer of a Transgenic Oil by Arcadia, an Affiliate or sublicensee to a non-Affiliate Third Party or Abbott for consideration.

(m) "Confidential Information" means any information including, but not limited to, ideas, proposals, plans, Know-How, reports, drawings, designs, data, discoveries, inventions, Improvements, suggestions, specifications, products, samples, components and materials relating to the Research Project or this Agreement and all information relating to the manufacture, formulation, analysis, stability, pharmacology, toxicology, pathology, clinical data, results of clinical efficacy studies, clinical effects and indications for use of Transgenic Oil, which a Party discloses to the other Party, the terms of this Agreement and all records and

information discussed or gathered by a Party pursuant to Sections 2(i), 4(a) and 8(e) except any portion thereof which:

(i) is known to the receiving Party at the time of disclosure, unless subject to confidentiality obligations contained in the Confidentiality Agreement between the Parties dated October 1, 2002 or any agreement between the Parties executed prior to the execution of this Agreement;

(ii) disclosed to the receiving Party by a Third Party who has a right to make such disclosure;

(iii) is or becomes part of the public domain other than as a result of a breach hereof; or

(iv) is independently developed, without reference to the Confidential Information of the disclosing Party, by or for the receiving Party as evidenced by its written records.

(n) "Cost of Goods Sold" for each Transgenic Oil as used herein means average inventory value of product sold during the period and consistent with Generally Accepted Accounting Principles (GAAP). Average inventory value includes all product costs directly associated with the production and conversion of raw materials and work-in-process into finished goods available for sale. For purposes of this definition, product costs include direct material, direct labor and manufacturing overhead costs. Manufacturing overhead costs include direct material costs, direct labor costs, and such items as depreciation, taxes, quality assurance costs, insurance and utilities charges incurred in the manufacturing process.

(o) "Development Committee" shall have the meaning provided in Section 6(c) of this Agreement.

(p) "Dietary Foods for Special Medical Purposes" means a category of foods for particular nutritional uses specifically processed or formulated and intended for the dietary management of patients and to be used under medical supervision. They are intended for the exclusive or partial feeding of patients with a limited, impaired or disturbed capacity to take, digest, absorb, metabolize or excrete ordinary foodstuffs or certain nutrients contained therein or metabolites, or with other medically-determined nutrient requirements whose dietary

management cannot be achieved only by modification of the normal diet, by other foods for particular nutritional uses, or by a combination of the two.

(q) "DGLA" means Dihomo-gamma-linolenic Acid, esters thereof, amides thereof, and acid addition salts thereof.

(r) "[...*...] License" shall have the meaning set forth in Section 2(g) below.

(s) "[...*...]" means any oil or lipid produced by [...*...] or the then current successor or assignee of the [...*...] License in crops using technology licensed pursuant to the [...*...] License containing DHA and/or EPA.

(t) "Effective Date" means July , 2007.

(u) "Exclusive License" means a license whereby the licensee's rights shall be sole and exclusive and shall operate to exclude all others, including the licensor, other than any rights that the licensor expressly reserves.

(v) "FDA" means the United States Food and Drug Administration or any successor entity thereto.

(w) "Improvements" shall have the meaning set forth in Section 3 below.

(x) "Infant Formula" means a food which purports to be or is represented for special dietary use solely as a food for infants by reason of its simulation of human milk or its suitability as a complete or partial substitute for human milk.

(y) "GLA" means Gamma-linolenic Acid, esters thereof, amides thereof, and acid addition salts thereof.

(z) "Know-How" means that proprietary technology developed or utilized by a Party under this Agreement, directly related to developing, manufacturing or producing Transgenic Oil. Examples of such proprietary technology include, but are not limited to, manufacturing data, DNA sequences, genetic constructs, plasmids, genetic material, formulation or production technology, methods of synthesis, isolation and purification methods and other manufacturing information useful or required to manufacture or produce Transgenic Oil under this Agreement and that proprietary data developed by a Party related to tolerance of Transgenic Oil made under this Agreement.

(aa) "Medical Foods" means, as defined in Section 5(b) of the Orphan Drug Act (21 U.S.C. 360ee(b)(3)), foods which are formulated to be consumed or administered enterally

under the supervision of a physician and which are intended for the specific dietary management of a disease or condition for which distinctive nutritional requirements, based on recognized scientific principles, are established by medical evaluation. For purposes of this Agreement, Medical Foods shall include Dietary Foods for Special Medical Purposes, which term is intended to cover such products sold outside of the United States.

(bb) "Medical Nutritionals" means, subject to the limitations set forth below, any food or other preparation for human consumption, including enteral or parenteral consumption, which (i) when taken into the body, serves to nourish or build up tissues, supply energy or maintain, restore or support adequate nutritional status or metabolic function, and (ii) is formulated to be useful in nutritional or dietary management or supplementation, or is formulated specifically for patients with a specific disease or condition or special dietary needs, and (iii) are marketed to physicians, health care professionals and health-related institutions (i.e., hospitals, physician's offices, skilled nursing facilities and clinics) where such marketing activities account for greater than thirty percent (30%) of the aggregate annual promotional spending allocable to such medical nutritional product line, and (iv) may optionally also be promoted directly to the end consumers or marketed at retail for general use. Examples of Medical Nutritionals as of the Original Date include, without limitation, the [...*...] product family, including [...*...]; the [...*...] product family, including without limitation [...*...]; and the [...*...] product family, including without limitation [...*...]. Medical Nutritionals specifically excludes nutritional supplements in pill, capsule, or liquid concentrate form, conventional foods, and nonhuman food supplements. This definition shall not restrict the product form (i.e., such nutritional products may be liquid, powder, solid or other form).

(cc) "Milestones" means the milestones for the Research Project serially numbered and set forth in the attached Exhibit B, and as may be amended from time to time by the Development Committee; an individual Milestone is referenced herein by specifying the number corresponding to such Milestone as it appears on such Exhibit B.

(dd) "Net Sales" means the gross sales or other exchange for value of Transgenic Oil by Arcadia, its Affiliates and sublicensees, in the Territory less (i) allowances and adjustments separately and actually credited or payable to customers for spoiled, damaged, outdated and

returned product, whether during the specific royalty period or not; (ii) reasonable and customary trade discounts earned or granted; (iii) taxes (other than income taxes), duties and other governmental charges levied on, absorbed or otherwise imposed on import, export, sale, distribution and use of Transgenic Oil and products containing Transgenic Oil; and (iv) freight, shipping, postage, transportation and shipping insurance costs.

(ee) "Party" means Arcadia or Abbott, depending on the context, and "Parties" means Arcadia and Abbott.

(ff) "Pharmaceuticals" means a compound, substance, chemical entity, admixture, etc., which if sold in the United States, would be controlled by Section 505 or Section 507 of Federal Food, Drug and Cosmetic Act.

(gg) "Regulatory Approval" means approval within the United States from all required regulatory bodies necessary to establish that a Transgenic Oil made under this Agreement is safe for human consumption as a dietary supplement and food ingredient. For the avoidance of doubt, Regulatory Approval does not include approval within the United States from any required regulatory bodies necessary to establish that a Transgenic Oil made under this Agreement is safe for use within the Abbott Fields.

(hh) "Research Plan" means the detailed written plan and timeline for the Research Project and commercialization as set forth in Exhibit B, as may be amended from time to time by the Development Committee.

(ii) "Research Project" means the research, development and commercialization effort by both Abbott and Arcadia to produce any one or more of one or more of GLA, DGLA or ARA in plant seeds and tissues under the Abbott Only Patents and the Abbott Co-Owned Patents pursuant to the Research Plan under this Agreement.

(jj) "Royalty Rate" means either the GLA and DGLA Royalty Rate or the ARA Royalty Rate, depending on whether the particular Transgenic Oil contains GLA and/or DGLA or ARA.

(kk) "SDA" means Stearidonic Acid, esters thereof, amides thereof, and acid addition salts thereof.

(ll) "Territory" means the entire world.

(mm) "Testing Party" shall have the meaning set forth in Section 2(g).

(nn) "Third Party" means any person other than Arcadia or Arcadia's Affiliates or Abbott or Abbott's Affiliates

(oo) "Transgenic Oil" means any oil or lipid that contains any one or more of GLA, DGLA, and/or ARA made pursuant to this Agreement. As used in this Agreement, Transgenic Oil shall not include Co-Assignee Oil.

(pp) "Valid Claim" means a claim of an issued, unexpired patent included in any of the Abbott Co-Owned Patents or Abbott Only Patents, which has not been held or admitted to be invalid, unpatentable or unenforceable by a final non-appealable decision, of a court of competent jurisdiction, administrative agency having authority over patent, or the arbitration court in accordance with Exhibit D.

2. LICENSE GRANT

(a) **Exclusive License Grant to Abbott Only Patents**. Subject to the obligations and retained rights in Sections 2(d), 2(e), 2(f), 2(g) and 2(i) below, Abbott hereby grants to Arcadia, under the Abbott Only Patents, Know-How, Abbott Improvements, and Abbott's interest in the Joint Improvements, a royalty-bearing Exclusive License including the right to sublicense, within the Territory, (i) to make and have made one or more of GLA, DGLA or ARA in plant seeds and plant tissue, and (ii) to use, import, export, sell, and offer to sell one or more of GLA, DGLA or ARA made pursuant to (i) above. In the event the territorial exclusivity or period of exclusivity of the license granted hereunder is limited by action, laws or regulations of any government, the license granted shall not terminate, but shall remain exclusive to the extent permitted by such government action and shall become non-exclusive in such jurisdiction to the extent necessary to conform with applicable law and regulations. As soon as practicable after the Original Date, Abbott delivered to Arcadia all Know-How in its possession or control.

(b) **License Grant to Abbott Co-Owned Patents**. Subject to the obligations and retained rights in Sections 2(d), 2(e), 2(f), 2(g), 2(h) and 2(i) below, Abbott hereby grants to Arcadia, under the Abbott Co-Owned Patents, Know-How, Abbott Improvements, and Abbott's interest in the Joint Improvements, a royalty-bearing license including the right to sublicense, within the Territory, (i) to make and have made one or more of GLA, DGLA or ARA in plant seeds and plant tissue, and (ii) to use, import, export, sell, and offer to sell one or more of GLA,

DGLA or ARA made pursuant to (i) above. Except for those rights retained by or granted to the Co-Assignee and as otherwise provided in this Agreement, Abbott hereby agrees that it will not grant to any Third Party any further rights or licenses to the Abbott Co-Owned Patents to (A) make and have made one or more of GLA, DGLA or ARA in plant seeds and plant tissue, and (B) to use, import, export, sell, and offer to sell one or more of GLA, DGLA or ARA made pursuant to (A). As soon as practicable after the Original Date, Abbott delivered to Arcadia all Know-How in its possession or control.

(c) **Non-Exclusive Grant in Microbial Fermentation**. Subject to Sections 2(d), 2(e), 2(f), 2(g), 2(h), and 2(i) below, Abbott hereby grants to Arcadia, under the Abbott Co-Owned Patents, Abbott Only Patents, Know-How, Abbott Improvements, and Abbott's interest in the Joint Improvements, a royalty-bearing non-exclusive license including the right to sublicense, within the Territory, (i) to make and have made one or more of GLA, DGLA or ARA by microbial fermentation, and (ii) to use, import, export, sell, and offer to sell one or more of GLA, DGLA or ARA made pursuant to (i) above.

(d) **Exclusive Purchase Right**. Arcadia grants to Abbott the exclusive right to purchase from Arcadia Transgenic Oil to make or have made products in the Abbott Fields and use, import, export, sell and offer for sale such products in the Abbott Fields. Arcadia shall not transfer, sell or grant any rights to produce Transgenic Oil to a Third Party for the making, having made, use, import, export, sale or offer for sale by such Third Party of products in the Abbott Fields, and shall contractually restrict any Third Party to whom it sells or transfers Transgenic Oil from any use in products within the Abbott Fields.

Notwithstanding the foregoing, Arcadia grants to Abbott the non-exclusive right to purchase, from Arcadia, ARA Transgenic Oil for the purpose of making or having made Infant Formula, and to use, import, export, sell and offer for sale such products in Infant Formula. Arcadia may transfer, sell, or grant rights to produce ARA Transgenic Oil to any Third Party for the making, having made, use, import, export, sale or offer for sale by such Third Party for the purpose of making or having made Infant Formula.

(e) **Right to Use as Ingredient**. Abbott hereby retains, under the Abbott Co-Owned Patents, Abbott Only Patents, Know-How and Abbott Improvements, a non-exclusive right within the Territory to use, import, export, conduct research and development, sell and offer to

sell one or more of GLA, DGLA, or ARA as an incorporated ingredient in any and all current or future products produced by or for Abbott which now, or in the future, incorporate one or more of GLA, DGLA, or ARA as an ingredient. Abbott shall have no right to sell or offer to sell Transgenic Oil alone, or in combination with any commercial product, produced as a direct result of research and development performed by Abbott under the Abbott Co-Owned Patents, the Abbott Only Patents, Know-How and Abbott Improvements. Abbott shall have no right to sell, offer to sell or supply Transgenic Oil made hereunder, either alone or in combination with any other component, as an ingredient.

(f) **Grant to Abbott**. Arcadia hereby grants to Abbott, under the Arcadia Improvements, a non-exclusive license within the Territory, with the right to sublicense, to use, import, export, sell and offer to sell Transgenic Oil as an incorporated ingredient in any current or future Abbott product which now, or in the future, incorporates one or more of GLA, DGLA, and ARA as an ingredient in such finished product, but excluding nutritional supplements (in pill, capsule, or liquid concentrate form) personal care products, industrial use products, and products for non-human use. Arcadia hereby grants to Abbott, under the Arcadia Improvements, a non-exclusive license, without the right to sublicense, within the territory, to conduct research and development on one or more of GLA, DGLA or ARA for the sole purpose of fulfilling its obligations under this Agreement. Such license to Abbott shall be royalty-free during the period in which Abbott is exclusively sourcing Transgenic Oil from Arcadia.

(g) **[...*...]**. Abbott represents, and Arcadia acknowledges such representation, that Abbott granted a license to [...*...] executed on [...*...] (the "[...*...] License"), to make or have made DHA and/or EPA in crops or by microbial fermentation, and to use, import, export, sell and offer to sell DHA and/or EPA. Abbott further represents, and Arcadia acknowledges such representation, that such DHA and/or EPA oil could contain residual amounts of one or more of GLA, DGLA or ARA. Arcadia agrees that, with regard to [...*...] where the residual one or more of GLA, DGLA or ARA is [...*...] percent ([...*...]) or less, Arcadia shall not assert a claim against [...*...] or the then current successor to or assignee of the [...*...] License for infringement of the Abbott Co-Owned Patents, Abbott Only Patents, Know-How and Improvements based upon the fact that such [...*...] contains one or more of GLA, DGLA or ARA, and Arcadia shall take no action

against [...*...] in connection therewith. Arcadia further agrees that, with regard to [...*...] where the residual one or more of GLA, DGLA or ARA is between […*…] percent […*…] and […*…] percent […*…], Arcadia shall not assert a claim against [...*...] for infringement of the Abbott Co-Owned Patents or Abbott Only Patents based upon such [...*...], and Arcadia shall take no action against [...*...] in connection therewith; provided, however, that the Royalty Rate shall be adjusted as provided in Section 4(d). Either Party may test [...*...] ("Testing Party") to determine the residual quantities of one or more of GLA, DGLA, or ARA, if any. If the other Party disputes the determination of the Testing Party, the other Party may submit the [...*...] to an independent laboratory qualified to determine quantities of residual oils to determine the residual quantities of one or more of GLA, DGLA or ARA, and the Parties hereby agree to be bound by the determination of such independent laboratory with respect to that [...*...]. The Party challenging the determination of the Testing Party shall pay the costs of the independent laboratory, unless the results show that the Testing Party's results were inaccurate and the Testing Party shall cover the costs of the independent laboratory. Nothing contained in this Section 2(g) shall prevent Arcadia from granting a sublicense of its rights under this Agreement to [...*...] for the production of one or more of GLA, DGLA or ARA and from enforcing such sublicense against [...*...].

(h) **Co-Assignee Oil**. Abbott hereby represents and Arcadia acknowledges such representation that [...*...] and its Affiliates, specifically including [...*...] (collectively, "Co-Assignee") retain the right under the Abbott Co-Owned Patents to make or have made SDA, ARA, DGLA, docosahexaenoic acid ("DHA") and/or eicosapentaenoic acid ("EPA") in plants seeds, plant tissue, and by microbial fermentation and to use, import, export, sell and offer to sell SDA, ARA, DGLA, DHA and/or EPA oil(s) alone or in combination with GLA ("Co-Assignee Oil") only so long as the ratio of such oils to GLA is greater than [...*...] and the residual of GLA is less than or equal to [...*...]%). Arcadia agrees that with regard to Co-Assignee Oil where the ratio of SDA, ARA, DGLA, DHA and/or EPA to GLA is greater than [...*...] and the residual of GLA is less than or equal to [...*...]%), Arcadia shall not pursue Co-Assignee or the then current successor to, assignee of or sublicensee of the Co-Assignee for infringement of the Abbott Co-Owned Patents, Know-How and Improvements based on the fact that such oil contains GLA, and Arcadia shall take no

action against the Co-Assignee in connection therewith. Provided, however, that Abbott agrees that upon Arcadia's reasonable request, Abbott will enforce its rights under the agreement between Abbott and Co-Assignee with respect to the restriction on Co-Assignee Oil.

