UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended September 30, 2017

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission File Number: 001-37383

Arcadia Biosciences, Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**81-0571538**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
202 Cousteau Place, Suite 105 Davis, CA	**95618**
(Address of Principal Executive Offices)	**(Zip Code)**

Registrant's telephone number, including area code: (530) 756-7077

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

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

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☐ (Do not check if a small reporting company)	Smaller reporting company	☒
Emerging growth company	☒		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of October 31, 2017, the registrant had 42,683,063 shares of common stock, $0.001 par value per share, outstanding.

Arcadia Biosciences, Inc.

FORM 10-Q FOR THE QUARTER ENDED September 30, 2017

INDEX

			Page
Part I —	**Financial Information**		1
	Item 1.	Condensed Consolidated Financial Statements:	1
		Condensed Consolidated Balance Sheets	1
		Condensed Consolidated Statements of Operations and Comprehensive Loss	2
		Condensed Consolidated Statements of Cash Flows	3
		Notes to Condensed Consolidated Financial Statements	4
	Item 2.	Management's Discussion and Analysis of Financial Condition and Results of Operations	14
	Item 3.	Quantitative and Qualitative Disclosures About Market Risk	23
	Item 4.	Controls and Procedures	23
Part II —	**Other Information**		23
	Item 1.	Legal Proceedings	23
	Item 1A.	Risk Factors	23
	Item 2.	Unregistered Sales of Equity Securities and Use of Proceeds	24
	Item 3.	Defaults Upon Senior Securities	24
	Item 4.	Mine Safety Disclosures	24
	Item 5.	Other Information	24
	Item 6.	Exhibits	25

ITEM 1. CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

Arcadia Biosciences, Inc.

Condensed Consolidated Balance Sheets

(Unaudited)

(In thousands, except share data)

	September 30, 2017	December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	$ 2,930	$ 2,013
Short-term investments	12,767	48,547
Accounts receivable	73	349
Unbilled revenue	61	184
Inventories — current	236	252
Prepaid expenses and other current assets	1,099	877
Total current assets	17,166	52,222
Property and equipment, net	369	508
Inventories — noncurrent	1,179	1,327
Long-term investments	—	2,498
Other noncurrent assets	264	19
Total assets	$ 18,978	$ 56,574
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable and accrued expenses	$ 1,863	$ 2,359
Amounts due to related parties	31	30
Unearned revenue — current	626	740
Total current liabilities	2,520	3,129
Notes payable — noncurrent	—	25,127
Unearned revenue — noncurrent	2,791	3,120
Other noncurrent liabilities	3,000	3,000
Total liabilities	8,311	34,376
Stockholders' equity:		
Common stock, $0.001 par value—150,000,000 and 400,000,000 shares authorized as of September 30, 2017 and December 31, 2016; 42,683,063 and 44,487,678 shares issued and outstanding as of September 30, 2017 and December 31, 2016	43	44
Additional paid-in capital	174,925	173,723
Accumulated deficit	(164,297)	(151,550)
Accumulated other comprehensive loss	(4)	(19)
Total stockholders' equity	10,667	22,198
Total liabilities and stockholders' equity	$ 18,978	$ 56,574

See accompanying notes to the unaudited condensed consolidated financial statements.

Arcadia Biosciences, Inc.

Condensed Consolidated Statements of Operations and Comprehensive Loss

(Unaudited)

(In thousands, except share and per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Revenues:				
Product	$ 82	$ 102	$ 482	$ 422
License	144	218	353	510
Contract research and government grants	363	755	1,763	1,716
Total revenues	589	1,075	2,598	2,648
Operating expenses:				
Cost of product revenues	40	60	262	242
Research and development	1,749	2,255	5,241	6,673
Selling, general and administrative	2,415	2,687	8,410	8,882
Total operating expenses	4,204	5,002	13,913	15,797
Loss from operations	(3,615)	(3,927)	(11,315)	(13,149)
Interest expense	(43)	(331)	(747)	(985)
Other income, net	46	90	246	242
Loss on extinguishment of debt	(900)	—	(900)	—
Net loss before income taxes	(4,512)	(4,168)	(12,716)	(13,892)
Income tax provision	(13)	(7)	(31)	(24)
Net loss and net loss attributable to common stockholders	$ (4,525)	$ (4,175)	$ (12,747)	$ (13,916)
Net loss per share attributable to common stockholders:				
Basic and diluted	$ (0.11)	$ (0.09)	$ (0.29)	$ (0.31)
Weighted-average number of shares used in per share calculations:				
Basic and diluted	42,676,916	44,370,061	43,272,083	44,336,324
Other comprehensive income (loss), net of tax				
Unrealized gains (loss) on available-for-sale securities	8	(1)	14	108
Other comprehensive income (loss)	8	(1)	14	108
Comprehensive loss attributable to common stockholders	$ (4,517)	$ (4,176)	$ (12,733)	$ (13,808)

See accompanying notes to the unaudited condensed consolidated financial statements.

Arcadia Biosciences, Inc.

Condensed Consolidated Statements of Cash Flows

(Unaudited)

(In thousands)

	Nine Months Ended September 30,	
	2017	**2016**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (12,747)	$ (13,916)
Adjustments to reconcile net loss to cash used in operating activities:		
Depreciation and amortization	215	227
Gain on disposal of equipment	(3)	—
Net amortization of investment premium and discount	(82)	115
Loss on sale of investments	2	—
Stock-based compensation	1,177	661
Accretion of debt discount	98	148
Loss on extinguishment of debt	900	—
Changes in operating assets and liabilities:		
Accounts receivable	276	609
Unbilled revenue	123	(62)
Inventories	164	(32)
Prepaid expenses and other current assets	(222)	(492)
Other noncurrent assets	(245)	4
Accounts payable and accrued expenses	(496)	237
Amounts due to related parties	1	—
Unearned revenue	(443)	(277)
Net cash used in operating activities	(11,282)	(12,778)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Proceeds from sale of property and equipment	4	—
Purchases of property and equipment	(77)	(222)
Purchases of investments	(19,405)	(21,129)
Proceeds from sales and maturities of investments	57,778	20,247
Net cash provided by (used in) investing activities	38,300	(1,104)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Payments of debt issuance costs	—	(46)
Payments of debt extinguishment costs	(1,125)	—
Payments on notes payable	(25,000)	—
Proceeds from exercise of stock options and ESPP purchases	24	428
Net cash (used in) provided by financing activities	(26,101)	382
Net increase (decrease) in cash and cash equivalents	917	(13,500)
Cash and cash equivalents — beginning of period	2,013	23,973
Cash and cash equivalents — end of period	$ 2,930	$ 10,473
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:		
Cash paid for interest	$ 746	$ 755
Cash paid for income taxes	$ 2	$ 2
NONCASH INVESTING AND FINANCING ACTIVITIES:		
Purchases of property and equipment included in accounts payable and accrued expenses	$ 2	$ —
Exchange of membership interest in unconsolidated entity for common stock	$ 2	$ —
Stock option exercise cost included in accounts receivable	$ —	$ 6

See accompanying notes to the unaudited condensed consolidated financial statements.