(i) **Residual Stearidonic Acid**. The Parties acknowledge that one or more of GLA, DGLA or ARA made in plant seeds, plant tissue or by microbial fermentation may contain residual SDA. Abbott hereby grants to Arcadia, under the Abbott Co-Owned Patents, Abbott Only Patents, Know-How and Abbott Improvements, a royalty-free, non-exclusive license including the right to sublicense, within the Territory, (i) to make and have made SDA as a residual, less than four percent (4%), in Transgenic Oil produced in plant seeds, plant tissue and by microbial fermentation, and so long as the ratio of GLA, DGLA and/or ARA to SDA is greater than three to one (3:1), and (ii) to use, import, export, sell, sell for use, offer to sell and otherwise commercialize and exploit the residual SDA made pursuant to clause (i), above.

(j) **Medical Nutritional Verification Rights**. Upon request by Arcadia, and not more than once per calendar year, Abbott shall provide detailed records of its promotional spending activities relating to products that Abbott has identified as Medical Nutritionals.

3. IMPROVEMENTS

"Improvements" made under this Agreement mean any and all new developments, enhancements, additions, inventions, modifications, formulations, derivative works, changes, data, discoveries, findings, methods of manufacture and production (whether patentable or not) of GLA, DGLA, and/or ARA under the Abbott Co-Owned Patents, Abbott Only Patents, Know-How, Research Project or Commercial Manufacture made by either Party, but shall not include clinical efficacy trials conducted by, or on behalf of Abbott or Arcadia, or data related thereto except to the extent disclosed pursuant to Section 6(d). The Parties recognize that development of Transgenic Oil in accordance with this Agreement may result from or involve Improvements by members of the Development Committee or other employees or agents of the Parties, and agree to the following provisions relating thereto:

(a) "Arcadia Improvement" means an Improvement under the Abbott Co-Owned Patents, Abbott Only Patents, Know-How, Research Project or Commercial Manufacture that is conceived and reduced to practice solely by employees or agents of Arcadia during the term of

this Agreement that relates or pertains to genetic material, plant seeds, plant tissues, micro-organisms, methods or processes for producing Transgenic Oil. Arcadia Improvements shall not include in-vitro, animal and clinical data regarding the efficacy of Transgenic Oil in affecting human or non-human diseases except to the extent disclosed pursuant to Section 6(d) or any improvements in plant transformation and regeneration methods. Arcadia Improvements shall be subject to the terms and conditions of this Agreement. Arcadia shall pay for and be responsible for preparing, filing, prosecuting and maintaining any patent applications and patents directed to Arcadia Improvements. Arcadia shall provide Abbott ample opportunity to review and comment on such patent applications, prosecution documents and foreign applications prior to their filing.

(b) "Joint Improvement" means an Improvement under the Abbott Co-Owned Patents, Abbott Only Patents, Know-How, Research Project or Commercial Manufacture that is: (1) jointly conceived or jointly reduced to practice by an employee or agent of Arcadia and an employee or agent of Abbott, or (2) conceived of by an employee or agent of either Arcadia or Abbott and reduced to practice by an employee or agent of the other Party, or was conceived by an employee or agent or contractor of Abbott in the course of research funded by Arcadia, or was conceived by an employee or agent or contractor of Arcadia in the course of research funded by Abbott, during this Agreement. Joint Improvements shall belong jointly to Abbott and Arcadia with enjoyment of full ownership rights subject to the terms and conditions of this Agreement. Arcadia and Abbott shall jointly be responsible for preparing, filing, prosecuting and maintaining any patent applications and patents directed to Joint Improvements ("Joint Patents"), and shall share all costs associated therewith evenly. The Parties shall decide which Party shall take primary responsibility for preparing, filing, prosecuting and maintaining such patent applications and patents. The other Party shall be given ample opportunity to provide input and to review any and all documents prior to their filing with a patent office.

(c) "Abbott Improvement" means an Improvement under the Abbott Co-Owned Patents, Abbott Only Patents, Know-How, Research Project that is conceived and reduced to practice solely by employees or agents of Abbott during the term of this Agreement that directly relates or pertains to genetic material and patent claims associated thereto, micro-organisms, methods or processes for producing Transgenic Oil. Abbott Improvements shall not include in-

vitro, animal and clinical data regarding the efficacy of Transgenic Oil or Abbott Transgenic Oil in affecting human or non-human diseases except to the extent disclosed pursuant to Section 6(d). Abbott Improvements shall be subject to the terms and conditions of this Agreement. Abbott shall pay for and be responsible for preparing, filing, prosecuting and maintaining any patent applications and patents directed to Abbott Improvements, which shall be added to Exhibit A or Exhibit A-1. Abbott shall provide Arcadia ample opportunity to review and comment on such patent applications, prosecution documents and foreign applications prior to their filing.

(d) From time to time patent counsel for the respective Parties shall confer and determine how best to protect any Arcadia Improvements, Abbott Improvements and Joint Improvements. If a Party or the Parties decide that patent applications should be filed, then each Party agrees to make available to the other all information in its possession required to complete the patent application and prosecution. Each Party shall cooperate with the other and execute those documents required to complete the patent filing and prosecution thereof.

4. CONSIDERATION

(a) **Consideration for this Agreement**. The Parties hereby agree to amend and restate the terms of their Original Agreement and First Amendment thereto, dated March 24, 2006. In consideration for this Amended and Restated Agreement, the Parties agree to revise their mutual rights and obligations as set forth in the Original Agreement and First Amendment. As further consideration, the Parties agree that Abbott will pay Arcadia an additional royalty of the Net Trait Fee on Co-Assignee Oil as set forth on Exhibit C.

(b) **License Fee**. The Parties acknowledge that Arcadia paid [...*...] in cash to Abbott, upon execution of the Original Agreement.

(c) **Research and Development Fee**. Arcadia provided minimum funding in the amount of [...*...] to Abbott between 2003 and 2005 for research under the Research Plan related to broadening and strengthening of Abbott Co-Owned or Abbott Only Patents on genes used for the production of GLA, DGLA, and/or ARA in plants. An initial payment of [...*...] was paid to Abbott upon

signing of the Original Agreement and other payments were made as described in the Research Plan.

(d) **Royalty**. In partial consideration for licenses granted herein, Arcadia shall pay to Abbott as follows:

(i) For Transgenic Oil containing GLA and/or DGLA as the sole product, a royalty of the Royalty Rate times Net Sales of Transgenic Oil; subject to any adjustments as provided below, the "GLA and/or DGLA Royalty Rate" shall be determined as follows:

GLA and/or DGLA Royalty Rate	Cumulative royalties paid during the Term	
	Above	Up to
[...*...]	[...*...]	[...*...]
[...*...]	[...*...]	[...*...]

[...*...]	[...*...]

For example, if Arcadia has paid cumulative royalties of [...*...] and has Net Sales of Transgenic Oil in the next quarter of $[...*...], the calculation of royalty is as follows: ([...*...]% x $[...*...] = $[...*...]) + ([...*...]% x $[...*...] = $[...*...]) = $[...*...].

(ii) For Transgenic Oil containing ARA, a royalty equal to the ARA Royalty Rate times non-Abbott Net Sales of ARA Transgenic Oil. Subject to any adjustments as provided below, the "ARA Royalty Rate" shall be determined as follows:

Annual non-Abbott Sales Volume – pounds of ARA Transgenic Oil (40% ARA)	**ARA Royalty Rate**
Up to [...*...] MM	[...*...]%
up to [...*...] MM	[...*...]%
up to [...*...] MM	[...*...]%
up to [...*...] MM	[...*...]%
up to [...*...] MM	[...*...]%
> [...*...] MM	[...*...]%

Notwithstanding the applicable ARA Royalty Rate stated above, should the concentration of ARA in the ARA Transgenic Oil be other than 40%, the annual volume requirements shall change proportionally. For example, in the event that Arcadia produces an ARA Transgenic Oil that contains a concentration of 20% ARA, the annual volume

requirements set forth in the chart above would be doubled, so that, for example, non-Abbott sales of up to [...*...] MM pounds of ARA Transgenic Oil would be subject to an ARA Royalty Rate of [...*...]%.

In the event that [...*...] or a successor or assignee to the [...*...] License produces more than [...*...] pounds of [...*...] with a GLA/DGLA and/or ARA content of greater than [...*...] percent ([...*...]%) but less than [...*...] percent ([...*...]%) in a given calendar year, the Royalty Rate beginning on the date [...*...]'s production exceeds the above threshold and continuing during the following twelve-month period, shall be reduced by [...*...] percent [...*...]). If [...*...] produces more than [...*...] of [...*...] with a residual one or more of GLA, DGLA or ARA content of greater than [...*...]%) but not more than [...*...] percent ([...*...]%) in the above example, the calculation of royalty would be as follows: ([...*...]% x $[...*...] = $[...*...]) + ([...*...]% x $[...*...] = $[...*...]) = $[...*...].

(iii) For a combination product sold by Arcadia or an Arcadia Affiliate that contains Transgenic Oil and one or more additional components and for which there is an existing marketable application for such combination product, then the royalty will be (a) the applicable Royalty Rate, times (b) the weight, times (c) the weight percentage of Transgenic Oil in the combination product, times (d) the average net selling price of such Transgenic Oil in such marketable application on a per unit weight percentage basis for the Calendar Quarter for which royalties are being calculated. For example, if Arcadia has paid cumulative royalties of $[...*...] and sells [...*...] pounds of soy powder (a combination product) containing [...*...] percent ([...*...]%) by weight of a Transgenic Oil and the average net selling price of a comparable application of such Transgenic Oil is [...*...] the calculation of royalty is [...*...]% x [...*...]% x $[...*...] = [...*...].

(iv) For a combination product sold by Arcadia or an Arcadia Affiliate that contains Transgenic Oil and one or more additional components and for which there is no existing marketable application for such combination product, then the royalty will be (a) the applicable Royalty Rate, times (b) the weight, times (c) the weight percentage of Transgenic Oil in the combination product, times (d) the higher of, (x) the overall average net selling price of such Transgenic Oil, or (y) the Cost of Goods Sold, on a per unit basis for the Calendar Quarter for which royalties are being calculated.

(v) If both Parties determine that the royalty for (d) (iii) or (d) (iv) above prohibits commercial success for a particular application, then the Parties will review the financial data and agree to work together in good faith to find a mutually acceptable business resolution of the matter.

(vi) Notwithstanding the foregoing provisions of the Section 4(d), if any quantity of Transgenic Oil, either alone or in combination with at least one other component as described above, is used in the manufacture of another product subject to royalty hereunder, or is sold to a sublicensee or an Affiliate of Arcadia, or if rights under more than one patent are used, only one royalty, namely, the royalty applicable to the ultimate product subject to royalty hereunder, shall be paid to Abbott, in order that duplication of royalties be avoided.

(vii) If Arcadia must pay to a Third Party license fees or royalties to obtain a patent right from such Third Party that is reasonably needed to make, have made, use, sell, offer for sale, and/or import Transgenic Oil, and the Royalty Rate is [...*...] percent ([...*...]%) or higher, then the royalties described in Sections 4(d) shall be reduced by the amount of such fees and royalties actually paid to such Third Party, but if the Royalty Rate is [...*...] percent ([...*...]%), then the royalties described in Section 4(d) shall be reduced by one-half (1/2) the amount of such fees and royalties actually paid to such Third Party; provided, however, that in no event shall the royalties described in Section 4(d) be reduced below the applicable Royalty Rate minus [...*...] percent ([...*...]%). For example, if Arcadia has paid cumulative royalties of $[...*...] and has Net Sales of Transgenic Oil in the quarter just completed of $[...*...], but has to pay $[...*...] in royalties to a Third Party, the calculation of royalties is ([...*...]% x $[...*...]) — $[...*...] = $[...*...]; however, the royalty may not be reduced below ([...*...]% x $[...*...]) = $[...*...], so the royalty for the quarter would be $[...*...] given the cumulative royalties paid.

(viii) Notwithstanding anything in this Agreement to the contrary, Arcadia shall not owe any royalty payments on sales of Transgenic Oil to Abbott or any Abbott Affiliate and accordingly, such sales shall not be included in calculating Net Sales.

(e) **Royalty Report**. Each royalty payment shall be accompanied by a statement which sets forth the following information:

(i) Total quantities sold of Transgenic Oil and amount involved, specified on a country by country basis.

(ii) Total amounts of any excise taxes, sales taxes, shipping costs, insurance, sales commissions, import/export duties, returns, credits and discounts used to arrive at Net Sales.

(iii) Amounts of royalties payable specified in accordance with Section 4(a) and 4(d) above.

(f) Royalty Payments. Royalty payments shall be paid quarterly in U.S. dollars provided that the royalty payment exceeds one hundred U.S. dollars (US$100). Royalty payments shall be due and received by Abbott within thirty (30) days after each Calendar Quarter. The royalty rate shall be computed in U.S. dollars at the exchange rates published in The Wall Street Journal on the last business day of that Calendar Quarter. If any payment under this Agreement is not paid when due, the unpaid amount shall bear interest at an annual rate of two (2) percentage points above the prime lending rate quoted on the last day of said period by The Wall Street Journal until paid.

(g) Royalty Payments - Place. Royalty payments due Abbott hereunder shall be made by wire transfer to Abbott at [...*...], or pursuant to such other instructions provided in writing by Abbott.

(h) Records and Audit. Arcadia, its Affiliates and sublicensees (if any) shall keep adequate records in sufficient detail to enable the royalties due to Abbott hereunder to be determined. Said records shall be maintained during for a period of three (3) years following the termination of this Agreement. Upon fifteen (15) days written notice, said records may be inspected, and employees associated with performance under this Agreement may be interviewed, by an accountant selected by Abbott, approved by Arcadia, which approval shall not be unreasonably withheld, and retained at Abbott's expense. Such examination shall be conducted no more than once annually upon request by Abbott, during regular business hours and in such a manner as not to interfere with Arcadia's normal business activities. If such examination should disclose any underreporting by Arcadia, Arcadia shall immediately pay Abbott such amount, along with interest calculated pursuant to the terms set forth in this Section 4. Abbott shall require such accountant to undertake to preserve the confidentiality of all information learned or obtained in connection with such audit; provided, however, the

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accountant shall report to Abbott the amount properly payable and shall provide Abbott with an explanation and detailed calculations for any discrepancy revealed by the audit. Abbott shall bear the expense of the auditor, provided, however, Arcadia shall reimburse Abbott for all reasonable audit expenses in the event that the audit establishes underpayment in excess of ten percent (10%) of payments properly due hereunder with respect to the audited period.

(i) Taxes. Any income or other taxes which a paying Party is required by law to pay or withhold on behalf of a receiving Party with respect to royalties or other payments payable to a receiving Party under this Agreement shall be deducted from the amount of such royalties or other payments due, and paid or withheld as appropriate by the paying Party on behalf of the receiving Party. Any such tax required by law to be paid or withheld will be an expense of, and borne solely by, the receiving Party. The paying Party will furnish the receiving Party with the best available evidence (receipts, etc.) of such payment or amount withheld as soon as practicable after such payment or such amount is withheld. The Parties will reasonably cooperate in completing and filing documents required under the provisions of any applicable laws or under any other applicable law in connection with the making of any required tax payment or withholding tax payment in connection with a claim for exemption from, or entitlement to a reduced rate of withholding, or in connection with any claim to a refund of or credit for any such payment.

5. INTELLECTUAL PROPERTY RIGHTS

(a) Ownership. All right, title and interest in and to all Abbott Only Patents and the Abbott Co-Owned Patents related to Transgenic Oil shall be owned exclusively or jointly by Abbott, as set forth on Exhibit A and Exhibit A-1. Notwithstanding the foregoing, Abbott has been granted a license, with the right to sublicense, the [...*...] patent shown on Exhibit A, but has no ownership rights to such patent. If Arcadia challenges Abbott's ownership rights, Abbott can terminate this Agreement to the extent permitted by law.

(b) Other Technology Rights. Except as otherwise expressly provided in this Agreement, under no circumstances shall a Party hereto, as a result of this Agreement, obtain any ownership interest in or other right to any technology, trade secrets, Know-How, patents,

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pending patent applications, products, or biological materials of the other Party, including items owned, controlled or developed by the other Party at any time pursuant to this Agreement.

(c) Patent Marking. Arcadia shall mark each Transgenic Oil (or its container or package) made by or on behalf of Arcadia with the applicable patent number or numbers of any issued or pending patents licensed to Arcadia under this Agreement.

(d) Maintenance of Patents. Unless otherwise specified herein or agreed to in writing by the Parties, during the term of this Agreement Abbott shall ensure that it or its designee diligently prepare, file, prosecute and maintain Abbott Co-Owned Patents (excluding the [...*...] patent) and Abbott Only Patents and keep Arcadia informed of developments in the prosecution thereof. This shall include: 1) providing Arcadia, upon request by Arcadia, with a copy of any significant communication received from or transmitted to the United States Patent and Trademark Office regarding any of the Abbott Co-Owned Patents and Abbott Only Patents, and 2) providing Arcadia an opportunity to comment upon significant communications. Except as otherwise expressly provided in this Agreement, Abbott shall be solely responsible for all costs associated with preparing, filing, prosecuting and maintaining Abbott Co-Owned Patents and Abbott Only Patents. In the event Abbott desires to

abandon prosecution or maintenance of any patent application or patent within the Abbott Only Patents in any country or region, it shall, within sufficient time, offer to permit Arcadia to assume the prosecution of such patent application or the maintenance of such patent. If Arcadia elects to assume the same, it shall have the right to offset the full cost of such maintenance and prosecution against the royalty otherwise owed to Abbott from Net Sales in such country or region.