1. Description of Business and Basis of Presentation

Organization

Arcadia Biosciences, Inc. (the "Company") was incorporated in Arizona in 2002 and maintains its headquarters in Davis, California, with additional facilities in Phoenix, Arizona, and American Falls, Idaho. The Company was reincorporated in Delaware in March 2015.

The Company is an agricultural biotechnology trait company engaged in the development of traits that improve food, feed and fiber crops and enhance the value of the resulting agricultural products. The Company has an extensive and diversified portfolio of mid to late-stage crop productivity and product quality traits addressing multiple crops that supply the global food and feed markets. The Company's 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 6), 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 cooperative. Verdeca**,** which is consolidated by the Company, was formed to develop and deregulate soybean varieties using both partners' agricultural technologies.

Basis of Presentation and Principles of Consolidation

The accompanying unaudited condensed consolidated financial statements include the accounts of the Company and Verdeca in accordance with accounting principles generally accepted in the United States ("GAAP") for interim financial statements and are in the form prescribed by the Securities and Exchange Commission (the "SEC") in instructions to Form 10-Q and Rule 10-01 of Regulation S-X. In the opinion of management, the accompanying condensed consolidated financial statements reflect all adjustments, consisting of normal recurring adjustments, considered necessary for a fair statement of the Company's financial position, results of operations and cash flows for the periods indicated. All material intercompany accounts and transactions have been eliminated in consolidation. 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 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. Interim results are not necessarily indicative of results for any other interim period or for the full fiscal year. The information included in these condensed consolidated financial statements and notes thereto should be read in conjunction with Management's Discussion and Analysis of Financial Condition and Results of Operations included herein and Management's Discussion and Analysis of Financial Condition and Results of Operations and the consolidated financial statements and notes thereto for the fiscal year ended December 31, 2016 included in the Company's Annual Report on Form 10-K, filed with the SEC on March 8, 2017.

Liquidity, Capital Resources, and Going Concern

The accompanying unaudited condensed consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities during the normal course of business. Since inception, the Company has financed its operations primarily through equity and debt financings. As of September 30, 2017, the Company had an accumulated deficit of $164.3 million, cash and cash equivalents of $2.9 million, and short-term investments of $12.8 million. As is disclosed in Note 8, the Company repaid its $25.0 million term loan and related interest, prepayment and end-of-term payments totaling $1.3 million with Silicon Valley Bank in July 2017. The Company's cash and investments balance as compared to its anticipated cash to be used in operations through November 2018 raises substantial doubt about the Company's ability to continue as a going concern. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Management's plans include attempting to secure additional funding through equity or debt financings, sales or out-licensing of intellectual property assets, seeking partnerships with other agriculture biotechnology companies or third parties to co-develop and fund research, development or commercialization efforts, or similar transactions. There is no assurance that the Company will be successful in obtaining the necessary funding to meet its business objectives.

2. Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("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. In August 2015, the FASB issued ASU No. 2015-14, *Revenue from Contracts with Customers (Topic 606)*: Deferral of Effective Date, which defers the effective date of ASU No. 2014-09 by one year allowing early adoption as of the original effective date January 1, 2017. The deferral results in the new revenue standard being effective for the Company as of January 1, 2018. Additional ASUs have been issued to amend or clarify the new guidance in ASC Topic 606 as follows:

- ASU No. 2016-08 *Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net)* was issued in March 2016. ASU No. 2016-08 requires an entity to determine whether the nature of its promise to provide goods or services to a customer is performed in a principal or agent capacity and to recognize revenue in a gross or net manner based on its principal or agent designation.
- ASU No. 2016-10 *Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing* was issued in April 2016. ASU No. 2016-10 addresses implementation issues identified by the FASB-International Accounting Standards Board Joint Transition Resource Group for Revenue Recognition concerning identifying performance obligations and accounting for licenses of intellectual property.
- ASU No. 2016-12 *Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients* was issued in May 2016. ASU No. 2016-12 amends the new revenue recognition standard to clarify the guidance on assessing collectability, measuring noncash consideration, presenting sales taxes and certain transition matters.
- ASU No. 2016-20 *Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers* was issued in December 2016. ASU No. 2016-20 provides additional clarification on 13 issues or corrects unintended application of FASB Accounting Standards Codification (Topic 606).

The standard permits the use of either the retrospective or cumulative effect transition method. The Company is analyzing the impacts of the new revenue standards with the assistance of a third-party professional services firm. The Company expects to adopt the requirements of the new standard in the first quarter of 2018 using the modified retrospective method with the likely impact per revenue stream as follows:

- Product Revenue – the Company believes there will not be an impact. Product revenues comprise of a single performance obligation for the delivery of goods for which transfer of control occurs at the shipping point.
- Grant and Contract Research Revenue – the Company believes there will not be an impact. Grant and contract research revenue will continue to be accounted for as a single performance obligation for which revenues are recognized over time using the input method (e.g. costs incurred to date relative to the total estimated costs at completion).
- License Agreement Revenue – the Company believes there will be an impact. The Company believes its license agreements are licenses of functional intellectual property consisting of a single performance obligation. A functional license requires point in time revenue recognition, which may impact this revenue stream. This is primarily due to the various payment terms of the license agreements:
    - *Up-front license fees* – the Company believes there will be a significant impact. The up-front fees will be recognized at a point in time rather than over the estimated commercialization period. The balances of unearned revenues on the balance sheet related to up-front license fees and any associated deferred tax assets are expected to be derecognized through an opening adjustment to retained earnings on January 1, 2018. The Company believes new license agreements executed in 2018 will have up-front license fees recognized as revenue upon execution of the agreement.
    - *Annual license fees* – the Company believes there will be an impact. Annual license fees will be variable consideration that is initially constrained and recognized only when it is probable that such amounts would not be reversed. The Company will need to design and implement a process to assess when renewal of annual license fees are probable in order to determine the timing of revenue recognition for annual license fees.
    - *Milestone fees* – the Company believes there will be an impact. Milestone fees will be variable consideration that is initially constrained and recognized only when it is probable that such amounts would not be reversed. The Company will need to design and implement a process to assess when achievement of milestones are probable in order to determine the timing of revenue recognition for milestone fees.
    - *Commercial Value Sharing Fees* – the Company believes there will not be an impact to revenue recognition as no license agreements within our portfolio have commercialized. Commercial value share fees will be recognized based on subsequent sales by the licensee.

Internal Revenue Service rules currently allow for a one-year deferral of revenue on cash receipts, which the Company has taken. Upon adoption of Topic 606, tax recognition will follow book recognition for up-front and commercial value sharing fees. Annual license fees and milestone fees may continue to be recognized differently for book and tax to the extent that revenue recognized for book is prior to cash receipts.

In August 2014, The FASB issued ASU No. 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 condensed 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 condensed consolidated financial statements are issued. An entity must provide certain disclosure if "conditions or events raise substantial doubt about the entity's ability to continue as a going concern." The update applies to all entities and is effective for annual periods ending after December 15, 2016, and interim periods thereafter. Refer to Note 1.

In January 2016, the FASB issued ASU No. 2016-01, *Financial Instruments – Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*. The amendments in this update impacts classification, additional fair value measurement, impairment assessment of equity investments and current required disclosures. This standard is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years, with early adoption permitted if the entity meets certain early application guidance. The Company is evaluating the impact of the adoption of ASU No. 2016-01 on its condensed consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)*. Based on the new standard, lessees would recognize lease assets and lease liabilities for those leases classified as operating leases under previous GAAP. The standard is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted. The Company is currently evaluating the impact of the adoption of ASU No. 2016-02 on its condensed consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The amendments affect loans, debt securities, trade receivables, net investments in leases, off-balance-sheet credit exposures, reinsurance receivables, and any other financial assets not excluded from the scope that have the contractual right to receive cash. The amendments in this update are effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. The Company is evaluating the impact of the adoption of ASU No. 2016-13 on its condensed consolidated financial statements.

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*. The amendments address cash flow issues such as debt prepayment or debt extinguishment costs and zero-coupon debt instruments. The amendments in this update are effective for fiscal years beginning after December 15, 2018, and interim periods within fiscal years beginning after December 15, 2019. Early adoption is permitted, including adoption in an interim period. The amendments are to be applied using a retrospective transition method to each period presented. If it is impractical to retrospectively apply, it can be applied prospectively as of the earliest date practicable. The Company is evaluating the impact of the adoption of ASU No. 2016-15 on its condensed consolidated financial statements.

In May 2017, the FASB issued ASU No. 2017-09, *Compensation – Stock Compensation (Topic 718): Scope of Modification Accounting.* The amendments affect any entity that changes the terms or conditions of a share-based payment award. The amendments in this update are effective for all entities for annual periods, and interim periods within those annual periods, beginning after December 15, 2017. Early adoption is permitted, including adoption in any interim period for public business entities for reporting periods for which financial statements have not yet been issued and be applied prospectively to an award modified on or after the adoption date. The Company is currently evaluating the impact of the adoption of ASU No. 2017-09 on its condensed consolidated financial statements.

3. SONOVA® Gamma Linolenic Acid ("GLA") Safflower Oil Inventory

Raw materials inventories consist primarily of seed production costs incurred by the Company's contracted cooperators. Finished goods inventories consist of GLA oil that is available for sale. Inventories consist of the following (in thousands):

	September 30, 2017	December 31, 2016
Raw materials	$ 45	$ 44
Finished goods	1,370	1,535
Inventories	$ 1,415	$ 1,579

4. Investments and Fair Value of Financial Instruments

Available-for-Sale Investments

The Company classified short-term and long-term investments as "available-for-sale." Investments are free of trading restrictions. The investments are carried at fair value, based on quoted market prices or other readily available market information. Unrealized gains and losses, net of taxes, are included in accumulated other comprehensive loss, which is reflected as a separate component of stockholder's equity (deficit) in the Consolidated Balance Sheets. Gains and losses are recognized when realized in the Consolidated Statements of Operations and Comprehensive Loss.

The following tables summarize the amortized cost and fair value of the available-for-sale investment securities portfolio at September 30, 2017 and December 31, 2016, and the corresponding amounts of unrealized gains and losses recognized in accumulated other comprehensive income ("AOCI"):

(Dollars in thousands)	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
September 30, 2017				
Cash equivalents:				
Money market funds	2,631	—	—	2,631
Short-term investments:				
Certificates of Deposit	980	—	—	980
Commercial paper	4,290	—	—	4,290
U.S. government securities	5,001	—	(4)	4,997
U.S. government agency securities	2,500	—	—	2,500
Total Assets at Fair Value	$ 15,402	$ —	$ (4)	$ 15,398

(Dollars in thousands)	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
December 31, 2016				
Cash equivalents:				
Money market funds	$ 1,549	$ —	$ —	$ 1,549
Short-term investments:				
Certificates of Deposit	3,049	—	(2)	3,047
Commercial paper	21,248	—	—	21,248
U.S. government securities	19,267	—	(9)	19,258
U.S. government agency securities	5,000	—	(6)	4,994
Long-term investments:				
U.S. government securities	2,500	—	(2)	2,498
Total Assets at Fair Value	$ 52,613	$ —	$ (19)	$ 52,594

The Company did not have any investment categories that were in a continuous unrealized loss position for more than twelve months as of September 30, 2017. The unrealized gains and losses amounts above are included in AOCI. All short-term investments will mature in 2017 except for two totaling $3.9 million, which will mature in 2018.

As of September 30, 2017, for fixed income securities that were in unrealized loss positions, the Company has determined that (i) it does not have the intent to sell any of these investments, and (ii) it is not more likely than not that it will be required to sell any of these investments before recovery of the entire amortized cost basis. The Company anticipates that it will recover the entire amortized cost basis of such fixed income securities and has determined that no other-than-temporary impairments associated with credit losses were required to be recognized during the three and nine months ended September 30, 2017.

Fair Value Measurement

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 condensed consolidated financial statements on a recurring basis. Assets and liabilities recorded at fair value in the condensed 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 fair value of the available-for-sale investments at September 30, 2017 and December 31, 2016 were as follows:

	Fair Value Measurements at September 30, 2017			
(Dollars in thousands)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets at Fair Value				
Cash equivalents:				
Money market funds	2,631	—	—	2,631
Short-term investments:				
Certificates of Deposit	—	980	—	980
Commercial paper	—	4,290	—	4,290
U.S. government securities	4,997	—	—	4,997
U.S. government agency securities	—	2,500	—	2,500
Total Assets at Fair Value	$ 7,628	$ 7,770	$ —	$ 15,398

	Fair Value Measurements at December 31, 2016			
(Dollars in thousands)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets at Fair Value				
Cash equivalents:				
Money market funds	$ 1,549	$ —	$ —	$ 1,549
Short-term investments:				
Certificates of Deposit	—	3,047	—	3,047
Commercial paper	—	21,248	—	21,248
U.S. government securities	19,258	—	—	19,258
U.S. government agency securities	—	4,994	—	4,994
Long-term investments:				
U.S. government securities	2,498	—	—	2,498
Total Assets at Fair Value	$ 23,305	$ 29,289	$ —	$ 52,594

The Company uses the market approach technique to value its financial instruments and there were no changes in valuation techniques during 2017 or 2016. The Company's financial instruments consist primarily of cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities, and debt instruments. For accounts receivable, accounts payable and accrued liabilities, the carrying amounts of these financial instruments as of September 30, 2017 and December 31, 2016 were considered representative of their fair values due to their short term to maturity or repayment. Cash equivalents are carried at cost, which approximates their fair value.