(e) **Enforcement of Abbott Patents**. In the event Abbott or Arcadia have reason to believe that a third person may be infringing any of the Abbott Co-Owned Patents, Abbott Only Patents or Joint Patents, such Party shall promptly notify the other Party in writing. Except as set forth in Section 2(b), Abbott shall have the option, in its sole discretion, to enforce the Abbott Co-Owned Patents, Abbott Only Patents or Joint Patents, through legal action or otherwise, and Arcadia shall cooperate with Abbott in such enforcement. Such cooperation shall include, but not be limited to, complying with discovery requests, providing access to potential witnesses, and taking such other actions as are reasonably required to institute and

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prosecute any action brought by Abbott. Arcadia shall provide such assistance at no charge to Abbott.

In the event Abbott elects not to enforce the Abbott Only Patents or Joint Patents within three (3) months after notice of the possible infringement is given between Abbott and Arcadia, Arcadia may enforce the Abbott Only Patents or Joint Patents, in its own name or, if required by law, jointly with Abbott, at its own expense and on its own behalf, in such country or region. Abbott shall cooperate with Arcadia in any such action. Such cooperation shall include, but not be limited to, complying with discovery requests, providing access to potential witnesses, and taking such other actions as are reasonably required to institute and prosecute any action brought by Arcadia. Abbott shall provide such assistance at no charge to Arcadia.

Any damage award or monetary settlement shall be shared by Abbott and Arcadia as follows. In the event that the action is brought by either Party in the name of Arcadia or Abbott, then each Party shall be reimbursed for their out-of-pocket costs associated with the litigation, including any and all legal fees. In the event that Abbott brings the action, then Abbott shall be entitled to the remaining amount of any such award or settlement. In the event that Arcadia brings the action, then Arcadia shall be entitled to the remaining amount of any such award or settlement. In the event that the action is brought jointly by Arcadia and Abbott, the remaining amount of any such award or settlement shall be divided equally between Arcadia and Abbott.

Arcadia may not settle any such claim or suit in any manner that would adversely affect the Abbott Co-Owned Patents or Abbott Only Patents. Abbott may not settle any such claim or suit in any manner that would adversely affect the rights granted to Arcadia under the Abbott Co-Owned Patents or Abbott Only Patents.

6. RESEARCH PROJECT; REGULATORY MATTERS

(a) **Transgenic Oil Development**. Arcadia shall use reasonable commercial efforts to develop and produce Transgenic Oil in accordance with the Research Plan and shall use commercially reasonable efforts to commercialize and develop the market for Transgenic Oil. Arcadia shall assume and retain responsibility for commercial development and production of oils with one or more of GLA, DGLA or ARA oil profiles required by Abbott as reflected in the Research Plan, and for obtaining the necessary Regulatory Approval as well as approvals in

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those countries where it is financially and technically feasible and mutually agreeable to both Parties, to use commercially reasonable efforts to establish that such plants and their oils with the oil profiles required by Abbott are safe for commercial distribution and Arcadia shall share such documentation with Abbott. Each Party will be responsible for any additional regulatory requirements that may be necessary to market products that utilize Transgenic Oil within its respective fields of use (such as safety or efficacy for a specific intended consumer population).

For example, and without limitation, Abbott shall comply with all applicable present or future laws, regulations, directives, instructions, directions or rules of any competent governmental or regulatory authority within the United States with respect to the use of ARA Transgenic Oil in Infant Formula in the United States, and Abbott shall secure any required government or regulatory approval(s) applicable to the same. Abbott may, but is not obligated to, secure any governmental or regulatory approval with respect to the use of ARA Transgenic Oil in Infant Formula in any country or countries outside of the United States. Abbott agrees to make available to Arcadia all details of its regulatory submissions, including data, and shall allow Arcadia to use the same in connection with obtaining regulatory approval(s) outside the United States.

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(b) **Third Party Rights and Arcadia Improvements**. Arcadia shall be responsible for obtaining any Third Party intellectual property rights to the extent commercially feasible that are necessary and appropriate for the development and production of Transgenic Oil under the Research Project and for commercialization of Transgenic Oil. If a patent infringement suit is brought or threatened, by a Third Party alleging that Arcadia's production, manufacture or sale of Transgenic Oil or finished product containing Transgenic Oil infringes the patent rights of that Third Party and cause of action could not be asserted but for one, or more, of the nucleotide sequences provided to Arcadia by Abbott under this Agreement, then the following provision will apply. Arcadia, at its option and own expense, may defend or settle such suit. Arcadia shall be entitled to set-off against any royalty payable to Abbott any damages awarded against Arcadia by a court of competent jurisdiction, any consideration, whether monetary or non-monetary, paid by Arcadia to settle such suit, and legal expenses associated with defending such suit.

The foregoing right of set-off shall not exceed [...*...] percent ([...*...]%) of the royalty payable under Section 4. Such set-off of royalty shall only apply to the specific nucleotide sequence(s) and any plant(s), seed(s), or oil(s) which contain or were produced using said sequence(s) that infringe the patent rights of that Third Party. Abbott shall have the right, but not the obligation, to resolve any Third Party intellectual property rights related to any Abbott nucleotide sequences supplied under

this Agreement that are necessary and appropriate for the development and sale of Transgenic Oil, at Abbott's sole cost, except where such settlement may or actually does impair Arcadia's rights under this Agreement.

The Parties acknowledge that this set-off is only applicable to Third Party patents involving the nucleotide sequences licensed by Abbott to Arcadia under this Agreement. This provision does not apply to any other Third Party patent that may be potentially relevant to the production or sale of Transgenic Oils such as claims to promoters, germplasms, seeds, etc. The Parties agree that these other Third Party patents are solely Arcadia's financial responsibility except for any Third Party intellectual property rights concerning one or more of the nucleotide sequences under the Abbott Co-Owned Patents or Abbott Only Patents or Know-How as set forth in the first paragraph of this section.

(c) **Development Committee**. Arcadia and Abbott shall establish a development committee (the "Development Committee") comprised of no more than three (3) representatives of each of Arcadia and Abbott. The Development Committee shall be chaired by a member thereof designated from time to time by Arcadia. The Development Committee shall oversee the Research Plan, Milestones and development and production of plants and microorganisms that produce Transgenic Oil in accordance with the Research Plan. The Development Committee may revise the Research Plan and the Milestones as deemed necessary and appropriate by unanimous written consent of all members. Meetings of the Development Committee shall be at least biannual and at such times and places or in such form (e.g., in person, telephonic or video conference) as the members of the Development Committee shall determine. Representatives of both Parties shall be present at any meeting of the Development Committee. Decisions of the Development Committee shall be made by a written consent signed by all six (6) members thereof. The Development Committee shall keep minutes of its deliberations setting forth, among other matters, all proposed actions and all votes thereon. All records of the Development Committee shall at all times be available to both Parties. The Development Committee by unanimous consent may delegate to one Party or to a specific representative the authority to make certain decisions. The Development Committee may revoke such authority by the written consent of four members. All disagreements within the Development Committee shall be subject to the following:

(i) The members of the committee will endeavor in good faith for a period of not more than ninety (90) days to attempt to resolve the disagreement;

(ii) If the members of the committee are unable to resolve the disagreement by the end of such period, the committee shall promptly present the disagreement to the President of Ross Products Division and the President of Arcadia or their respective designees, and the two executives shall endeavor to resolve the disagreement for a period of not more than thirty (30) days;

(iii) If the two executives are unable to resolve this disagreement, the disagreement shall be submitted for ADR as provided in Section 12(a).

(d) **Clinical Trials**. Arcadia shall be responsible for any and all clinical trials in connection with obtaining Regulatory Approval of Transgenic Oil as deemed necessary and

appropriate by the Development Committee. Abbott may also conduct clinical trials on Transgenic Oil for use in humans and, until the last to occur of the first Commercial Sale or conclusion of all Milestones, Abbott will share the summary outcomes of such clinical trial with Arcadia, provided, that prior to disclosing the summary outcomes of such clinical trial (i) Abbott shall, in its sole discretion, determine whether to obtain intellectual property protection over the study and its results, (ii) Abbott shall, in its sole discretion, determine when and what portions of the clinical trial to disclose to Arcadia, and (iii) Arcadia shall execute a confidentiality agreement covering all information provided by Abbott under this Section 6(d). Notwithstanding the foregoing, and subject to any restrictions that Abbott may have on its disclosure, upon Arcadia's request, Abbott will provide to Arcadia clinical trial information to the extent that such information is required or would be useful in obtaining Regulatory Approval, and provided that Arcadia shall execute a confidentiality agreement covering all such information provided by Abbott. Arcadia may also conduct clinical trials on Transgenic Oil for use in non-humans and until the later to occur of first Commercial Sale or achievement of all Milestones, Arcadia will share the summary outcomes of such clinical trials with Abbott, provided, that prior to disclosing the summary outcomes of such clinical trial (i) Arcadia shall, in its sole discretion, determine whether to obtain intellectual property protection over the study and its results, (ii) Arcadia shall, in its sole discretion, determine when and what portions of the clinical trial to disclose to Abbott, and (iii) Abbott shall execute a confidentiality agreement covering information provided under this Section 6(d). Notwithstanding the foregoing, each Party shall provide notice to the other Party of clinical trials conducted by the Party if the other Party's rights or financial interests could be materially adversely affected by a negative outcome of such clinical trial.

(e) **Milestones**. Each Party shall use commercially reasonable efforts to meet their Milestones set forth in Exhibit B. The Development Committee may revise the Milestones and the timeframe for completion of such Milestones by unanimous written consent of all members, each acting reasonably and in good faith. In deciding whether it is necessary and appropriate to revise the Milestones or the timeframe for completion, the Development Committee shall take into consideration the scientific, technical, development and regulatory difficulties encountered and likely to be encountered as well as the costs of over coming such difficulties in light of the

market and profit potential of Transgenic Oils. Further, if the ability of a Party to achieve any given Milestone is dependant on the achievement by the other Party of another Milestone that is a prerequisite or precursor to the given Milestone, then the applicable timeframe for achieving any such given dependant Milestone may be extended by unanimous decision of the Development Committee.

7. CONFIDENTIALITY

(a) **Confidentiality**. Neither Party shall use or disclose any Confidential Information received by it pursuant to this Agreement without the prior written consent of the other. This obligation will continue during and for a period of five (5) years after expiration or earlier termination of this Agreement.

(b) **Disclosure**. Nothing contained in this Section shall be construed to restrict the Parties from disclosing Confidential Information without the written consent of the other Party as required:

(i) for regulatory, tax or customs reasons;

(ii) for audit purposes, subject to the confidentiality obligations contained herein;

(iii) by Court order or other government order or request, as long as reasonable efforts have been made to assure its confidentiality or the other Party is timely notified to make such efforts; or to accounting, tax and legal advisors and independent consultants who are under a duty of confidentiality consistent with the terms of this Agreement and who are performing services related to this Agreement for either Party; to Affiliates and sublicensees who are under a duty of confidentiality consistent with the terms of this Agreement for the purpose of exercising its rights or fulfilling its obligations under this Agreement; or

(iv) for Arcadia to disclosure specifications for Transgenic Oil to Third Parties for purposes of selling Transgenic Oil as permitted hereunder, provided that Arcadia shall not disclose any of Abbott's Transgenic Oil specifications.

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8. SUPPLY OF TRANSGENIC OIL

(a) **Supply of Abbott Requirements**. Subject to the price provisions of Section 8(b), 8(c) and 8(d) and availability of Abbott Transgenic Oil, during the term of this Agreement, if Arcadia develops an Abbott Transgenic Oil for which Abbott has obtained all required additional regulatory approvals (above and beyond Regulatory Approval) for use of such Abbott Transgenic Oil in products within the Abbott Fields, then Abbott shall purchase from Arcadia, and Arcadia shall supply to Abbott, one hundred percent (100%) of Abbott's requirements of Abbott Transgenic Oil, subject to such Abbott Transgenic Oil satisfying all applicable regulatory requirements and gaining a reasonable level of consumer acceptance as determined by Abbott in its sole reasonable discretion. Abbott may purchase and Arcadia shall supply Abbott's orders of Abbott Transgenic Oil for use in any other current or future Abbott product outside the Abbott Fields, under the terms and conditions of this Agreement.

(b) **Price of GLA and/or DGLA Transgenic Oil for Abbott Fields**. The supply price for Abbott Transgenic Oil containing GLA and/or DGLA for inclusion in products within the Abbott Fields will be determined at least three (3) months prior to the beginning of the field planting period for each crop cycle that will be used to produce such Abbott Transgenic Oil. The supply price of such Abbott Transgenic Oil shall be determined as follows:

(i) Bids for commodity refined, bleached, and deodorized oil, in drum quantities FOB refinery, from the species canola or safflower to be used to produce the GLA and/or DGLA Transgenic Oil will be obtained by Arcadia from three qualified suppliers agreed to by Arcadia and Abbott. Arcadia shall provide Abbott with copies of the bids from all three suppliers ("Reference Price"). The average of the three bids will be multiplied by [...*...] if canola oil is used, or [...*...] if safflower oil is used. Such Abbott Transgenic Oil will be supplied in drum quantities, FOB refinery.

(ii) Notwithstanding the foregoing, the supply agreement shall provide terms that will allow the supply price for such Abbott Transgenic Oil to be adjusted in the following circumstances:

(A) In the event that the transgenic plant varieties that produce the GLA and/or DGLA Transgenic Oil yield less than [...*...] percent ([...*...]%) of the average yield of the commodity crop (canola or safflower) used to produce such Transgenic Oil, in the area of production, then Abbott and Arcadia will negotiate in good faith to make the

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appropriate adjustment to the supply price. The average yield of the commodity crop will be based on statistically valid replicated yield trials that include the variety used to produce such Transgenic Oil and the three leading commodity varieties in the area of actual production.

(B) In the event that crushing of the seed used to produce the GLA and/or DGLA Transgenic Oil and refining of Transgenic Oil do not occur at the same facility, then any freight costs associated with transporting crude Transgenic Oil to a refinery will be added to the supply price.

(C) In the event that physical or chemical factors associated with the GLA and/or DGLA Transgenic Oil cause crushing and/or refining losses that vary by more than [...*...] percent ([...*...]%) from industry averages for the reference commodity oil, then Abbott and Arcadia will negotiate in good faith to make the appropriate adjustments to the supply price.

(D) In the event that Abbott specifications, other than those for fatty acid composition, for the GLA and/or DGLA Transgenic Oil vary significantly from the industry norm for oil from the reference crop, and such variances have the effect of increasing physical losses or manufacturing costs, then Abbott and Arcadia will negotiate in good faith to make the appropriate adjustments to the supply price.

(E) In the event that the supply price for Abbott Transgenic Oil as calculated herein would result in a loss for Arcadia, then Abbott and Arcadia will negotiate in good faith to make adjustments to the supply price.

(c) **Price of ARA Transgenic Oil for Abbott Fields**. The Supply Price for ARA Transgenic Oil for inclusion in products within the Abbott Fields shall be [...*...] dollars ($[...*...]) per pound, provided that Abbott fulfills its commitment to provide to Arcadia at least [...*...] dollars ($[...*...]) in research funding that Abbott provides to Arcadia toward the production of ARA Transgenic Oil in Safflower plants (including payments set forth in Exhibit B). Provided, however, that in the event that Abbott provides additional research funding toward the production of ARA Transgenic Oil, the Supply Price for ARA Transgenic Oil shall be renegotiated so that it

is below [...*...] dollars ($[...*...]) per pound. For avoidance of doubt, regardless of Abbott's funding after 2007, Arcadia shall continue to develop Transgenic Oil (including ARA Transgenic Oil) in accordance with the Agreement.

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If the amount of ARA in the ARA Transgenic Oil is other than forty percent (40%), the price per pound shall be modified proportionally. For example, if Arcadia produces an ARA Transgenic Oil with twenty percent (20%) ARA, the price per pound would be [...*...] per pound.

(i) Notwithstanding the supply price provided herein, the supply price to Abbott for ARA Transgenic Oil to be used in an Infant Formula product shall not exceed the discounted amount listed in column two of the table below, wherein the stated discount is taken from the lowest price that ARA Transgenic Oil in like product concentrations is sold to a Third Party for the purpose of producing Infant Formula. The supply price to Abbott for ARA Transgenic Oil to be used in an Abbott Field other than Infant Formula shall not exceed the discounted amount listed in column three of the table below, wherein the stated discount is taken from the lowest price that ARA Transgenic Oil is sold in like sales quantities, product concentrations, and quality specifications.

Annual non-Abbott Sales Volume – pounds of ARA Transgenic Oil (40% ARA)	Discount - % below lowest price to Third Party (Infant Formula)	Discount - % below lowest price to Third Party (non-Infant Formula)
Up to [...*...]	[...*...]	[...*...]
up to [...*...]	[...*...]	[...*...]
>[...*...]	[...*...]	[...*...]