5. Investment in Unconsolidated Entity

At December 31, 2016, the Company owned a 35% ownership position in Limagrain Cereal Seeds LLC ("LCS"). The remaining 65% of LCS is owned by Vilmorin & Cie ("Limagrain"), a major global producer and marketer of field crop and vegetable seeds and affiliate of Groupe Limagrain, 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 Groupe Limagrain and the Company. Historically, funding for LCS has come from an initial pro rata equity investment from each partner and with subsequent financing in the form of debt from VUSA. The Company's investment in LCS has been reduced to $0 as a result of its equity method loss recognition since 2014.

On March 31, 2017, the Company and VUSA entered into a non-cash exchange agreement, which the Company transferred to VUSA the Company's entire membership interest in LCS and VUSA transferred to the Company 1,843,888 shares of the Company's common stock held by Limagrain. The Company recorded the retirement of the shares using the cost method, resulting in an equity reclassification between common stock par value and additional paid-in capital.

As of September 30, 2017, the Company does not have an investment in an unconsolidated entity.

6. Variable Interest Entity

In February 2012, the Company formed Verdeca LLC ("Verdeca"), which is equally 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 cooperative owned by approximately 250 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 agreed activities, 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 specified 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 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 aggregate amount of $2.0 million between January 2013 and August 2014. The Company's 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 and to eliminate the 2015 commitment. In consideration for these amendments, the Company surrendered 1,832 shares of Bioceres, S.A. held by the Company. The Company recorded a research and development expense of $1.5 million related to this agreement during the year ended December 31, 2014.

In addition, the Company had 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. had the right to require the Company to sell back any shares of common stock owned by the Company under certain circumstances. The Company entered into a subcontracted research agreement in 2015 with Bioceres S.A. and Bioceres Semillas, S.A., a subsidiary of Bioceres S.A. Per the agreement, the Company could pay for these services with a combination of cash and Bioceres S.A. shares. As of December 31, 2015, the liability for the aforementioned agreement was settled with $205,000 of cash and the remaining 632 Bioceres S.A. shares, with a fair value of $500,000, held by the Company, thus reducing the cost investment on the Company's Condensed Consolidated Balance Sheet to $0.

Under the terms of the joint development agreement, the Company has incurred direct expenses and allocated overhead in the amounts of $261,000, $487,000, $98,000, and $221,000 for the three and nine months ended September 30, 2017 and 2016, respectively.

7. Collaborative Arrangements

In August 2017, the Company entered into a collaborative arrangement for the research, development and commercialization of an improved wheat quality trait in North America. This collaborative arrangement is a contractual agreement with a third party and involves a joint operating activity where both Arcadia and the third party are active participants in the activities of the collaboration. Arcadia and the third party participate in the research and development, and Arcadia has the primary responsibility for the intellectual property strategy while the third party will generally lead the marketing and commercialization efforts. Both parties are exposed to significant risks and rewards of the collaboration and the agreement includes both cost sharing and profit sharing. The activities are performed with no guarantee of either technological or commercial success.

The Company accounts for research and development ("R&D") costs in accordance ASC 730, *Research and Development*, which states R&D costs must be charged to expense as incurred. Accordingly, internal R&D costs are expensed as incurred. Third-party R&D costs are expensed when the contracted work has been performed or as milestone results are achieved.

8. Debt

Long-term Debt

Long-term debt consisted of the following (in thousands):

	September 30, 2017	December 31, 2016
Notes payable	$ —	$ 25,127
Total	—	25,127
Less current portion	—	—
Long-term portion	$ —	$ 25,127

Term Loan

In December 2015, the Company entered into a loan and security agreement ("Term Loan") with Silicon Valley Bank (the "Bank") providing for a senior secured term loan facility in the amount of $25.0 million, which proceeds were used to repay all existing debt. In July 2017, the Company repaid the $25.0 million term loan with Silicon Valley Bank, along with the $625,000 end-of-term fee and $500,000 prepayment fee.

The Term Loan accrued interest at a floating annual rate equal to nine tenths of one percentage point (0.90%) above the prime rate published from time to time in The Wall Street Journal. The agreement required the Company to make monthly interest-only payments through December 2017. After this date, the Company was required to make thirty-six (36) equal monthly installments of principal, plus accrued interest. The Company's final payment, due on the maturity date of December 1, 2020, was to include all outstanding principal and accrued and unpaid interest plus a final payment equal to $625,000. In the event the loan was repaid prior to its maturity, the Company was responsible for (i) all outstanding principal plus accrued and unpaid interest, (ii) a prepayment fee equal to 2% of the outstanding principal balance if prepayment occurs after December 29, 2016, but on or prior to December 29, 2017, and 1% of the outstanding principal amount if the prepayment occurs after December 29, 2017, (iii) the final payment of $625,000, and (iv) other bank expenses. The loan was recorded on the Consolidated Balance Sheet, net of issuance fees.

The loan and security agreement contained customary events of default and covenants, including a financial covenant that required the Company to maintain either a liquidity ratio (defined as the ratio of the Company's cash, cash equivalents and net accounts receivable to the Company's obligation owed to the Bank) of at least 1.4:1.0, or to cash collateralize 100% of the Company's obligations to the Bank. The Company's obligations to the Bank were secured by substantially all of the Company's assets, excluding intellectual property. The Term Loans' prepayment and end of term fees of $1.1 million were recorded as a loss on extinguishment of debt, along with $41,000 of deferred loan issuance fees, partially offset by $267,000 of end of term fees previously amortized, netting to a loss of $900,000. As of the payoff date, the Company was in compliance with all covenants.

The Company recognized interest expense of $43,000, $747,000, $331,000 and $985,000 for the three and nine months ended September 30, 2017 and 2016, respectively. Of the total interest expense recognized, $0, $98,000, $50,000 and $148,000 were related to the amortization of the debt discount and end of term payment for both the three and nine months ended September 30, 2017 and 2016, respectively.

9. Stock-Based Compensation

Stock Incentive Plans

The Company has two equity incentive plans: the 2006 Stock Plan ("2006 Plan") and the 2015 Omnibus Equity Incentive Plan ("2015 Plan").

In 2006, the Company adopted the 2006 Plan, which provided for the granting of stock options to executives, employees, and other service providers under terms and provisions established by the Board of Directors. The Company granted non-statutory stock options ("NSOs") under the 2006 Plan until May 2015, when it was terminated as to future awards, although it continues to govern the terms of options that remain outstanding and were issued under the 2006 Plan. The 2015 Plan became effective upon the Company's IPO in May 2015 and all shares that were reserved, but not issued, under the 2006 Plan were assumed by the 2015 Plan. Upon effectiveness, the 2015 Plan had 3,087,729 shares of common stock reserved for future issuance, which included 212,729 shares under the 2006 Plan that were transferred to and assumed by the 2015 Plan. The 2015 Plan provides for automatic annual increases in shares available for grant. In addition, shares subject to awards under the 2006 Plan that are forfeited or canceled will be added to the 2015 Plan. The 2015 Plan provides for the grant of incentive stock options ("ISOs"), NSOs, restricted stock awards, stock units, stock appreciation rights, and other forms of equity compensation, all of which may be granted to employees, officers, non-employee directors, and consultants. The ISOs and NSOs will be granted at a price per share not less than the fair value at the date of grant. Options granted generally vest over a four-year period, with 25% vesting at the end of one year and the remaining vesting monthly thereafter. Options granted, once vested, are generally exercisable for up to 10 years after grant.

As of September 30, 2017, a total of 7,230,086 shares of common stock were reserved for issuance under the 2015 Plan, of which 3,704,569 shares of common stock are available for future grant. As of September 30, 2017, a total of 2,340,249 and 3,525,517 options are outstanding under the 2006 and 2015 Plans, respectively.

A summary of activity under the stock incentive plans is as follows (in thousands, except share data and price per share):

	Shares Subject to Outstanding Options	Weighted-Average Exercise Price Per Share	Aggregate Intrinsic Value
Outstanding — Balance at December 31, 2016	4,578,782	$ 4.38	$ —
Options granted	2,180,217	0.68	
Options exercised	—	N/A	
Options cancelled and forfeited	(893,233)	3.42	
Outstanding — Balance at September 30, 2017	5,865,766	$ 3.15	$ —
Vested and expected to vest — September 30, 2017	5,804,209	$ 3.16	$ —
Exercisable —September 30, 2017	2,787,853	$ 3.91	$ —

As of September 30, 2017, there was $1.6 million of unrecognized compensation cost related to unvested stock-based compensation grants that will be recognized over the weighted-average remaining recognition period of 2.75 years.

The fair value of stock option awards to executives, employees, and other service providers was estimated at the date of grant using a Black-Scholes option-pricing model with the following weighted-average assumption:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Expected term (years)	6.00	6.11	6.12	6.06
Expected volatility	80%	88%	79%	90%
Risk-free interest rate	1.94%	1.32%	1.89%	1.73%
Dividend yield	—	—	—	—

Employee Stock Purchase Plan

The Company's 2015 Employee Stock Purchase Plan ("ESPP") became effective on May 14, 2015. The ESPP allows eligible employees to purchase shares of the Company's common stock at a discount of up to 15% of their eligible compensation through payroll deductions, subject to any plan limitations. After the first offering period, which began on May 14, 2015 and ended on February 1, 2016, the ESPP provides for six-month offering periods, and at the end of each offering period, employees are able to purchase shares at 85% of the lower of the fair market value of the Company's common stock on the first trading day of the offering period or on the last trading day of the offering period. As of September 30, 2017, the number of shares of common stock reserved for future issuance under the ESPP is 1,385,385. The ESPP provides for automatic annual increases in the shares available for purchase beginning on January 1, 2016. As of September 30, 2017, 114,615 shares had been issued under the ESPP. The Company recorded $6,000, $11,000, $16,000 and $72,000 of compensation expense for the three months and nine ended September 30, 2017 and 2016, respectively.

Warrants

On December 2013, the Company issued warrants to Mahyco International to purchase 75,666 shares of common stock, exercisable as of the issuance date, at an exercise price of $16.52 per share.

In connection with the Series D preferred stock financing in the first half of 2014, the Company issued warrants, exercisable as of the issuance date, to the Series D preferred stock investors to purchase an aggregate of 1,227,783 shares of common stock at an exercise price of $18.16 per share and to the placement agent to purchase 33,445 shares of common stock at $13.45.

All warrants expire five years from the warrants' issuance date.

Common Stock

In June 2017, the shareholders approved an Amendment to our Amended and Restated Certificate of Incorporation to reduce the authorized common stock from four hundred million to one hundred and fifty million shares.

10. Income Taxes

Income tax expense during interim periods is based on applying an estimated annual effective income tax rate to year-to-date income, plus any significant unusual or infrequently occurring items that are recorded in the interim period. The computation of the annual estimated effective tax rate at each interim period requires certain estimates and significant judgment including, but not limited to, the expected operating income for the year, projections of the proportion of income earned and taxed in various jurisdictions, permanent and temporary differences, and the likelihood of recovering deferred tax assets generated in the current year. The accounting estimates used to compute the provision for income taxes may change as new events occur, more experience is obtained, additional information becomes known, or as the tax environment changes.

The interim financial statement provision for income taxes expense is different from the amounts computed by applying the United States federal statutory income tax rate of 34%. The Company's effective tax rate (ETR) was -0.2%, -0.2%, -0.2%, and -0.2% for the three and nine months ended September 30, 2017 and 2016, respectively. The difference between the effective tax rate and the federal statutory rate of 34% was primarily due to the full valuation allowance recorded on the Company's net deferred tax assets and foreign withholding taxes.

As of September 30, 2017, there have been no material changes to the Company's uncertain tax positions.

11. 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"), to purchase the Anawah's food and agricultural research company through a non-cash stock purchase. Pursuant to the merger with Anawah, 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 product programs, thus, the contingent liability was reduced to $3.0 million. During the third quarter of 2016, one of the programs previously accrued for was abandoned and another program previously abandoned was reactivated. As of September 30, 2017, the Company continues to pursue a total of three development programs using this technology and believes that the contingent liability is probable. As a result, $3.0 million remains on the Consolidated Balance Sheet as an other noncurrent liability.

12. 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. As the Company had net losses for the three and nine months ended September 30, 2017 and 2016, all potentially dilutive common shares were determined to be anti-dilutive.

Securities that were not included in the diluted per share calculations because they would be anti-dilutive were as follows *(in shares):*

	Nine Months Ended September 30,	
	2017	2016
Options to purchase common stock	5,865,766	4,692,623
Warrants to purchase common stock	1,336,894	1,336,894
Total	7,202,660	6,029,517

13. Related-Party Transactions

The Company's related parties include MCC and Blue Horse Labs, Inc. ("BHL"). BHL is deemed a related party of the Company because MCC, the Company's controlling stockholder, and BHL have some common officers and directors.