Notwithstanding the ARA Transgenic Oil supply price stated above, should the concentration of ARA in the ARA Transgenic Oil be other than forty percent (40%), the annual sales volumes shall change proportionally. For example, in the event that Arcadia produces an ARA Transgenic Oil that contains a concentration of twenty percent (20%) ARA, the sales volumes set forth in the chart above would be doubled, so that, for example, to the first [...*...] pounds of ARA Transgenic Oil sold to Abbott would be at a price at least [...*...] percent ([...*...]%) lower than the lowest price to any Third Party for the purpose of producing Infant Formula.

(d) **Price of Transgenic Oil outside Abbott Fields**. Abbott may purchase Transgenic Oil produced by Arcadia for use in products outside of the Abbott Fields at prices to be negotiated in good faith at the relevant time but subject to the following limitations. If during the term of this Agreement Arcadia produces and sells such Transgenic Oil of comparable grade

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and quality and in similar quantities from the same production run to both a Third Party and to Abbott, at a supply price to Abbott greater than the supply price to the third party, Abbott's supply price shall be reduced to such lower price.

(e) **Terms of Supply of Transgenic Oil**. If supply of the Abbott Transgenic Oil is desired by Abbott or required under this Section 8, Abbott and Arcadia shall enter into a supply agreement with terms and conditions that are consistent with this Agreement. The supply agreement will, in addition to the foregoing, contain such other terms and conditions as are reasonable and customary in supply agreements for similar products including, without limitation, limitation of liability, warranties, disclaimer of implied and express warranties, and indemnification provisions. The supply agreement shall provide Abbott with the right to obtain the Abbott Transgenic Oil from an alternative supplier in the event that Arcadia cannot supply one hundred percent (100%) of Abbott's requirements of Abbott Transgenic Oil. Abbott acknowledges that Transgenic Oil may be produced from a crop and as such the timing of orders for and delivery of Transgenic Oils will be dependent upon the crop cycle of crop used, including without limitation, the growing season of such crop. Arcadia will grant Abbott the royalty-free right to use any trademarks that Arcadia may obtain for any Transgenic Oil wherein such trademarks identify the Transgenic Oil as an ingredient and Abbott may mark with the trademark Abbott products containing such Transgenic Oil as an ingredient. The execution of a supply agreement is not a condition precedent to any of the rights granted to Abbott in this Agreement.

(f) **Audit Rights**. In the event that the Abbott Transgenic Oil purchased by Abbott pursuant to Section 8(b) or 8(c) is not distinguishable from Transgenic Oil purchased by Abbott pursuant to Section 8(d) by chemical analysis of the product(s) incorporating such oils, Abbott, its Affiliates and sublicensees (if any) shall keep adequate records in sufficient detail to enable determination of which Abbott products included oil purchased by Abbott pursuant to Section 8(b) or 8(c) and which Abbott products included oil purchased by Abbott pursuant to Section 8(d). Said records shall be maintained during and for a period of three (3) years following the termination of this Agreement. Upon fifteen (15) days advance written notice, said records may be inspected by an accountant selected and retained at Arcadia's expense and approved by Abbott, such approval not to be unreasonably withheld. Such examination shall be conducted

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no more than once annually upon request by Arcadia, during regular business hours and in such a manner as not to interfere with Abbott's normal business activities. Arcadia shall require such accountant to undertake to preserve the confidentiality of all information learned or obtained in connection with such audit; provided, however, the accountant shall report to Arcadia as to whether the products in question included oil purchased by Abbott pursuant to Section 8(b) or 8(c) and which Abbott products included oil purchased by Abbott pursuant to Section 8(d).

9. TERM AND TERMINATION

(a) **Term**. Unless otherwise terminated as herein provided, this Agreement shall commence on the Effective Date and shall remain in full force and effect, on a country by country basis, until the last Valid Claim of any patent, including any extensions or re-issues thereof, in each country expires. Upon expiration of such patent, on a country by country basis, the licenses granted under Sections 2(a), 2(b) and 2(c) with respect to such country shall be thereafter paid-up, perpetual and royalty-free. The Original Agreement and First Amendment thereto are herby incorporated into this Agreement and superseded by any terms of this Agreement that are in conflict with those prior agreements.

(b) **Early Termination by Either Party**. A Party may terminate this Agreement by giving to the other Party sixty (60) days prior written notice upon the bankruptcy or the insolvency of the other Party.

(c) **Early Termination by Arcadia**. Arcadia may terminate this Agreement by giving to Abbott sixty (60) days prior written notice in the event of one of the following:

(i) upon the material breach of this Agreement by Abbott if the breach is not cured within sixty (60) days after written notice thereof to Abbott.

(ii) where Arcadia determines, in the exercise of good faith, that it is commercially or technically infeasible to continue this Agreement. Commercial or technical infeasibility shall include, but not be limited to, a determination that (A) the costs of continuing to develop the products or technologies, or to produce and/or market the products and technologies contemplated by this Agreement exceed the probable return; (B) Third Party rights impede the freedom to operate and are commercially impractical to license or work around; (C)

the development and/or production of Transgenic Oils is technically infeasible; or (D) obtaining Regulatory Approval for Transgenic Oils is commercially impractical. With the written notice of termination pursuant to this Section 9(c), Arcadia shall provide to Abbott for informational purposes a statement of why Arcadia believes continuing this Agreement is technically or commercially infeasible including material facts and analyses upon which such belief depends.

(iii) where Arcadia determines, in the exercise of good faith, that it is commercially or technically infeasible to continue to develop and/or produce ARA Transgenic Oil, GLA Transgenic Oil, and/or DGLA Transgenic Oil, this Agreement shall be deemed terminated with respect to that particular Transgenic Oil, and the provisions of Section 9(e)(ii), "License to Abbott," shall apply with respect to that particular Transgenic Oil only, unless termination of that one portion would make it technically infeasible to continue the other programs in which case this Agreement would be terminated in its entirety. Commercial or technical infeasibility shall include, but not be limited to, a determination that (A) the costs of continuing to develop the products or technologies, or to produce and/or market the products and technologies contemplated, exceed the probable return; (B) third party rights impede the freedom to operate and are commercially impractical to license or work around; (C) the development and/or production of the particular Transgenic Oil is technically infeasible; or (D) obtaining Regulatory Approval for the particular Transgenic Oil is commercially impractical. With the written notice of termination pursuant to this Section 9(c), Arcadia shall provide to Abbott for informational purposes a statement of why Arcadia believes continuing the particular Transgenic Oil project is technically or commercially infeasible including material facts and analyses upon which such belief depends.

(d) **Early Termination by Abbott**. Abbott may terminate this Agreement by giving to Arcadia sixty (60) days prior written notice if:

(i) Upon the failure of Arcadia to issue a recommendation on the selection of plant lines for field trials within the time frame set forth in the Milestones (namely, Milestone [...*...] in Exhibit B), which Abbott acknowledges has been met as of the Effective Date, and has failed to substantially cure such failure sixty (60) days after receipt of written notice thereof; or

(ii) Upon the failure of Arcadia to obtain Regulatory Approval within the timeframe set forth in the Milestones (namely, Milestone [...*...] in Exhibit B), and has failed to

substantially cure such failure sixty (60) days after receipt of written notice thereof; provided, however, that Abbott may not terminate this Agreement pursuant to this Section 9(d) if Arcadia's failure under 9(d)(i) or 9(d)(ii) is due to a delay caused by a force majeure event as set forth in Section 12(b).

(iii) Upon the failure of Arcadia to issue new development and regulatory timeline plans for the ARA Transgenic Oil (namely, Milestone [...*...] in Exhibit B) and has failed to substantially cure such failure within sixty (60) days after receipt of written notice thereof will be cause for termination by Abbott of this Agreement with respect to the ARA Transgenic Oil, and the provisions of Section 9(e)(ii), "License to Abbott," shall apply with respect to ARA Transgenic Oil only.

(iv) Upon the failure of Arcadia to meet any future Milestones that the Development Committee agrees will become Milestones that, if not achieved will be a cause for termination by Abbott of this Agreement with respect to the ARA Transgenic Oil, and the provisions of Section 9(e)(ii), "License to Abbott," shall apply with respect to ARA Transgenic Oil only.

(e) **Consequences of Termination**.

(i) Survival of Liability.

Termination or expiration of this Agreement through any means and for any reason shall not relieve the Parties of any obligation accruing prior thereto and shall be without prejudice to the rights and remedies of either Party with respect to any antecedent breach of any of the provisions of this Agreement.

(ii) License to Abbott**.**

Upon termination of this Agreement pursuant to Section 9(c)(ii), Section 9(b) caused by bankruptcy or insolvency of Arcadia, or Section 9(d), Arcadia shall, to the extent legally permissible, grant to Abbott an option for a non-exclusive, royalty-bearing license, with the right to sublicense, in the Territory, to all necessary and

appropriate background patents, Know How, Arcadia Improvements and all data and information actually used by Arcadia related to producing, obtaining Regulatory Approval for marketing of, manufacture, and use of a Transgenic Oil, including without limitation, trade secrets, technical information, data from

clinical and pre-clinical studies, regulatory submissions, methods of manufacture, factual knowledge, expertise, assembly and packaging knowledge, specifications, testing programs, testing data, proprietary tools or other proprietary information, in each case derived from or developed under the Research Project to make, have made, use, import, export, sell and offer to sell Transgenic Oil developed hereunder. The royalty rate for such license shall not exceed [...*...] percent ([...*...]%) of Abbott's net sales or other exchange for value of the Transgenic Oil, but if no marketable application for the Transgenic Oil exists, such royalty shall be calculated as set forth in Section 4(c) above. If Arcadia elects not to proceed with commercialization of at least one Abbott Transgenic Oil, which shall be a cause for termination of this Agreement, Arcadia shall provide Abbott with the most developmentally advanced existing DNA constructs developed by or for Arcadia that contain the nucleotide sequences under the Abbott Co-Owned Patents or Abbott Only Patents and Know-How along with relevant data for use by Abbott. Depending upon the Parties progress under the Research Plan, Arcadia shall also provide Abbott with the following, to the extent developed by or for Arcadia or its licensee or assignee: (1) micro-organisms containing Abbott nucleotide sequences, and (2) seeds from existing plant transformants, containing DNA constructs for expression of Abbott genes for producing Transgenic Oil along with relevant data and information for use by Abbott. If termination occurs after the sale of Transgenic Oil to Abbott, then Arcadia will provide Abbott with, in addition to items one and two above, Transgenic Oil for up to twenty four (24) months at the price set forth in Section 8 above as specified in a binding purchase order and in the quantity specified in that order.

10. REPRESENTATIONS AND WARRANTIES

(a) **Abbott Representations and Warranties**. Abbott represents and warrants to Arcadia as follows:

(i) Exhibit A and Exhibit A-1 sets forth a complete and accurate list of patents and patent applications that are either solely owned or jointly owned, solely controlled, or licensed to Abbott, or jointly controlled by Abbott and managed by Ross Products Division that pertain to GLA, DGLA, or ARA production in plant seeds and tissues or by microbial fermentation as of the date of this Agreement (not including patents and patent applications that

pertain to food compositions). To the best of Abbott's knowledge, each patent listed on Exhibit A and Exhibit A-1 is validly issued under the laws of the country which issued it. To the best of Abbott's knowledge, Abbott owns, co-owns or has a valid license with the right to sublicense the patents listed in Exhibit A and Exhibit A-1 and no challenge has been made to the validity of the patents. To the best of Abbott's knowledge, there are no actual or threatened claims by a Third Party against Abbott's ownership of, or proprietary rights to the Abbott Co-Owned Patents, Abbott Only Patents or Abbott Know-How. This Exhibit may be updated by Abbott to reflect new and additional patent filings.

(ii) To the best of Abbott's knowledge, there is no pending or threatened Third Party lawsuit, claim, action or demand which relates to the production of one or more of GLA, DGLA or ARA under the Abbott Co-Owned Patents or Abbott Only Patents.

(iii) Abbott has all necessary corporate power and authority to enter into this Agreement, perform its obligations hereunder and license the Abbott Co-Owned Patents or Abbott Only Patents. Abbott's performance and Arcadia's rights under this Agreement do not conflict with any other contract to which Abbott is bound, including, without limitation, the agreement between Abbott and Co-Assignee referenced in Section 2(h) of this Agreement.

(iv) To the best of Abbott's knowledge, there are no other Third Party patents or other proprietary rights specifically claiming rights to a nucleotide sequence under the Abbott Co-Owned Patents or Abbott Only Patents and Know-How for the production of one or more of GLA, DGA or ARA hereunder which would be infringed by the commercial exploitation in the Territory, by Arcadia or its Affiliates, of the Abbott Co-Owned Patents or Abbott Only Patents.

(v) Other than the patents and patent applications listed on Exhibit A and Exhibit A-1, Abbott represents and warrants that it is not the assignee, co-assignee, or licensee, of any patents, or patent applications, that would preclude Arcadia from exercising any of the rights granted hereunder. This representation and warranty should not be construed to cover Arcadia, its Affiliates, its sublicensees, or their respective customers' use, importation, exportation, selling, or offering to sell which occur outside the scope of the license granted in Section 2 above. Furthermore, this representation and warranty should be not be construed to cover Arcadia, its Affiliates, its sublicensees, or their respective customers' products, formulations, dosage forms and the like which contain Transgenic Oil if such products,

formulations, dosage forms and the like are outside the scope of the license granted in Section 2 above.

(vi) The Abbott Co-Owned Patents, Abbott Only Patents and Abbott Know-How are not subject to 35 U.S.C. § 200 et seq. ("March In" rights) and will remain free of such rights during the term of this Agreement.

(b) **Arcadia's Representations and Warranties**. Arcadia represents and warrants to Abbott as follows:

(i) The execution and delivery of this Agreement and the performance by Arcadia of the transactions contemplated hereby have been duly authorized by all necessary corporate actions.

(ii) Arcadia has all necessary corporate power and authority to enter into this Agreement and perform its obligations hereunder. Arcadia's performance under this Agreement does not conflict with any other contract to which it is bound.

(iii) Except to the extent of any limitations or restrictions contained in redactions not disclosed to Arcadia, Arcadia is aware of and has reviewed a redacted version of the License Agreement between Abbott and [...*...] for the production of DHA and/or EPA, and acknowledges receipt of information from Abbott that at the time of execution of the Original Agreement that [...*...] is producing DHA and/or EPA in experimental seed which contains one or more of GLA, DGLA or ARA as residual oils.

(iv) Arcadia has or will use reasonable best efforts to obtain all necessary and appropriate expertise and intellectual property for the development, commercialization and regulatory approval of Transgenic Oil.

(v) With regard to any Transgenic Oil supplied by Arcadia to Abbott pursuant to this Agreement and not pursuant to a future supply agreement, such Transgenic Oil shall be manufactured: (a) in accordance with relevant good manufacturing practices, (b) according to any specifications provided to Arcadia by Abbott, and (c) shall not, to the best of Arcadia's knowledge, infringe any Third Party patent or other Third Party intellectual property rights.

(c) **No Additional Representation or Warranty**. EXCEPT AS EXPRESSLY STATED IN THIS AGREEMENT, NEITHER PARTY MAKES ANY REPRESENTATION

OR WARRANTY AND EACH PARTY EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR OTHERWISE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

11. INDEMNITY

(a) **Indemnification by Abbott**. Abbott shall indemnify and hold harmless Arcadia, its Affiliates and their respective officers, directors, employees and agents from and against claims, demands, liabilities, damages, losses and expenses, including reasonable attorney's fees and costs, actually incurred by the indemnified party arising out of or in connection with any lawsuit, claim, action or demand ("Claims") based upon (i) the negligence, recklessness, intentional misconduct or negligent or willful omissions of Abbott or its Affiliates; (ii) breach by Abbott or its Affiliates of the terms of, or the covenants, representations and warranties made by it in this Agreement; and (iii) use by or on behalf of Abbott or any of its Affiliates of any Transgenic Oil for clinical trials where such Claim is not due to the negligence, recklessness, intentional misconduct or negligent or willful omissions of, or breach by Arcadia or its Affiliates.

(b) **Indemnification by Arcadia**. Arcadia shall indemnify and hold harmless Abbott, its Affiliates and their respective officers, directors, employees and agents from and against claims, demands, liabilities, damages, losses and expenses, including reasonable attorney's fees and costs, actually incurred by the indemnified party arising out of or in connection with any Claims based upon (i) the negligence, recklessness, intentional misconduct or negligent or willful omissions of Arcadia or its Affiliates; (ii) breach by the Arcadia or its Affiliates of the terms of, or the covenants, representations and warranties made by it in this Agreement; (iii) manufacture by the Arcadia or any of its Affiliates of any Abbott Transgenic Oil which is not in compliance with the specification agreed upon by Abbott and Arcadia for such Abbott Transgenic Oil, and (iv) use by or on behalf of Arcadia or any of its Affiliates of any Transgenic Oil for clinical trials where such Claim is not due to the negligence, recklessness, intentional misconduct or negligent or willful omissions of, or breach by Abbott or its Affiliates.