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 on product sales or for license payments from third parties that involve certain intellectual property developed under research funding from BHL. Royalty fees due to BHL were $31,000 and $30,000 as of September 30, 2017 and December 31, 2016, respectively, and are included in the Condensed Consolidated Balance Sheets as amounts due to related parties.

14. Subsequent Events

The Company has reviewed and evaluated subsequent events through November 9, 2017, the date the condensed consolidated financial statements were available to be issued.

ITEM 2. 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 unaudited condensed consolidated financial statements and the related notes to those statements included herein. 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 risks discussed under the section, "Risk Factors" in our most recent Annual Report on Form 10-K filed by the Company.

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 report may also contain trademarks, service marks, and trade names of other companies. Solely for convenience, the trademarks, service marks and trade names referred to in this report 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.

Special Note Regarding Forward-Looking Statements

This report contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those discussed in the forward-looking statements. The statements contained in this report that are not purely historical are forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Forward-looking statements are often identified by the use of words such as, but not limited to, "anticipate," "believe," "can," "continue," "could," "estimate," "expect," "intend," "may," "plan," "project," "seek," "should," "strategy," "target," "will," "would" and similar expressions or variations intended to identify forward-looking statements. These statements are based on the beliefs and assumptions of our management based on information currently available to management. Such forward-looking statements are subject to risks, uncertainties and other important factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified below and those discussed in the section titled "Risk Factors" included in the most recent Annual Report on Form 10-K filed by the Company. Furthermore, such forward-looking statements speak only as of the date of this report. Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances after the date of such statements.

Overview

We are an agricultural biotechnology trait company engaged in the development of traits that improve food, feed and fiber crops, and enhance the value of the resulting agricultural products. 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 nutritional value of agricultural products. Our distinct areas of focus are the improvement of crop yields by mitigating the impacts of abiotic stresses such as drought, heat, nutrient deficiency, water scarcity, and soil salinity and the enhancement of the nutritional quality of crops by changing the compositional quality of oilseeds and grains. Our target markets are several of the largest crops within the $40.5 billion global seed market and specific ingredients within the $140 billion global nutrition and supplements markets.

We have successfully developed and continue to advance a broad suite of potentially high value agricultural yield traits, such as Nitrogen Use Efficiency (NUE), Water Use Efficiency (WUE), and Drought Tolerance, in key food crops like corn, rice, wheat, cotton, and soybean. In addition, we are developing a portfolio of quality and nutritional traits in wheat including increased fiber content, improved flavor and extended shelf-life. We have also commercialized and are marketing SONOVA *Gamma Linolenic Acid* (GLA) oil, an omega-6 fatty acid mainly used as an ingredient in nutritional supplements.

Our business model is to access trait technologies that have already achieved proof of concept whether in a public research program or with commercial partners. We further develop these technologies by optimizing their function and validating their performance through intensive field trial testing in multiple crops under varying growing conditions, thereby better establishing commercial viability for resulting products. We then license our technologies to major seed and consumer product companies who perform additional testing and product development and, where needed, generate the requisite data to support regulatory submissions and approvals.

We use both genetically modified, or GM, and non-GM technologies to develop our traits. This approach allows us to select the most appropriate technology tools for development of a particular trait, crop and market. In 3Q 2017, we obtained a license from the Broad Institute at the Massachusetts Institute of Technology (MIT) and Harvard for research use of the CRISPR-Cas9 gene-editing technology. This new platform will enable us to accelerate the development of existing products in our non-GMO portfolio, as well as bring new products to market faster than other technologies.

However, a key component of the development cycle of GM traits is local, or in some instances, global deregulation of the trait by one or more regulatory agencies which may be required. As there continues to be a significant debate about the role of GM traits in agricultural crops, we have seen this issue begin to impact some regulatory agencies which exercise control over the pace of deregulation of our products. We have recently experienced delays in the review of many of our high value traits from certain of these government regulatory authorities. For example, in India, where regulators have not approved field trials for testing of GM traits for the last two years, we estimate the impact to the trait development and crop commercialization timelines of our license partner in India, Mahyco, has been a commensurate delay.

We believe the fundamental value of these traits remains commercially significant and we, along with our development and commercialization partners, remain fully committed to their ultimate commercialization. However, to compensate for the near-term impact of these regulatory delays on our anticipated commercialization revenue share, the Company completed a comprehensive strategic review in the second half of 2016 of its technology programs, product pipeline, partner progress, competitive landscape and market conditions in order to prioritize and appropriately resource its most promising products and opportunities. As a result, some programs were terminated or placed on hold while investments in other programs were accelerated with the aim of generating the highest potential near-term value for the Company and its shareholders. In addition, in conjunction with its primary licensee partner, Mahyco, the Company has undertaken an evaluation of the current regulatory environment by territory to determine the optimal strategy for continued deregulation and commercialization of its traits. The Company expects to reach agreement with Mahyco for the return of certain licensed geographies in favor of jointly pursuing new in-country licensees it believes are better able to achieve deregulation and commercialization of our traits due to greater familiarity with, and influence on, the regulatory environment in a given territory or geography. The Company expects to complete its review of the entire portfolio of license agreements and any related mutual terminations to be executed prior to the end of 2017. To the extent additional license agreements are terminated prior to December 31, 2017, the remaining balance of any upfront license fees previously deferred for such agreements would be released and recognized as revenue. We will continue to work with our partners to closely monitor the progress of deregulation activities affecting our GM traits, and at the same time, we are realigning our core capabilities and evolving our business model to accelerate the development and near-term commercialization of non-GM nutrition and quality traits.

Our highest near-term priorities include the expansion of the market for our SONOVA GLA products, bringing our non-GM traits in wheat quality and wheat yield to market, and working closely with our strategic partners to advance our yield trait in corn and soybeans. Earlier in 2017, we expanded our marketing activities to include the use of SONOVA GLA products in pet foods and received notification in August 2017 that the U.S. Federal Register has published the Food and Drug Administration's (FDA) approval of our food additive petition that our SONOVA GLA safflower oil is safe for use in dog diets. In the U.S, we have partnered with Dow AgroSciences and Becks Hybrids for the development of yield traits in corn. In South America, we formed Verdeca, a joint venture with Bioceres, a leading agricultural biotechnology company in Argentina, to develop, deregulate and commercialize stress-tolerant soybeans. Verdeca received its first regulatory approval in Argentina in 2015 and a second approval in the U.S from the FDA in 2017. Verdeca submitted regulatory applications in Uruguay to the Ministry of Livestock, Agriculture and Fisheries in 2015, in China to the Ministry of Agriculture (MOA) in 2016, and in the U.S. to the U.S. Department of Agriculture (USDA) in 2017.