(c) **Indemnification Procedures**. The foregoing indemnifications are subject to the following procedural requirements: the party seeking indemnification (x) shall promptly notify the indemnifying party in writing of any claims with respect to which the party seeking indemnification seeks such indemnification, and (y) will provide the indemnifying party with reasonable assistance and information with respect to such Claim. The indemnifying party shall have the right to control any legal action; provided, however, that the indemnifying shall not settle any claim or action or otherwise consent to an adverse judgment in a legal action subject to this Section 11(a) without the express written consent of the party seeking indemnification, such consent not to be unreasonably withheld. In addition, the indemnified party shall have the right to employ separate counsel and participate in the defense of any claim or action.

(d) **Limitations on Liability**. EXCEPT FOR THIRD PARTY CLAIMS COVERED UNDER SECTION 11(a) OR 11(b), IN NO EVENT SHALL EITHER PARTY, ITS AFFILIATES OR ANY OF ITS OR THEIR DIRECTORS, OFFICERS, EMPLOYEES OR AGENTS BE RESPONSIBLE OR LIABLE FOR ANY INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, OR FOR ANY LOSS OF PROFITS, LOSS OF REVENUE, LOSS RESULTING FROM INTERRUPTION OF BUSINESS OR LOSS OF USE OR DATA, EVEN IF THAT PARTY, ITS AFFILIATES OR ANY OF THEIR DIRECTORS, OFFICERS, EMPLOYEES OR AGENTS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY OF ANY KIND, UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER THEORY, ARISING OUT OF OR RELATING IN ANY WAY TO THIS AGREEMENT OR ITS IMPLEMENTATION.

12. MISCELLANEOUS

(a) **Dispute Resolution**. Abbott and Arcadia shall use their diligent efforts to resolve any disputes that arise between them related to this Agreement through good faith negotiation and agreement and, if good faith efforts to so negotiate and agree are unavailing within thirty (30) days, then by the end of such thirty-day period, the dispute shall be presented to the President of Ross Products Division and the President of Arcadia or their respective

designees, and the two executives shall endeavor to resolve the disagreement for a period of not more than thirty (30) days. Thereafter, if the respective Presidents are unable to resolve such dispute, such dispute shall be resolved by binding ADR under the procedures set forth in Exhibit D attached to this Agreement. Where a dispute is referred to ADR, the results of such ADR shall be final and binding on the Parties and enforceable in any court of competent jurisdiction. Pending resolution of any dispute, both Parties shall continue to perform their respective obligations under this Agreement to the extent not the subject of the dispute.

(b) **Force Majeure**. Neither Party to this Agreement shall be liable for damages due to delay or failure to perform any obligation under this Agreement if such delay or failure results directly or indirectly from circumstances beyond the control of such Party. Such circumstances shall include, but shall not be limited to, acts of God, acts of war, acts of terrorists, civil commotions, riots, strikes, lockouts, acts of the government in either its sovereign or contractual capacity, perturbation in telecommunications transmissions, inability to obtain suitable equipment or components, accident, crop failures, fire, water damages, flood, earthquake, or other natural catastrophes. Delay or failure to perform any obligation hereunder caused by Force Majeure shall not constitute a breach of this Agreement.

(c) **Applicable Law**. This Agreement shall be construed under the laws of the State of Illinois, without regard to the principles of conflict of laws thereof. The Parties hereto shall adhere to the United States Export Administration Laws and Regulations, and neither Party shall export or re-export any Know-How or direct product of such information to any proscribed country listed in the United States Export Administration Regulations unless properly authorized by the United States Government.

(d) **Notices**. Notices required under this Agreement shall be in writing and sent by registered mail, by facsimile transmission, by nationally recognized overnight courier service, or by hand delivery, with written verification of receipt and date of receipt, to the respective Parties at the following addresses:

Notices to Abbott: Ross Products Division
625 Cleveland Ave.
Columbus, OH 43215
Attn: Vice President, Strategic Planning and Business Development
Facsimile: (614) 624-7030

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With a copy to: Divisional Vice President, Domestic Legal Operations
Ross Products Division
[same address]
Facsimile: (614) 624-3074

If to Arcadia: Arcadia Biosciences, Inc.
202 Cousteau Place, Suite 200
Davis, CA 95616
Attn: President

With a copy to: Chief Legal Counsel
Arcadia Biosciences, Inc.
[same address]

or to such other address as either Party may designate by a notice given in compliance with this paragraph, and shall be deemed effective when received.

(e) **Entire Agreement**. This Agreement, including the exhibits hereto, constitutes the entire agreement between the Parties hereto and there are no representations, warranties or covenants relative hereto, which shall survive the execution of this Agreement unless fully set forth herein.

(f) **Assignability**. Neither this Agreement, nor the rights and obligations hereunder, are assignable or otherwise transferable without the prior written consent of the other Party, except this Agreement, may be assigned, without such consent, to either Party's successor of the business to which this Agreement relates, and provided further that either Party can transfer its rights and obligation to any of their wholly owned or majority owned subsidiaries or Affiliates, provided such assignee confirms in writing that it assumes all obligations hereunder.

(g) **Counterparts**. This Agreement may be executed in counterparts, each of which shall be enforceable against the Parties actually executing such counterparts, and all of which together shall constitute the instrument.

(h) **Severability**. If any provision of this Agreement is declared void or unenforceable by any judicial or administrative authority, of competent jurisdiction, such declaration shall not of itself nullify the remaining provisions of this Agreement. Consequently,

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the Parties shall meet to determine the effect of any such declaration and any variations to this Agreement which are mutually desirable.

(i) **Waiver**. No waiver by either Party of any breach of any of the terms or conditions herein provided to be performed by the other Party shall be construed as a waiver of any subsequent breach, whether of the same or of any other term or condition hereof.

(j) **Headings**. Section headings contained in this Agreement are inserted for convenience of reference only, shall not be deemed to be a part of this Agreement for any purpose, and shall not in any way define or affect the meaning, construction or scope of any of the provisions hereof.

(k) **Survival**. The provisions of Section 1, 3, 5, 7, 9(e), 11, and 12, as well as any payment obligations which have accrued prior to the effectiveness of termination or expiration of this Agreement, shall survive termination or expiration of this Agreement.

[SIGNATURE PAGE FOLLOWS]

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THEREFORE, the Parties hereto have caused this Agreement to be duly executed in their respective behalves as of the Effective Date.

ARCADIA BIOSCIENCES, INC.		ROSS PRODUCTS DIVISION ABBOTT LABORATORIES	
By:	/s/ Eric J. Rey	By:	/s/
Name:	Eric J. Rey (Print or Type)	Name:	 (Print or Type)
Title:	President & CEO	Title:	
Date:	7/25/07	Date:	
By:			
Name:	 (Print or Type)		
Title:			
Date:			

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EXHIBIT A

ABBOTT AND [...*...] CO-OWNED PATENTS AND PATENT APPLICATIONS

	[...*...]	Title or Subject Matter	Patent No.	Pending Application Ser. No.	Pending Applications in Foreign Countries
A)	[...*...]	*M alpina* Delta 12, 6 and 5 Desaturase genes in plants	6,075,183		
	[...*...]			09/355,903	
	[...*...]			P980104974	Argentina
	[...*...]		AT E 297 994 T1		Austria
	[...*...]		720677		Australia
	[...*...]		0996732		Belgium
	[...*...]			PCT/US98/07421	Brazil
	[...*...]			2285939	Canada
	[...*...]		0996732		Switzerland
	[...*...]		DE 698 30 587 T2		Germany

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	[...*...]	0996732		Denmark
	[...*...]		05012383.5	Europe
	[...*...]	0996732		Europe
	[...*...]	0996732		Spain
	[...*...]	0996732		Finland
	[...*...]	0996732		France
	[...*...]	0996732		United Kingdom
	[...*...]	0996732		Ireland
	[...*...]	0996732		Italy
	[...*...]	10-544175		Japan

	[...*...]		0996732		Luxembourg
	[...*...]		0996732		Monaco
	[...*...]		999328		Mexico
	[...*...]		0996732		Netherlands
	[...*...]		337459		New Zealand
	[...*...]		0996732		Portugal
	[...*...]		0996732		Sweden
B)	[...*...]	*M alpina* Delta 12 and 6 Desaturase genes	5,968,809		
	[...*...]		6,136,574		
	[...*...]			09/367,013	

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[...*...]		6,410,288		
[...*...]		0975766		Austria
[...*...]		726807		Australia
[...*...]		0975766		Belgium
[...*...]			2285968	Canada
[...*...]		0975766		Switzerland
[...*...]		0975766		Germany
[...*...]		0975766		Denmark
[...*...]		0975766		Europe
[...*...]		0975766		Spain
[...*...]		0975766		Finland
[...*...]		0975766		France
[...*...]		0975766		United Kingdom
[...*...]		0975766		Greece
[...*...]		0975766		Ireland
[...*...]		0975766		Italy
[...*...]			10-544053	Japan
[...*...]		0975766		Luxembourg

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	[...*...]		0975766		Monaco
	[...*...]		212281		Mexico
	[...*...]		0975766		Netherlands
	[...*...]		337457		New Zealand
	[...*...]		0975766		Portugal
	[...*...]		0975766		Sweden
C)	[...*...]	*M alpina* Delta 5 Desaturase gene	5,972,664		
	[...*...]		6,589,767		
	[...*...]		720725		Australia
	[...*...]			PI9809082-6	Brazil
	[...*...]			2286263	Canada
	[...*...]		1007691		Europe
	[...*...]			05012383.5	Europe
	[...*...]			10-544176	Japan
	[...*...]			99327	Mexico
D)	[...*...]	Delta 5 Desaturase genes in plants	6,051,754		

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[...*...] et al. Patent — Reissue of U.S. Patent No. 6,459,018

EXHIBIT A-1

ABBOTT SOLELY-OWNED PATENTS AND PATENT APPLICATIONS

A)	[...*...]		6,858,416		
	[...*...]		6,432,684		
	[...*...]		6,428,990		
	[...*...]		1141253		Austria
	[...*...]		780422		Australia
	[...*...]		1141252		Belgium
	[...*...]			2358543	
	[...*...]		1141252		Switzerland
	[...*...]		1141252		Cyprus
	[...*...]		69930165		Germany

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	[...*...]		1141252		Denmark
	[...*...]		1141252		Europe
	[...*...]		1141252		Spain
	[...*...]		1141252		Finland
	[...*...]		1141252		France
	[...*...]		1141252		United Kingdom
	[...*...]		1141252		Greece
	[...*...]		1141252		Ireland
	[...*...]		1141252		Italy
	[...*...]		1141252		Luxembourg
	[...*...]		1141252		Netherlands
	[...*...]		1141252		Portugal
	[...*...]		1141252		Sweden
B)	[...*...]	Fungal Delta 6 and 5 Desaturase genes	6,635,451		
	[...*...]		7,067,285		
	[...*...]			10/431,952	
	[...*...]			11/800,631	
	[...*...]			Not yet avail. (f.d. = 5/7/07)	

[…*…] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 406 OF THE SECURITIES ACT OF 1933, AS AMENDED.

	[...*...]			P020100289	
	[...*...]			2002309482	Australia
	[...*...]			PI0205508-2	Brazil
	[...*...]			2435685	Canada
	[...*...]			2736480.1	Europe
	[...*...]			2002-580031	Japan
	[...*...]		238474		Mexico
F)	[...*...]	Elongase genes from *M alpina*, mouse, human	6,403,349		
	[...*...]			10/912,446	
	[...*...]		7,070,970		
	[...*...]			09/379,095	
	[...*...]		6,913,916		
	[...*...]		6,677,145		

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	[...*...]		768301		Australia
	[...*...]		2001277982		Australia
	[...*...]			2003243335	Australia
	[...*...]			PI0112680-6	Brazil
	[...*...]			PI0306655-0	Brazil
	[...*...]			2341336	Canada
	[...*...]			2417484	Canada
	[...*...]			2487095	Canada
	[...*...]			2002-2482	Chile

	[...*...]		1107-2003	Chile
	[...*...]		99943978.9	Europe
	[...*...]		3756242.8	Europe
	[...*...]		1108490.7	Hong Kong
	[...*...]		2000-567706	Japan
	[...*...]		2002-513885	Japan
	[...*...]		2004-510380	Japan
	[...*...]		PA/a/2004/000750	Mexico
	[...*...]		PA/a/2004/011902	Mexico

G)	[...*...]	7,211,656		
	[...*...]		11/621,446	
	[...*...]		2474894	Canada
	[...*...]		3710700	Europe
	[...*...]		2003-564192	Japan
	[...*...]		PA/a/2004/007588	Mexico
H)	[...*...]	Delta-6 Desaturase Gene	10/931,626	
	[...*...]		2005282793	Australia
	[...*...]		PCT/US/2005/030945	Brazil
	[...*...]		PCT/US2005/030945	Canada
	[...*...]		5806616.8	Europe
	[...*...]		PCT/US2005/030945	Japan
	[...*...]		MX/a/2007/002432	Mexico
	[...*...]		20071180	Norway
I)	[...*...]	Elongase Gene	11/601,544	

EXHIBIT B

Research Plan & Milestones

Milestone 1: [...*...] [...*...]	Responsibility: [...*...] Action: [...*...] [...*...]	Payment: [...*...] [...*...]
Milestone 2: [...*...] [...*...] [...*...]	Responsibility: [...*...] Action: [...*...]	
Milestone 3: [...*...] [...*...]	Responsibility: [...*...] Action: [...*...]	Payment: [...*...]

Milestone 4: [...*...] [...*...]	Responsibility: [...*...] Action: [...*...]	Payment: [...*...]
Milestone 5: [...*...] [...*...]	Responsibility: [...*...] Action: [...*...] [...*...] [...*...] [...*...]	

AMENDED.

Milestone 6: [...*...] [...*...]	Responsibility: [...*...] Action: [...*...]	
Milestone 7: [...*...] [...*...]	Responsibility: [...*...] Action: [...*...] [...*...]	
Milestone 8: [...*...] [...*...]	Responsibility: [...*...] Action: [...*...]	
Milestone 9: [...*...] [...*...]	Responsibility: [...*...] Action: [...*...]	Payment: [...*...]
Milestone 10: [...*...] [...*...]	Responsibility: [...*...] Action: [...*...]	Payment: [...*...]
Milestone 11: [...*...] [...*...]	Responsibility: [...*...] Action: [...*...]	Payment: [...*...]

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Milestone 12: [...*...] [...*...]	Responsibility: [...*...] Action: [...*...]	
Milestone 13: [...*...] [...*...]	Responsibility: [...*...] Action: [...*...]	Payment: [...*...]
Milestone 14: [...*...] [...*...]	Responsibility: [...*...] Action: [...*...]	Payment: [...*...]
Milestone 15: [...*...] [...*...]	Responsibility: [...*...] Action: [...*...]	Payment: [...*...]

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Exhibit C

Royalty Table on Net Trait Fee

Abbott shall pay Arcadia a Royalty on Co-Assignee Oil sold in the field of Dietary Supplements based on the royalty table below, provided however, that in no event shall Abbott be liable to pay Arcadia more in Royalty hereunder that Abbott actually receives from Co-Assignee:

GLA Residual Range	Net Trait Fee Dietary Supplements	Net Trait Fee Other
[...*...]	[...*...]	[...*...]
[...*...]	[...*...]	[...*...]
[...*...]	[...*...]	[...*...]

"Dietary Supplements" means vitamins, minerals, herbs or other botanicals, amino acids, and other dietary substances that include a LC-PUFA developed through the use of the Abbott Co-Owned Patents licensed herein and are intended to supplement the diet by increasing the total dietary intake, or as any concentrate, metabolite, constituent, extract, or combination of these ingredients (§ 201(ff) of the FFDCA [21 USC § 321 (ff)]) and that are ingested in a tablet, capsule, powder, softgel, gelcap, or concentrated liquid form. A limitation being that Dietary Supplements are not represented as a conventional food or as the sole item of a meal or of the diet and that are labeled as "dietary supplements".

"Net Trait Fee" means the fee as calculated as follows the incremental fee collected for a plant product or oil product that is produced as a result of the utilization of Abbott Co-Owned Patents when that product is sold as compared to the market price of a comparable commodity oil or commodity plant product. For purposes of calculating the Net Trait Fee, values shall be determined in good faith based upon customary arms-length transactions in the relevant market. When referenced relative to commodity soybean oil, the prices quoted will be based on the prices given for such commodity oil and as published by the Wall Street Journal Online, Markets Data Center — Commodities & Futures. If a payment is made on a quarterly basis the average price will be based on the average price of such oil from the opening price and the closing price for the time period referenced.

Upon reasonable notice, but not to exceed once per year, Arcadia may request that Abbott conduct an audit of the books and records of Co-Assignee relating to the royalties due herein. In the event the accountant reports to Abbott that the Co-Assignee has underpaid the amounts due to Abbott by more than ten percent (10%), then (as between Abbott and Arcadia) Abbott shall bear the costs of such audit, otherwise, Arcadia will bear the costs of such audit. The auditing accountant, Abbott and Arcadia shall be bound to keep confidential the details of the business affairs of Co-Assignee and to limit disclosure of the results of any audit to the sufficiency of the accounts and the amount, if any, of a payment adjustment that should be made.

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EXHIBIT D

Alternative Dispute Resolution

The Parties recognize that from time to time a dispute may arise relating to either Party's rights or obligations under this Agreement. The Parties agree that any such dispute shall be resolved in accordance with the provisions of Section 12(a) (Dispute Resolution) of this Agreement, and failing resolution thereunder, by the Alternative Dispute Resolution ("ADR") provisions set forth in this Exhibit, the result of which shall be binding upon the Parties.

To begin the ADR process, a Party first must send written notice of the dispute to the other Party for attempted resolution by good faith negotiations between their respective presidents (or their designees) of the affected subsidiaries, divisions, or business units within ninety (90) days after such notice is received (all references to "days" in this ADR provision are to calendar days). If the matter has not been resolved within ninety (90) days of the notice of dispute, or if the Parties fail to meet within such forty-five (45) days, either Party may initiate an ADR proceeding as provided herein. The Parties shall have the right to be represented by counsel in such a proceeding.

1. To begin an ADR proceeding, a Party shall provide written notice to the other Party of the issues to be resolved by ADR. Within thirty (30) days after its receipt of such notice, the other Party may, by written notice to the Party initiating the ADR, add additional issues to be resolved within the same ADR.

2. Within sixty (60) days following receipt of the original ADR notice, the Parties shall select a mutually acceptable neutral to preside in the resolution of any disputes in this ADR proceeding. If the Parties are unable to agree on a mutually acceptable neutral within such period, either Party may request the President of the CPR Institute for Dispute Resolution ("CPR"), 366 Madison Avenue, 14th Floor, New York, New York 10017, to select a neutral pursuant to the following procedures:

(a) The CPR shall submit to the Parties a list of not less than five (5) candidates within fourteen (14) days after receipt of the request, along with Curriculum Vitae for each candidate. No candidate shall be an employee, director, or shareholder of either Party or any of their subsidiaries or affiliates.

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(b) Such list shall include a statement of disclosure by each candidate of any circumstances likely to affect his or her impartiality.

(c) Each Party shall number the candidates in order of preference (with the number one (1) signifying the greatest preference) and shall deliver the list to the CPR within seven (7) days following receipt of the list of candidates. If a Party believes a conflict of interest exists regarding any of the candidates, that Party shall provide a written explanation of the conflict to the CPR along with its list showing its order of preference for the candidates. Any Party failing to return a list of preferences on time shall be deemed to have no order of preference.

(d) If the Parties collectively have identified fewer than three (3) candidates deemed to have conflicts, the CPR immediately shall designate as the neutral the candidate for whom the Parties collectively have indicated the greatest preference. If a tie should result between two candidates, the CPR may designate either candidate. If the Parties collectively have identified three (3) or more candidates deemed to have conflicts, the CPR shall review the explanations regarding conflicts and, in its sole discretion, may either (i) immediately designate as the neutral the candidate for whom the Parties collectively have indicated the greatest preference, or (ii) issue a new list of not less than five (5) candidates, in which case the procedures set forth in subparagraphs 2(a) - 2(d) shall be repeated.

3. No earlier than thirty (30) days or later than ninety (90) days after selection, the neutral shall hold a hearing to resolve each of the issues identified by the Parties. The ADR proceeding shall take place at a location agreed upon by the Parties. If the Parties cannot agree, the neutral shall designate a location other than the principal place of business of either Party or any of their subsidiaries or affiliates.

4. At least seven (7) days prior to the hearing, each Party shall submit the following to the other Party and the neutral:

(a) a copy of all exhibits on which such Party intends to rely in any oral or written presentation to the neutral;

(b) a list of any witnesses such Party intends to call at the hearing, and a short summary of the anticipated testimony of each witness;

(c) a proposed ruling on each issue to be resolved, together with a request for a specific damage award or other remedy for each issue. The proposed rulings and remedies

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AMENDED.

shall not contain any recitation of the facts or any legal arguments and shall not exceed one (1) page per issue.

(d) a brief in support of such Party's proposed rulings and remedies, provided that the brief shall not exceed twenty (20) pages. This page limitation shall apply regardless of the number of issues raised in the ADR proceeding.

Except as expressly set forth in subparagraphs 4(a) - 4(d) or as may be permitted by the neutral upon a showing of good cause, no discovery shall be required or permitted by any means, including depositions, interrogatories, requests for admissions, or production of documents.

5. The hearing shall be conducted on two (2) consecutive days and shall be governed by the following rules:

(a) Each Party shall be entitled to five (5) hours of hearing time to present its case. The neutral shall determine whether each Party has had the five (5) hours to which it is entitled.

(b) Each Party shall be entitled, but not required, to make an opening statement, to present regular and rebuttal testimony, documents or other evidence, to cross-examine witnesses, and to make a closing argument. Cross-examination of witnesses shall occur immediately after their direct testimony, and cross-examination time shall be charged against the Party conducting the cross-examination.

(c) The Party initiating the ADR shall begin the hearing and, if it chooses to make an opening statement, shall address not only issues it raised but also any issues raised by the responding Party. The responding Party, if it chooses to make an opening statement, also shall address all issues raised in the ADR. Thereafter, the presentation of regular and rebuttal testimony and documents, other evidence, and closing arguments shall proceed in the same sequence.

(d) Except for expert witnesses, when testifying, witnesses shall be excluded from the hearing until they testify.

(e) Settlement negotiations, including any statements made therein, shall not be admissible under any circumstances. Affidavits prepared for purposes of the ADR hearing also shall not be admissible. As to all other matters, the neutral shall follow the Federal Rules of Evidence regarding the admissibility of any other evidence.

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6. Within seven (7) days following completion of the hearing, each Party may submit to the other Party and the neutral a post-hearing brief in support of its proposed rulings and remedies, provided that such brief shall not contain or discuss any new evidence and shall not exceed ten (10) pages. This page limitation shall apply regardless of the number of issues raised in the ADR proceeding.

7. The neutral shall rule on each disputed issue within fourteen (14) days following completion of the hearing. Such ruling shall adopt in its entirety the proposed ruling and remedy of one of the Parties on each disputed issue but may adopt one Party's proposed rulings and remedies on some issues and the other Party's proposed rulings and remedies on other issues. The neutral shall not issue any written opinion or otherwise explain the basis of the ruling.

8. The neutral shall be paid a reasonable fee plus expenses. These fees and expenses, along with the reasonable legal fees and expenses of the prevailing Party (including all expert witness fees and expenses), the fees and expenses of a court reporter, and any expenses for a hearing room, shall be paid as follows:

(a) If the neutral rules in favor of one Party on all disputed issues in the ADR, the losing Party shall pay 100% of such fees and expenses.

(b) If the neutral rules in favor of one Party on some issues and the other Party on other issues, the neutral shall issue with the rulings a written determination as to how such fees and expenses shall be allocated between the Parties. The neutral shall allocate fees and expenses in a way that bears a reasonable relationship to the outcome of the ADR, with the Party prevailing on more issues, or on issues of greater value or gravity, recovering a relatively larger share of its legal fees and expenses.

9. The rulings of the neutral and the allocation of fees and expenses shall be binding, non-reviewable, and non-appealable, except as permitted by law, and may be entered as a final judgment in any court having jurisdiction.

10. Except as provided in paragraph 9 or as required by law, the existence of the dispute, any settlement negotiations, the ADR hearing, any submissions (including exhibits, testimony, proposed rulings, and briefs), and the rulings shall be deemed Confidential Information. A court of competent jurisdiction shall have the authority to impose sanctions for unauthorized disclosure of Confidential Information.

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Milestones […*…]: Amended and Restated License Agreement Between Abbott Nutrition Division of Abbott Laboratories and Arcadia Biosciences, Inc. Dated January 25, 2007

The Development Committee hereby unanimously agrees to add the following Milestones **[…*…]** to Exhibit B - Research Plan & Milestones:

[…*…]

[…*…]

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The Members of the Development Committee acknowledge herein that a summary of the work relating to Milestone **[…*…]** was provided and presented to Abbott on **[…*…]** and that Milestone **[…*…]** has been completed.

This change shall become effective December 31, 2011. This document may be executed in counterparts.

Members of the Development Committee from:

Arcadia Biosciences, Inc.

/s/ Eric Rey
Eric Rey
Date: December 29, 2011

/s/ Frank Flider
Frank Flider
Date: December 29, 2011

Abbott Nutrition, a division of Abbott Laboratories

By: /s/ Stephen DeMichele
Stephen DeMichele, Development Committee Member, R&D
Date: December 29, 2011

By: /s/ Robert H. Miller
Robert H. Miller, Divisional VP, R&D and Scientific Affairs
Date: December 29, 2011

[…*…] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 406 OF THE SECURITIES ACT OF 1933, AS AMENDED.

Replacement of Milestone [***]: Amended And Restated License Agreement Between Ross Products Division Of Abbott Laboratories And Arcadia Biosciences, Inc. Dated: December 1, 2007

The Joint Development Committee hereby unanimously agrees to replace Milestones [***] with the following:

[***]

This change shall become effective December 1, 2007.

Members of the Development Committee from:

Arcadia Biosciences, Inc.

Digitally signed by Eric J. Rey
DN: cn=Eric J. Rey, o=Arcadia Biosciences, Inc., ou=Administration, email= eric.rey@arcadiabio.com, c=US
/s/ Eric J. Rey Date: 2007.12.11 11:21:20 -08’00’
Eric Rey

Digitally signed by Frank J Flider
DN: CN = Frank J Flider, C = US, O = Arcadia Biosciences
/s/ Frank J Flider Date: 2007.12.11 12:17:51 -07’00’
Frank Flider

Abbott Nutrition, a division of Abbott Laboratories

/s/ Pradip Mukerji 12/11/07
Pradip Mukerji

/s/ Tapas Das 12/11/07
Tapas Das

[***] Confidential treatment has been requested with respect to certain portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.

Milestone […*…]: Amended And Restated License Agreement Between Ross Products Division Of Abbott Laboratories And Arcadia Biosciences, Inc. Dated: December 1, 2007

The Joint Development Committee hereby unanimously agrees to add the following Milestone **[…*…]** to Exhibit B - Research Plan & Milestones:

[…*…]

[…*…]

[…*…]

This change shall become effective March 1, 2011.

Members of the Development Committee from:

Arcadia Biosciences, Inc.

Digitally signed by Eric Rey
DN:cn=Eric Rey, o = Arcadia Biosciences, Inc., ou= President and CEO, email=eric rey@arcadiabio.com, c=US
/s/ Eric Rey Date: 2011.03.03 21:24:13 -08’00’

Eric Rey

Digitally signed by Frank Flider
DN: cn=Frank Flider, C=US
O= Arcadia Biosciences, lnc.
email=Frank Flider@arcadiabio.com
/s/ Frank Flider Date: 2011.03.03 13:33:23 -07’00’

Frank Flider

Abbott Nutrition, a division of Abbott Laboratories

/s/ Stephen DeMichele 3/4/11

Stephen DeMichele

/s/ Suzette Pereira 3/4/11

Suzette Pereira

/s/ Robert Miller 3.4.11

Robert Miller

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Exhibit 10.17

[Date]

[Name]
[Address]
[City, State Zip]

Dear [Name]:

On behalf of Arcadia Biosciences, Inc., henceforth the "Company," it is my pleasure to confirm your continued employment with the Company. This letter supersedes all prior agreements relating to the terms of your employment, except for the Severance and Change of Control Agreement between you and the Company, a copy of which is attached hereto (the "***Severance Agreement***") and the Confidentiality and Invention Assignment Agreement dated [Date], between you and the Company (the "***Confidentiality Agreement***"). The terms set forth below shall be effective as of the effectiveness of the Company's initial public offering (the "***Effective Date***").

Title and Base Salary. Your title is, and shall remain, [Title] and you will continue to report to [Name], [Title]. As of the Effective Date, your annual base salary shall be $[Amount].

Bonus Compensation. In addition to your base salary, you will be eligible for an annual incentive cash award, as determined by the Company. For calendar year 2015, your annual incentive cash bonus shall have a target equal to [ ]% of your base salary as of the Effective Date. The target bonus and its components, the Company performance objectives, and your individual objectives shall be determined each year by the Compensation Committee of the Board of Directors (the "***Compensation Committee***").

Equity Awards. The Company may grant equity awards to you from time to time, which will be subject to the terms of the applicable equity compensation plan or arrangement in effect at the time of grant. The Compensation Committee will determine in its discretion whether you will be granted any such equity awards and the terms and conditions of any such awards in accordance with the terms of any applicable equity plan. You should be aware that you may incur federal and state income taxes as a result of your receipt or the vesting of any equity compensation awards and it shall be your responsibility to pay any such applicable taxes.

202 Cousteau Place · Suite 200· Davis, CA 95618· Tel: 530-756-7077· Fax: 530-756-7027 · Web: www.arcadiabio.com

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Other Benefits. You will continue to be eligible for all Company adopted benefits, under the terms and conditions of such benefit plans.

Your employment is "at-will," which means that either you or the Company may terminate the employment relationship at any time for any reason or for no reason (subject to the terms of the Severance Agreement). This at-will relationship may not be modified by any oral or implied agreement.

The above information represents the entire substance of Arcadia's offer of continued employment to you. If all the above terms and conditions meet with your approval, please sign this letter and return it by [Date].

We look forward to your continued employment with the Arcadia team. If you should have any questions, please feel free to call [Name], Human Resources Manager, at [Phone Number].

Sincerely,

_____
Eric J. Rey
President & CEO

ACCEPTED BY:

_____
[NAME]

_____
Date

SEVERANCE AND CHANGE IN CONTROL AGREEMENT

This Severance and Change in Control Agreement (the "***Agreement***") is made and entered into by and between [Executive Name] ("***Executive***") and Arcadia Biosciences, Inc. (the "***Company***"), effective as of the latest date set forth by the signatures of the parties hereto below (the "***Effective Date***").

RECITALS

1. The Compensation Committee of the Board of Directors of the Company (the "***Committee***") recognizes that it is possible that the Company could terminate Executive's employment with the Company and from time to time the Company may consider the possibility of an acquisition by another company or other change in control transaction. The Committee also recognizes that such considerations can be a distraction to Executive and can cause Executive to consider alternative employment opportunities. The Committee has determined that it is in the best interests of the Company and its stockholders to assure that the Company will have the continued dedication and objectivity of Executive, notwithstanding the possibility, threat or occurrence of such a termination of employment or the occurrence of a Change in Control (as defined herein) of the Company.

2. The Committee believes that it is in the best interests of the Company and its stockholders to provide Executive with an incentive to continue his or her employment with the Company and to motivate Executive to maximize the value of the Company for the benefit of its stockholders.

3. The Committee believes that it is imperative to provide Executive with certain severance benefits upon Executive's termination of employment and with certain additional benefits following a Change in Control. These benefits will provide Executive with enhanced financial security and incentive and encouragement to remain with the Company notwithstanding the possibility of a Change in Control.

4. [The Company and Executive previously entered into an offer letter dated [Date] (the "***Offer Letter***")] [Only include to the extent the Executive has a current Offer Letter.]

5. The Company and Executive wish to restate the terms of Executive's severance and benefits (whether or not in connection with a Change in Control) and replace any and all such provisions providing for severance and/or change in control payments, as set forth below. All other terms and conditions of the Offer Letter will remain in full force and effect.

6. Certain capitalized terms used in the Agreement are defined in Section 6 below.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants contained herein, the parties hereto agree as follows:

1. Term of Agreement. The Agreement shall terminate on the third (3rd) anniversary of the Effective Date (the "***Term End Date***"); provided, however, that if as of the Term End Date Executive is receiving benefits under Section 3 of this Agreement, then the Agreement shall continue in effect until such date as all of the obligations of the parties hereto with respect to this Agreement have been satisfied.

2. At-Will Employment. The Company and Executive acknowledge that Executive's employment is and will continue to be at-will, as defined under applicable law. If Executive's employment terminates for any reason, including (without limitation) any termination of employment not set forth in Section 3, Executive will not be entitled to any payments, benefits, damages, awards or compensation other than the payment of accrued but unpaid wages, as required by law, and any unreimbursed reimbursable expenses or pursuant to written agreements with the Company, including equity award agreements.

3. Severance Benefits.

(a) Termination without Cause and not in Connection with a Change in Control. If the Company terminates Executive's employment with the Company for a reason other than Cause, Executive becoming Disabled, or Executive's death, at any time other than during the twelve (12)-month period immediately following a Change in Control, then, subject to Section 4, Executive will receive the following severance benefits from the Company:

(i) Accrued Compensation. The Company will pay Executive all accrued but unpaid vacation, expense reimbursements, wages, and other benefits due to Executive under any Company-provided plans, policies, and arrangements.

(ii) Severance Payment. Executive will receive continuing payments of severance for a period of [six (6) months]/[twelve (12) months] (such number of months, the "***Standard Severance Period***") from the date of such termination of employment at a rate equal to Executive's base salary as in effect immediately prior to the date of Executive's termination of employment (disregarding any reduction in base salary that triggers the right to termination for Good Reason), less all required tax withholdings and other applicable deductions, which will be paid in accordance with the Company's regular payroll procedures.

(iii) Continued Employee Benefits. If Executive elects continuation coverage pursuant to the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("***COBRA***") for Executive and Executive's eligible dependents, within the time period prescribed pursuant to COBRA, the Company will reimburse Executive for the COBRA premiums for such coverage (at the coverage levels in effect immediately prior to Executive's termination or resignation) until the earlier of (A) the end of the Standard Severance Period, or (B) the date upon which Executive and/or Executive's eligible dependents becomes covered under similar plans. COBRA reimbursements will be made by the Company to Executive consistent with the Company's normal expense reimbursement policy and will be taxable to the extent required to avoid adverse consequences to Executive or the Company under either Code Section 105(h) or the Patient Protection and Affordable Care Act of 2010.