Balancing our near-term revenue goals with long-term value capture, we will continue to provide active support to our commercial partners working to advance our high value traits through development and deregulation for commercialization. Our trait license agreements 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 up-front 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 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.

Our business was built on the premise that mitigating the impact of environmental stresses, whether chronic or transient, would generate meaningful yield gains in the most important crops in the world. We believe our yield and stress pipeline holds significant promise, as evidenced by our internal data and data generated by our partners in experimental rice, wheat, soy, and corn. The commercial value of these types of traits will be fully unlocked as the traits are introgressed into elite germplasm by breeding partners and tested broadly in the field under different environments and agricultural practices. Therefore, while it is our view that the Arcadia pipeline is fairly advanced and as promising as any in the industry, significant development and testing is yet to be completed on several of our products.

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 $164.3 million as of September 30, 2017. We incurred net losses of $12.7 million and $13.9 million for the nine months ended September 30, 2017 and 2016, 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 additional funding to support our operating activities. Refer to Liquidity and Capital Resources in Note 1.

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 pre-commercial license revenues, product revenues, contract research and government grant revenues until our license revenues increase with the introduction of our seed trait products to the market ensuing value-share payments, 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 up-front 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 pick up by our third-party distributors or customers. Our revenues fluctuate depending on the timing of orders from our customers and distributors.

License Revenues

Our license revenues to date 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 two to four 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. Given the nature and uncertain timing of receipt of government grants and timing of eligible research and development expenses, such revenues are likely to fluctuate significantly from period to period.

Operating Expenses

Cost of Product Revenues

Cost of product revenues relates to the sale of our SONOVA products and consists of in-licensing and royalty fees, any adjustments to inventory, 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. Our selling, general, and administrative expenses may fluctuate from period to period.

Interest Expense

Interest expense consists primarily of contractual interest and amortization of debt discount on our term loan.

Other Income, Net

Other income, net, consists of interest income and the amortization of investment premium and discount on our cash and cash equivalents and investments.

Loss on Extinguishment of Debt

From time to time, the Company may refinance or payoff its debts if it is deemed reasonable to do so, which may result in a gain or loss on the extinguishment of debt. Loss on extinguishment of debt is comprised of amounts related to early payoff fees, end of term fees, deferred issuance costs and unamortized debt discounts.

Income Tax Benefit (Provision)

Our income tax benefit (provision) has not been historically significant, as we have incurred losses since our inception. The provision for income taxes consists of state and foreign income taxes. Due to cumulative losses, we maintain a full valuation allowance against our U.S. deferred tax assets. We consider all available evidence, both positive and negative, including but not limited to, earnings history, projected future outcomes, industry and market trends and the nature of each of the deferred tax assets in assessing the extent to which a valuation allowance should be applied against our U.S. deferred tax assets.

Results of Operations

Comparison of the Three Months Ended September 30, 2017 and 2016

	Three Months Ended September 30,		$ Change	% Change
	2017	2016		
	(In thousands except percentage)			
Revenues:				
Product	$ 82	$ 102	$ (20)	(20)%
License	144	218	(74)	(34)%
Contract research and government grants	363	755	(392)	(52)%
Total revenues	589	1,075	(486)	(45)%
Operating expenses:				
Cost of product revenues	40	60	(20)	(33)%
Research and development	1,749	2,255	(506)	(22)%
Selling, general and administrative	2,415	2,687	(272)	(10)%
Total operating expenses	4,204	5,002	(798)	(16)%
Loss from operations	(3,615)	(3,927)	312	(8)%
Interest expense	(43)	(331)	288	(87)%
Other income, net	46	90	(44)	(49)%
Loss on extinguishment of debt	(900)	—	(900)	(100)%
Net loss before income taxes	(4,512)	(4,168)	(344)	8%
Income tax provision	(13)	(7)	(6)	86%
Net loss and net loss attributable to common stockholders	$ (4,525)	$ (4,175)	$ (350)	8%

Revenues

Product revenues accounted for 14% and 10% of our total revenues in the three months ended September 30, 2017 and 2016, respectively. Our product revenues from sales of our SONOVA products decreased by $20,000, or 20%, in the quarter-to-quarter comparison, primarily due to the timing of orders.

License revenues accounted for 24% and 20% of our total revenues for three months ended September 30, 2017 and 2016, respectively. Our license revenues decreased by $74,000, or 34%, in the three months ended September 30, 2017 compared to revenues in the same period of 2016. The decrease in license revenue was primarily due to delays in the estimated launch date for a number of our out-licensed yield traits, thereby reducing the amount amortized into revenue each quarter thereafter.

Contract research and government grant revenues comprise a significant portion of our total revenues and accounted for 62% and 70% of our total revenues for the three months ended September 30, 2017 and 2016, respectively. Our contract research and government grant revenues decreased by $392,000, or 52%, in the three months ended September 30, 2017 compared to the same period in 2016. The decrease in grant and contract research revenue was primarily driven by the completion of a four-year grant in the second quarter of 2017. Contract research and government grant revenues can vary from quarter-to-quarter depending on the timing of contract research projects and the completion of services provided, and the timing of the award of government grants and eligible research and development expenses.

Cost of Product Revenues

Cost of product revenues decreased by $20,000, or 33%, in the three months ended September 30, 2017 compared to the three months ended September 30, 2016 due to the decrease in sales when comparing the respective periods.

Research and Development

Research and development expenses decreased by $506,000, or 22%, in the three months ended September 30, 2017 compared to the three months ended September 30, 2016. The decrease was primarily driven by lower salaries and benefits, mainly as a result of the reductions in our workforce that occurred in 2016, which was partially offset by increased expenses pertaining to field costs and Verdeca.

Selling, General, and Administrative

Selling, general, and administrative expenses decreased by $272,000, or 10%, in the three months ended September 30, 2017 compared to the three months ended September 30, 2016. The decrease was primarily due to lower salaries and benefits, partially offset by higher consulting fees related to our strategic review process and stock based compensation costs associated with options issued earlier in 2017.

Interest Expense

Interest expense decreased by $288,000, or 87%, in the three months ended September 30, 2017 compared to the three months ended September 30, 2016. The decrease was primarily driven by the extinguishment of debt in July 2017. See Note 8.

Other Income, Net

Other income, net, of $46,000 for the three months ended September 30, 2017 was a decrease of $44,000, or 49%, in income when compared to other income, net of $90,000 for the three months ended September 30, 2016. The decrease was primarily related to lower cash and investment balances in 2017.

Loss on Extinguishment of Debt

Loss on extinguishment of debt of $900,000 was related to the debt payoff in July 2017.

Income Tax Provision

Income tax provision of $13,000 for the three months ended September 30, 2017 was relatively consistent when compared to the $7,000 for three months ended September 30, 2016.