(iv) Payments or Benefits Required by Law. Executive will receive such other compensation or benefits from the Company as may be required by law.

(b) Termination without Cause or Resignation for Good Reason in Connection with a Change in Control. If during the twelve (12)-month period immediately following a Change in Control, (x) the Company terminates Executive's employment with the Company for a reason other than Cause, Executive becoming Disabled, or Executive's death, or (y) Executive resigns from such employment for Good Reason, then, subject to Section 4, Executive will receive the following severance benefits from the Company in lieu of the benefits described in Section 3(a) above:

(i) Accrued Compensation. The Company will pay Executive all accrued but unpaid vacation, expense reimbursements, wages, and other benefits due to Executive under any Company-provided plans, policies, and arrangements.

(ii) Severance Payment. Executive will receive continuing payments of severance for a period of [twelve (12) months]/[twenty-four (24) months] (such number of months, the "***Enhanced Severance Period***") from the date of such termination of employment at a rate equal to Executive's base salary as in effect immediately prior to the date of Executive's termination of employment (disregarding any reduction in base salary that triggers the right to termination for Good Reason), less all required tax withholdings and other applicable deductions, which will be paid in accordance with the Company's regular payroll procedures.

(iii) Continued Employee Benefits. If Executive elects continuation coverage pursuant to the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("***COBRA***") for Executive and Executive's eligible dependents, within the time period prescribed pursuant to COBRA, the Company will reimburse Executive for the COBRA premiums for such coverage (at the coverage levels in effect immediately prior to Executive's termination or resignation) until the earlier of (A) the end of the Enhanced Severance Period, or (B) the date upon which Executive and/or Executive's eligible dependents becomes covered under similar plans. COBRA reimbursements will be made by the Company to Executive consistent with the Company's normal expense reimbursement policy and will be taxable to the extent required to avoid adverse consequences to Executive or the Company under either Code Section 105(h) or the Patient Protection and Affordable Care Act of 2010.

(iv) Equity. Executive will be entitled to accelerated vesting as to one hundred percent (100%) of the then-unvested portion of all of Executive's outstanding equity awards.

(v) Payments or Benefits Required by Law. Executive will receive such other compensation or benefits from the Company as may be required by law.

(c) Disability; Death. If Executive's employment with the Company is terminated due to Executive becoming Disabled or Executive's death, then Executive or Executive's estate (as the case may be) will (i) receive the earned but unpaid base salary through the date of termination of employment, (ii) receive all accrued vacation, expense reimbursements and any other benefits due to Executive through the date of termination of employment in accordance with Company-provided or paid plans, policies and arrangements, and (iii) not be

entitled to any other compensation or benefits from the Company except to the extent required by law (for example, COBRA).

(d) Voluntary Resignation; Termination for Cause. If Executive voluntarily terminates Executive's employment with the Company (other than for Good Reason following a Change in Control) or if the Company terminates Executive's employment with the Company for Cause, then Executive will (i) receive his or her earned but unpaid base salary through the date of termination of employment, (ii) receive all accrued vacation, expense reimbursements and any other benefits due to Executive through the date of termination of employment in accordance with established Company-provided or paid plans, policies and arrangements, and (iii) not be entitled to any other compensation or benefits (including, without limitation, accelerated vesting of any equity awards) from the Company except to the extent provided under agreement(s) relating to any equity awards or as may be required by law (for example, COBRA).

(e) Timing of Payments. Subject to Section 4, payment of the severance and benefits hereunder shall be made or commence to be made as soon as practicable following Executive's termination of employment.

(f) Exclusive Remedy. In the event of a termination of Executive's employment with the Company pursuant to Section 3(a) or Section 3(b), the provisions of this Section 3 are intended to be and are exclusive and in lieu of any other rights or remedies to which Executive or the Company may otherwise be entitled, whether at law, tort or contract, in equity, or under this Agreement (other than the payment of accrued but unpaid wages, as required by law, and any unreimbursed reimbursable expenses). Executive will be entitled to no other severance, benefits, compensation or other payments or rights upon a termination of employment, including, without limitation, any severance payments and/or benefits provided in the Employment Agreement, other than those benefits expressly set forth in Section 3 of this Agreement or pursuant to written equity award agreements with the Company.

4. Conditions to Receipt of Severance.

(a) Release of Claims Agreement. In the event of a termination of Executive's employment with the Company pursuant to Section 3(a) or Section 3(b), the receipt of any severance payments or benefits pursuant to this Agreement is subject to Executive signing and not revoking a separation agreement and release of claims in a form acceptable to the Company (the "***Release***"), which must become effective no later than the sixtieth (60^{th}) day following Executive's termination of employment (the "***Release Deadline***"), and if not, Executive will forfeit any right to severance payments or benefits under this Agreement. To become effective, the Release must be executed by Executive and any revocation periods (as required by statute, regulation, or otherwise) must have expired without Executive having revoked the Release. In addition, in no event will severance payments or benefits be paid or provided until the Release actually becomes effective. If the termination of employment occurs at a time during the calendar year where the Release Deadline could occur in the calendar year following the calendar year in which Executive's termination of employment occurs, then any severance payments or benefits under this Agreement that would be considered Deferred Payments (as defined in Section 4(d)(i)) will be paid on the first payroll date to occur during the calendar year following the calendar year in which such termination occurs, or such later time as required by (i) the payment schedule applicable to each payment or benefit as set forth in Section 3, (ii) the date the Release becomes effective, or (iii) Section 4(d)(ii); provided that the first

payment shall include all amounts that would have been paid to Executive if payment had commenced on the date of Executive's termination of employment.

(b) Non-solicitation. Executive agrees, to the extent permitted by applicable law, that in the event the Executive receives severance pay or other benefits pursuant to Section 3(a) or 3(b) above, for the number of months of severance provided to Executive pursuant to Section 3(a)(ii) or 3(b)(ii), as applicable, immediately following the date of Executive's termination, Executive, as a condition to receipt of severance pay and benefits under Sections 3(a) and 3(b), will not directly or indirectly, solicit, induce, recruit, or encourage any employee of the Company to leave his or her employment either for Executive or for any other entity or person. In the event Executive violates the provisions of this Section 4(b), all severance pay and other benefits to which Executive may otherwise be entitled pursuant to Section 3(a) or 3(b) shall cease immediately.

The covenant contained in this Section 4(b) hereof shall be construed as a series of separate covenants, one for each country, province, state, city or other political subdivision in which the Company currently engages in its business or, during the term of this Agreement, becomes engaged in its business. Except for geographic coverage, each such separate covenant shall be deemed identical in terms to the covenant contained in this Section 4(b). If, in any judicial proceeding, a court refuses to enforce any of such separate covenants (or any part thereof), then such unenforceable covenant (or such part) shall be eliminated from this Agreement to the extent necessary to permit the remaining separate covenants (or portions thereof) to be enforced. In the event that the provisions of this Section 4(b) are deemed to exceed the time, geographic or scope limitations permitted by applicable law, then such provisions shall be reformed to the maximum time, geographic or scope limitations, as the case may be, permitted by applicable law.

(c) Confidential Information Agreement and Other Requirements. Executive's receipt of any payments or benefits under Section 3 will be subject to Executive continuing to comply with the terms of the Confidential Information Agreement (as defined in Section 9) executed by Executive in favor of the Company and the provisions of this Agreement.

(d) Section 409A.

(i) Notwithstanding anything to the contrary in this Agreement, no severance pay or benefits to be paid or provided to Executive, if any, pursuant to this Agreement that, when considered together with any other severance payments or separation benefits, are considered deferred compensation not exempt under Section 409A (together, the "***Deferred Payments***") will be paid or otherwise provided until Executive has a "separation from service" within the meaning of Section 409A. And for purposes of this Agreement, any reference to "termination of employment," "termination" or any similar term shall be construed to mean a "separation from service" within the meaning of Section 409A. Similarly, no severance payable to Executive, if any, pursuant to this Agreement that otherwise would be exempt from Section 409A pursuant to Treasury Regulation Section 1.409A-1(b)(9) will be payable until Executive has a "separation from service" within the meaning of Section 409A.

(ii) Notwithstanding anything to the contrary in this Agreement, if Executive is a "specified employee" within the meaning of Section 409A at the time of Executive's termination of employment (other than due to death), then the Deferred Payments, if

any, that are payable within the first six (6) months following Executive's separation from service, will become payable on the first payroll date that occurs on or after the date six (6) months and one (1) day following the date of Executive's separation from service. All subsequent Deferred Payments, if any, will be payable in accordance with the payment schedule applicable to each payment or benefit. Notwithstanding anything herein to the contrary, if Executive dies following Executive's separation from service, but prior to the six (6) month anniversary of the separation from service, then any payments delayed in accordance with this paragraph will be payable in a lump sum as soon as administratively practicable after the date of Executive's death and all other Deferred Payments will be payable in accordance with the payment schedule applicable to each payment or benefit. Each payment, installment and benefit payable under this Agreement is intended to constitute a separate payment for purposes of Section 1.409A-2(b)(2) of the Treasury Regulations.

(iii) Without limitation, any amount paid under this Agreement that satisfies the requirements of the "short-term deferral" rule set forth in Section 1.409A-1(b)(4) of the Treasury Regulations is not intended constitute to Deferred Payments for purposes of clause (i) above

(iv) Without limitation, any amount paid under this Agreement that qualifies as a payment made as a result of an involuntary separation from service pursuant to Section 1.409A-1(b)(9)(iii) of the Treasury Regulations that does not exceed the Section 409A Limit is not intended to constitute Deferred Payments for purposes of clause (i) above. Any payment intended to qualify under this exemption must be made within the allowable time period specified in Section 1.409A-1(b)(9)(iii) of the Treasury Regulations.

(v) To the extent that reimbursements or in-kind benefits under this Agreement constitute non-exempt "nonqualified deferred compensation" for purposes of Section 409A, (1) all reimbursements hereunder shall be made on or prior to the last day of the calendar year following the calendar year in which the expense was incurred by Executive, (2) any right to reimbursement or in-kind benefits shall not be subject to liquidation or exchange for another benefit, and (3) the amount of expenses eligible for reimbursement or in-kind benefits provided in any calendar year shall not in any way affect the expenses eligible for reimbursement or in-kind benefits to be provided, in any other calendar year.

(vi) Any tax gross-up that Executive is entitled to receive under this Agreement or otherwise shall be paid to Executive no later than December 31 of the calendar year following the calendar year in which Executive remits the related taxes.

(vii) Notwithstanding any other provision of this Agreement to the contrary, in no event shall any payment under this Agreement that constitutes "nonqualified deferred compensation" for purposes of Code Section 409A be subject to offset by any other amount unless otherwise permitted by Code Section 409A.

(viii) The foregoing provisions are intended to be exempt from or comply with the requirements of Section 409A so that none of the severance payments and benefits to be provided hereunder will be subject to the additional tax imposed under Section 409A, and any ambiguities or ambiguous terms herein will be interpreted to be exempt or so comply. The Company and Executive agree to work together in good faith to consider amendments to this Agreement and to take such reasonable actions which are necessary, appropriate or desirable to

avoid imposition of any additional tax or income recognition prior to actual payment to Executive under Section 409A.

5. Limitation on Payments.

(a) Anything in this Agreement to the contrary notwithstanding, if any payment or benefit Executive would receive from the Company or otherwise ("***Payment***") would (i) constitute a "parachute payment" within the meaning of Section 280G of the Code; and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the "***Excise Tax***"), then such Payment shall be equal to the Reduced Amount. The "***Reduced Amount***" shall be either (x) the

largest portion of the Payment that would result in no portion of the Payment being subject to the Excise Tax; or (y) the largest portion, up to and including the total, of the Payment, whichever amount, after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in Executive's receipt, on an after-tax basis, of the greater amount of the Payment. Any reduction made pursuant to this Section 5(a) shall be made in accordance with the following order of priority: (i) stock options whose exercise price exceeds the fair market value of the optioned stock ("***Underwater Options***") (ii) Full Credit Payments (as defined below) that are payable in cash, (iii) non-cash Full Credit Payments that are taxable, (iv) non-cash Full Credit Payments that are not taxable (v) Partial Credit Payments (as defined below) and (vi) non-cash employee welfare benefits. In each case, reductions shall be made in reverse chronological order such that the payment or benefit owed on the latest date following the occurrence of the event triggering the excise tax will be the first payment or benefit to be reduced (with reductions made pro-rata in the event payments or benefits are owed at the same time). "***Full Credit Payment***" means a payment, distribution or benefit, whether paid or payable or distributed or distributable pursuant to the terms of this Agreement or otherwise, that if reduced in value by one dollar reduces the amount of the parachute payment (as defined in Section 280G of the Code) by one dollar, determined as if such payment, distribution or benefit had been paid or distributed on the date of the event triggering the excise tax. "***Partial Credit Payment***" means any payment, distribution or benefit that is not a Full Credit Payment. In no event shall the Executive have any discretion with respect to the ordering of payment reductions.

(b) Unless the Company and Executive otherwise agree in writing, any determination required under this Section 5 will be made in writing by an independent firm (the "***Firm***"), whose determination will be conclusive and binding upon Executive and the Company for all purposes. For purposes of making the calculations required by this Section 5, the Firm may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code. The Company and Executive will furnish to the Firm such information and documents as the Firm may reasonably request in order to make a determination under this Section 5. The Company will bear all costs the Firm may reasonably incur in connection with any calculations contemplated by this Section 5.

6. Definition of Terms. The following terms referred to in this Agreement will have the following meanings:

(a) Cause. "***Cause***" means:

(i) Executive's conviction of, or pleading guilty or nolo contendere to, any felony or a lesser crime involving dishonesty or moral turpitude;

(ii) Executive's willful failure to perform Executive's duties and responsibilities to the Company or Executive's violation of any written Company policy or agreement;

(iii) Executive's commission of any act of fraud, embezzlement, dishonesty against the Company or any other intentional misconduct that has caused or is reasonably expected to result in injury to the Company;

(iv) Executive's unauthorized use or disclosure of any proprietary information or trade secrets of the Company or any other party to whom the Executive owes an obligation of nondisclosure as a result of his or her relationship with the Company;

(v) Executive's failure to reasonably cooperate with the Company in any investigation or formal proceeding after receiving a written request to do so; or

(vi) Executive's material breach of any of his or her obligations under any written agreement or covenant with the Company.

(b) Change in Control. "***Change in Control***" means the occurrence of any of the following:

(i) The consummation of a merger or consolidation of the Company with or into another entity or any other corporate reorganization, if the Company's shareholders immediately prior to such merger, consolidation or reorganization cease to directly or indirectly own immediately after such merger, consolidation or reorganization at least a majority of the combined voting power of the continuing or surviving entity's securities outstanding immediately after such merger, consolidation or other reorganization;

(ii) The consummation of the sale, transfer or other disposition of all or substantially all of the Company's assets (other than (x) to a corporation or other entity of which at least a majority of its combined voting power is owned directly or indirectly by the Company, (y) to a corporation or other entity owned directly or indirectly by the shareholders of the Company in substantially the same proportions as their ownership of the common stock of the Company or (z) to a continuing or surviving entity described in Section 6(b)(i) in connection with a merger, consolidation or corporate reorganization which does not result in a Change in Control under Section 6(b)(i));

(iii) A change in the effective control of the Company which occurs on the date that a majority of members of the Company's Board of the Directors (the "***Board***") is replaced during any twelve (12) month period by Directors whose appointment or election is not endorsed by a majority of the members of the Board prior to the date of the appointment or election. For purposes of this clause, if any Person (as defined below in Section 6(b)(iv)) is considered to be in effective control of the Company, the acquisition of additional control of the Company by the same Person will not be considered a Change in Control; or

(iv) The consummation of any transaction as a result of which any Person becomes the "beneficial owner" (as defined in Rule 13d-3 under the Securities Exchange Act of 1934, as amended (the "***Exchange Act***")), directly or indirectly, of securities of the Company representing at least fifty percent (50%) of the total voting power represented by the Company's then outstanding voting securities. For purposes of this clause (iv), the term "person" shall have the same meaning as when used in sections 13(d) and 14(d) of the Exchange Act but shall exclude:

(1) a trustee or other fiduciary holding securities under an employee benefit plan of the Company or an affiliate of the Company;

(2) a corporation or other entity owned directly or indirectly by the shareholders of the Company in substantially the same proportions as their ownership of the common stock of the Company;

(3) the Company; and

(4) a corporation or other entity of which at least a majority of its combined voting power is owned directly or indirectly by the Company.

A transaction shall not constitute a Change in Control if its sole purpose is to change the state of the Company's incorporation or to create a holding company that will be owned in substantially the same proportions by the persons who held the Company's securities immediately before such transactions. For the avoidance of doubt, an initial public offering of the common stock of the Company shall not constitute a Change in Control for purposes of this Agreement.

(c) Code. "***Code***" means the Internal Revenue Code of 1986, as amended.

(d) Disability. "***Disability***" means that Executive is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or which has lasted, or can be expected to last, for a continuous period of not less than one (1) year.

(e) Good Reason. "***Good Reason***" means Executive's termination of employment within ninety (90) days following the expiration of any cure period (discussed below) following the occurrence, without Executive's consent, of one or more of the following:

(i) [A material reduction of Executive's duties, authority or responsibilities, relative to Executive's duties, authority or responsibilities in effect immediately prior to such reduction; provided, however, that a reduction in duties, authority or responsibilities solely by virtue of the Company being acquired and made part of a larger entity (as, for example, when the [Title] of the Company remains as such following a Change of Control but is not made the [Title] of the acquiring corporation) will not constitute Good Reason;] [Only applicable for certain Executives.]

(ii) A material reduction in Executive's base compensation (except where there is a reduction applicable to all similarly situated executive officers generally); provided, that a reduction of less than ten percent (10%) will not be considered a material reduction in base compensation;

(iii) A material change in the geographic location of Executive's primary work facility or location; provided, that a relocation of less than thirty-five (35) miles from Executive's then-present work location will not be considered a material change in geographic location; or

(iv) A material breach by the Company of a material provision of this Agreement or a failure of a successor entity in the Change of Control to assume this Agreement;

Executive will not resign for Good Reason without first providing the Company with written notice within sixty (60) days of the event that Executive believes constitutes "Good Reason" specifically identifying the acts or omissions constituting the grounds for Good Reason and a reasonable cure period of not less than thirty (30) days following the date of such notice during which such condition must not have been cured.

(f) Section 409A. "***Section 409A***" means Code Section 409A, and the final regulations and any guidance promulgated thereunder or any state law equivalent.

(g) Section 409A Limit. "***Section 409A Limit***" will mean two (2) times the lesser of: (i) Executive's annualized compensation based upon the annual rate of pay paid to Executive during the Executive's taxable year preceding the Executive's taxable year of his or her separation from service as determined under Treasury Regulation Section 1.409A-1(b)(9)(iii)(A)(1) and any Internal Revenue Service guidance issued with respect thereto; or (ii) the maximum amount that may be taken into account under a qualified plan pursuant to Section 401(a)(17) of the Internal Revenue Code for the year in which Executive's separation from service occurred.

7. Successors.

(a) The Company's Successors. Any successor to the Company (whether direct or indirect and whether by purchase, merger, consolidation, liquidation or otherwise) to all or substantially all of the Company's business and/or assets will assume the obligations under this Agreement and agree expressly to perform the obligations under this Agreement in the same manner and to the same extent as the Company would be required to perform such obligations in the absence of a succession. For all purposes under this Agreement, the term "Company" will include any successor to the Company's business and/or assets which executes and delivers the assumption agreement described in this Section 7(a) or which becomes bound by the terms of this Agreement by operation of law.

(b) Executive's Successors. The terms of this Agreement and all rights of Executive hereunder will inure to the benefit of, and be enforceable by, Executive's personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees.

8. [Arbitration.

(a) Arbitration. In consideration of Executive's employment with the Company, its promise to arbitrate all employment-related disputes, and Executive's receipt of the compensation, pay raises and other benefits paid to Executive by the Company, at present and in the future, Executive agrees that any and all controversies, claims, or disputes with anyone (including the Company and any employee, officer, director, shareholder or benefit plan of the

Company in their capacity as such or otherwise) arising out of, relating to, or resulting from Executive's employment with the Company or termination thereof, including any breach of this Agreement, will be subject to binding arbitration under the Arbitration Rules set forth in California Code of Civil Procedure Section 1280 through 1294.2, including Section 1281.8 (the "***Act***"), and pursuant to California law. The Federal Arbitration Act shall also apply with full force and effect, notwithstanding the application of procedural rules set forth under the Act.

(b) Dispute Resolution. **Disputes that Executive agrees to arbitrate, and thereby agrees to waive any right to a trial by jury, include any statutory claims under local, state, or federal law**, including, but not limited to, claims under Title VII of the Civil Rights Act of 1964, the Americans with Disabilities Act of 1990, the Age Discrimination in Employment Act of 1967, the Older Workers Benefit Protection Act, the Sarbanes Oxley Act, the Worker Adjustment and Retraining Notification Act, the California Fair Employment and Housing Act, the Family and Medical Leave Act, the California Family Rights Act, the California Labor Code, claims of harassment, discrimination, and wrongful termination, and any statutory or common law claims. Executive further understands that this Agreement to arbitrate also applies to any disputes that the Company may have with Executive.

(c) Procedure. Executive agrees that any arbitration will be administered by the Judicial Arbitration & Mediation Services, Inc. ("***JAMS***"), pursuant to its Employment Arbitration Rules & Procedures (the "***JAMS Rules***"). The arbitrator shall have the power to decide any motions brought by any party to the arbitration, including motions for summary judgment and/or adjudication, motions to dismiss and demurrers, and motions for class certification, prior to any arbitration hearing. The arbitrator shall have the power to award any remedies available under applicable law, and the arbitrator shall award attorneys' fees and costs to the prevailing party, except as prohibited by law. The Company will pay for any administrative or hearing fees charged by the administrator or JAMS, and all arbitrator's

fees, except that Executive shall pay any filing fees associated with any arbitration that Executive initiates, but only so much of the filing fee as Executive would have instead paid had Executive filed a complaint in a court of law. Executive agrees that the arbitrator shall administer and conduct any arbitration in accordance with California law, including the California Code of Civil Procedure and the California Evidence Code, and that the arbitrator shall apply substantive and procedural California law to any dispute or claim, without reference to the rules of conflict of law. To the extent that the JAMS Rules conflict with California law, California law shall take precedence. The decision of the arbitrator shall be in writing. Any arbitration under this Agreement shall be conducted in Alameda County, California.

(d) Remedy. Except as provided by the Act, arbitration shall be the sole, exclusive, and final remedy for any dispute between Executive and the Company. **Accordingly, except as provided by the Act and this Agreement, neither Executive nor the Company will be permitted to pursue court action regarding claims that are subject to arbitration**. Notwithstanding, the arbitrator will not have the authority to disregard or refuse to enforce any lawful Company policy, and the arbitrator will not order or require the Company to adopt a policy not otherwise required by law that the Company has not adopted.

(e) Administrative Relief. Executive is not prohibited from pursuing an administrative claim with a local, state, or federal administrative body or government agency that is authorized to enforce or administer laws related to employment, including, but not limited to, the Department of Fair Employment and Housing, the Equal Employment Opportunity

Commission, the National Labor Relations Board, or the Workers' Compensation Board. However, Executive may not pursue court action regarding any such claim, except as permitted by law.

(f) Voluntary Nature of Agreement. Executive acknowledges and agrees that Executive is executing this Agreement voluntarily and without any duress or undue influence by the Company or anyone else. Executive further acknowledges and agrees that Executive has carefully read this Agreement and that Executive has asked any questions needed for Executive to understand the terms, consequences and binding effect of this Agreement and fully understands it, including that ***EXECUTIVE IS WAIVING EXECUTIVE'S RIGHT TO A JURY TRIAL***. Finally, Executive agrees that Executive has been provided an opportunity to seek the advice of an attorney of Executive's choice before signing this Agreement.]

9. Confidential Information. Executive agrees to continue to comply with and be bound by the Confidential Information and Invention Assignment Agreement (the "**Confidential Information Agreement**") entered into by and between Executive and the Company, dated [Enter Date].

10. Notice.

(a) General. Notices and all other communications contemplated by this Agreement will be in writing and will be deemed to have been duly given when personally delivered or when mailed by U.S. registered or certified mail, return receipt requested and postage prepaid. In the case of Executive, mailed notices will be addressed to him or her at the home address which he or she most recently communicated to the Company in writing. In the case of the Company, mailed notices will be addressed to its corporate headquarters, and all notices will be directed to the attention of its General Counsel.

(b) Notice of Termination. Any termination by the Company for Cause or by Executive for Good Reason will be communicated by a notice of termination to the other party hereto given in accordance with Section 10(a) of this Agreement. Such notice will indicate the specific termination provision in this Agreement relied upon, will set forth in reasonable detail the facts and circumstances claimed to provide a basis for termination under the provision so indicated, and will specify the termination date (which will be not more than thirty (30) days after the giving of such notice). The failure by Executive to include in the notice any fact or circumstance which contributes to a showing of Good Reason will not waive any right of Executive hereunder or preclude Executive from asserting such fact or circumstance in enforcing his or her rights hereunder.

11. Miscellaneous Provisions.

(a) No Duty to Mitigate. Executive will not be required to mitigate the amount of any payment contemplated by this Agreement, nor will any such payment be reduced by any earnings that Executive may receive from any other source.

(b) Waiver. No provision of this Agreement will be modified, waived or discharged unless the modification, waiver or discharge is agreed to in writing and signed by Executive and by an authorized officer of the Company (other than Executive). No waiver by either party of any breach of, or of compliance with, any condition or provision of this

Agreement by the other party will be considered a waiver of any other condition or provision or of the same condition or provision at another time.

(c) Headings. All captions and section headings used in this Agreement are for convenient reference only and do not form a part of this Agreement.

(d) Entire Agreement. This Agreement constitutes the entire agreement of the parties hereto and supersedes in their entirety all prior or contemporaneous representations, understandings, undertakings or agreements (whether oral or written and whether expressed or implied) of the parties with respect to the subject matter hereof, including, without limitation, any severance provisions contained in the Employment Agreement. Executive acknowledges and agrees that this Agreement encompasses all the rights of Executive to any severance payments and/or benefits based on the termination of Executive's employment and Executive hereby agrees that he or she has no such rights except as stated herein. No waiver, alteration, or modification of any of the provisions of this Agreement will be binding unless in writing and signed by duly authorized representatives of the parties hereto and which specifically mention this Agreement.

(e) Choice of Law. The validity, interpretation, construction and performance of this Agreement will be governed by the laws of the State of [California] (with the exception of its conflict of laws provisions).

(f) Severability. The invalidity or unenforceability of any provision or provisions of this Agreement will not affect the validity or enforceability of any other provision hereof, which will remain in full force and effect.

(g) Withholding. All payments made pursuant to this Agreement will be subject to withholding of applicable income, employment and other taxes, as determined in the Company's reasonable judgment.

(h) Counterparts. This Agreement may be executed in counterparts, each of which will be deemed an original, but all of which together will constitute one and the same instrument.

[Signature Page to Follow]

IN WITNESS WHEREOF, each of the parties has executed this Agreement, in the case of the Company by its duly authorized officer, as of the day and year set forth below.

COMPANY	ARCADIA BIOSCIENCES, INC.
	By: _____
	Title: _____
	Date: _____
EXECUTIVE	[EXECUTIVE]
	By: _____
	Date: _____

Exhibit 10.19

February 25, 2015

Dear Tom,

On behalf of Arcadia Biosciences, Inc., henceforth the "Company," it is my pleasure to offer you the position of Chief Financial Officer. This letter constitutes the entire agreement relating to the terms of your employment, except for:

- the Severance and Change of Control Agreement between you and the Company, which will be executed concurrently with the Company's initial public offering ("***IPO***") (the "***Severance Agreement***"); and

- the Confidentiality and Invention Assignment Agreement between you and the Company (the "***Confidentiality Agreement***"), which must be executed as a condition of your employment.

Title and Base Salary. Your title will be Chief Financial Officer and you will report to Eric J. Rey, President and CEO. As of the Effective Date of your employment, March 5, 2015, your annual base salary shall be $280,000.

Bonus Compensation. In addition to your base salary, and subject to the completion of an IPO by the Company, you will be eligible for an annual incentive cash award, as determined by the Company. For calendar year 2015, your annual incentive cash bonus shall have a target equal to 35% of your base salary as of the Effective Date. The target bonus and its components, the Company performance objectives, and your individual objectives shall be determined each year by the Compensation Committee of the Board of Directors (the "***Compensation Committee***").

Equity Awards.

Initial Grant

Concurrent with the commencement of your employment with the Company, you will be granted an option to purchase 250,000 shares of common stock of the Company ("***Company Common Stock***") under the terms and conditions of a Non-Qualified Stock Option Agreement. The Option shall vest and become exercisable in accordance with the schedule below:

- 25% of the shares subject to the Option will be fully vested and exercisable effective as of February 11, 2016 (the "***Initial Vesting Date***"), subject to your continued service through the Initial Vesting Date, and;

- 75% of the shares subject to the Option will vest and become exercisable in 36 equal monthly installments following the Initial Vesting Date, with the first such monthly vesting date taking place on February 29, 2016 and subsequent vesting dates on the last day of the next 35 months thereafter (with the last vesting date on January 31, 2019), subject to your continued service through the applicable vesting date.

IPO Grant

In connection with, and subject to the completion of, the Company's IPO, if you remain employed until the completion of the IPO then, subject to the approval of the Compensation Committee, you will be granted an option to purchase Company Common Stock with a target cash value of approximately $808,000 (the "***IPO Option Award***") under the Company's 2015 Omnibus Equity Incentive Plan (the "***Equity Plan***"). The number of shares subject to the IPO Option Award will be determined by dividing the target value allocated to the IPO Option Award by the Black-Scholes value of a share of Company Common Stock on the date of grant. The exercise price for the IPO Option will be the initial public offering price per share of Company Common Stock. The IPO Option Award will be evidenced by, and subject to the provisions of, a stock option agreement in a form approved by the Compensation Committee for use with the Equity Plan.

The IPO Option Award will vest as to 1/3 of the shares subject to the option on the one- year anniversary of the date of grant and as to 1/12 of the shares subject to the option quarterly thereafter, in each case subject to your continued employment through each vesting date.

The Company may grant additional equity awards to you from time to time, which will be subject to the terms of the applicable equity compensation plan or arrangement in effect at the time of grant. The Compensation Committee will determine in its discretion whether you will be granted any such equity awards and the terms and conditions of any such awards in accordance with the terms of any applicable equity plan. You should be aware that you may incur federal and state income taxes as a result of your receipt or the

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vesting of any equity compensation awards and it shall be your responsibility to pay any such applicable taxes.

Other Benefits. You will be eligible for all Company adopted benefits, under the terms and conditions of such benefit plans. Your coverage for medical, dental, and vision benefits will become effective on the first of the month following your first thirty (30) days of employment.

Your employment is “at-will,” which means that either you or the Company may terminate the employment relationship at any time for any reason or for no reason (subject to the terms of the Severance Agreement). This at-will relationship may not be modified by any oral or implied agreement.

In accordance with the Federal Immigration Reform and Control Act of 1986, we are required to have Employment Eligibility Verification form I-9 on file. On your first day of employment, you will be asked to provide identification needed to complete the Form I-9 requirements.

The above information represents the entire substance of Arcadia’s offer of employment to you and is contingent upon successful completion of all pre-employment checks. If all the above terms and conditions meet with your approval, please sign this letter and return it by March 2, 2015. If this document is not returned by this date, this offer of employment shall be withdrawn.

I very much look forward to you joining the Arcadia team. If you should have any questions, please feel free to call me.

Sincerely,

/s/ Eric J. Rey
Eric J. Rey
President & CEO

ACCEPTED BY:

/s/ Thomas P. O’Neil
Thomas P. O’Neil

February 25, 2015
Date

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the use in this Amendment No. 1 to Registration Statement No. 333-202124 on Form S-1 of our report dated April 3, 2015 relating to the consolidated financial statements of Arcadia Biosciences, Inc. and subsidiary, appearing in the Prospectus, which is part of this Registration Statement. We also consent to the reference to us under the heading "Experts" in such prospectus.

/s/ Deloitte & Touche LLP

Phoenix, Arizona
April 3, 2015

Exhibit 99.2

CONSENT OF DIRECTOR NOMINEE

Pursuant to Rule 438 of Regulation C promulgated under the Securities Act of 1933, as amended, I, Matthew A. Ankrum, hereby consent to be named in the Registration Statement on Form S-1, and in all subsequent amendments and post-effective amendments or supplements thereto, including the prospectus contained therein, as a nominee for director of Arcadia Biosciences, Inc., a Delaware corporation, and to all references to me in connection therewith. I also consent to the filing of this consent as an exhibit to such Registration Statement.

/s/ Matthew A. Ankrum
Matthew A. Ankrum

April 3, 2015

Exhibit 99.3

CONSENT OF DIRECTOR NOMINEE

Pursuant to Rule 438 of Regulation C promulgated under the Securities Act of 1933, as amended, I, George F.J. Gosbee, hereby consent to be named in the Registration Statement on Form S-1, and in all subsequent amendments and post-effective amendments or supplements thereto, including the prospectus contained therein, as a nominee for director of Arcadia Biosciences, Inc., a Delaware corporation, and to all references to me in connection therewith. I also consent to the filing of this consent as an exhibit to such Registration Statement.

/s/ George F.J. Gosbee
George F.J. Gosbee

April 3, 2015

Exhibit 99.4

CONSENT OF DIRECTOR NOMINEE

Pursuant to Rule 438 of Regulation C promulgated under the Securities Act of 1933, as amended, I, Rajiv Shah, hereby consent to be named in the Registration Statement on Form S-1, and in all subsequent amendments and post-effective amendments or supplements thereto, including the prospectus contained therein, as a nominee for director of Arcadia Biosciences, Inc., a Delaware corporation, and to all references to me in connection therewith. I also consent to the filing of this consent as an exhibit to such Registration Statement.

/s/ Rajiv Shah
Rajiv Shah

April 3, 2015