Comparison of the Nine Months Ended September 30, 2017 and 2016

	Nine Months Ended September 30,		$ Change	% Change
	2017	2016		
	(In thousands except percentage)			
Revenues:				
Product	$ 482	$ 422	$ 60	14%
License	353	510	(157)	(31)%
Contract research and government grants	1,763	1,716	47	3%
Total revenues	2,598	2,648	(50)	(2)%
Operating expenses:				
Cost of product revenues	262	242	20	8%
Research and development	5,241	6,673	(1,432)	(21)%
Selling, general and administrative	8,410	8,882	(472)	(5)%
Total operating expenses	13,913	15,797	(1,884)	(12)%
Loss from operations	(11,315)	(13,149)	1,834	(14)%
Interest expense	(747)	(985)	238	(24)%
Other income, net	246	242	4	2%
Loss on extinguishment of debt	(900)	—	(900)	(100)%
Net loss before income taxes	(12,716)	(13,892)	1,176	(8)%
Income tax provision	(31)	(24)	(7)	29%
Net loss and net loss attributable to common stockholders	$ (12,747)	$ (13,916)	$ 1,169	(8)%

Revenues

Product revenues accounted for 19% and 16% of our total revenues in the nine months ended September 30, 2017 and 2016, respectively. Product revenues from sales of our SONOVA products increased by $60,000, or 14%, primarily as a function of the timing of orders.

License revenues accounted for 14% and 19% of our total revenues for the nine months ended September 30, 2017 and 2016, respectively. Our license revenues decreased by $157,000, or 31%, in the nine months ended September 30, 2017 compared to revenues in the same period of 2016. The decrease in license revenue was primarily due to delays in the estimated launch date for a number of our out-licensed yield traits, thereby reducing the amount of revenues recognized in 2017.

Contract research and government grant revenues comprise a significant portion of our total revenues and accounted for 68% and 65% of our total revenues for the nine months ended September 30, 2017 and 2016, respectively. Our contract research and government grant revenues increased by $47,000, or 3%, in the nine months ended September 30, 2017 compared to the same period in 2016. The increase in grant and contract research revenue was primarily due to a new contract research agreement in 2017, partially offset by the completion of a grant in the second quarter of 2017.

Cost of Product Revenues

Cost of product revenues increased by $20,000, or 8%, in the nine months ended September 30, 2017 compared to the nine months ended September 30, 2016 due to the increase in sales when comparing the respective periods.

Research and Development

Research and development expenses decreased by $1.4 million, or 21%, in the nine months ended September 30, 2017 compared to the nine months ended September 30, 2016. The decrease was primarily driven by lower salaries and benefits, mainly as a result of the reductions in our workforce that occurred in 2016, which was partially offset by Verdeca expenses.

Selling, General, and Administrative

Selling, general, and administrative expenses decreased by $472,000, or 5%, in the nine months ended September 30, 2017 compared to the nine months ended September 30, 2016. The decrease was primarily driven by lower salaries and benefits, mainly as a result of the reductions in our workforce that occurred in 2016, partially offset by increased consulting fees related to our strategic review process and stock based compensation costs associated with options issued earlier in 2017.

Interest Expense

Interest expense was $747,000 for the nine months ended September 30, 2017, a decrease of $238,000, or 24%, compared to $985,000 for the nine months ended September 30, 2016. The decrease was due to the extinguishment of debt in July 2017. See Note 8.

Other Income, Net

Other income, net, of $246,000 for the nine months ended September 30, 2017 was consistent when compared to $242,000 for the nine months ended September 30, 2016.

Loss on Extinguishment of Debt

Loss on extinguishment of debt of $900,000 was related to the debt payoff in July 2017.

Income Tax Provision

Income tax provision of $31,000 for the nine months ended September 30, 2017 was relatively consistent when compared to the $24,000 for nine months ended September 30, 2016.

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 for particular crops and markets. Often, there is only one crop-growing season per year for certain crops and markets. Similarly, climate conditions and other factors that may influence the sales of our products 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, Capital Resources and Going Concern

We have funded our operations primarily with the net proceeds from our initial public offering and 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 replicating field trials, coordinating with our partners on their development programs, and collecting, analyzing, and submitting field trial data to regulatory authorities. As of September 30, 2017, we had cash and cash equivalents of $2.9 million and short-term investments of $12.8 million.

In May 2015, we completed our initial public offering. In connection with this offering, we issued and sold 8,528,306 shares of common stock at a price to the public of $8.00 per share and received $58.4 million in net proceeds, after deducting underwriting discounts and commissions of $4.8 million and offering expenses of $5.0 million.

In December 2015, we obtained additional debt financing in the form of a $25.0 million senior secured term loan, which allowed us to to prepay all previous debt with a more favorable interest rate and maturity. In July 2017, we repaid the loan in full. Refer to Note 8.

We believe that our existing cash, cash equivalents, and short-term investments will not be sufficient to meet our anticipated cash requirements for at least the next 12 months. Refer to Note 1.

We may secure additional required funding through equity or debt financings, sales or out-licensing of intellectual property assets, seeking partnerships with other agriculture biotechnology companies or third parties to co-develop and fund research, development or commercialization efforts, or similar transactions. Our sale of additional equity would result in dilution to our stockholders. Our incurrence of additional debt would result in increased debt service obligations, and the instruments governing our debt could provide for additional operating and financing covenants that would restrict our operations. Any of these actions could materially harm our business, results of operations and financial condition.

Cash Flows

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

	Nine Months Ended September 30,	
	2017	2016
Net cash provided by (used in):		
Operating activities	$ (11,282)	$ (12,778)
Investing activities	38,300	(1,104)
Financing activities	(26,101)	382
Net increase (decrease) in cash	$ 917	$ (13,500)

Cash used in operating activities

Cash used in operating activities for the nine months ended September 30, 2017 was $11.2 million. Our net loss of $12.7 million, net amortization of investment premium and discount of $82,000 and adjustments in our working capital accounts of $842,000 were partly offset by non-cash charges of $1.2 million for stock-based compensation, loss on extinguishment of debt of $900,000, depreciation and amortization of $215,000, and accretion of debt discount of $98,000.

Cash used in operating activities for the nine months ended September 30, 2016 was $12.8 million. Our net loss of $13.9 million was partly offset by non-cash charges of $661,000 for stock-based compensation, $227,000 for depreciation and amortization, $148,000 for accretion of debt discount and $115,000 for net amortization of investment premiums and discounts, as well as adjustments in our working capital accounts of $13,000. The decrease in cash associated with our net operating assets of $13,000 was primarily due to a decrease of $609,000 in accounts receivable and an increase of $237,000 in accounts payable and accrued expenses due to timing of invoicing and payments on billing received, respectively, which was offset by an increase of $492,000 in prepaid and other current assets due to the release of expenses and an increase of $277,000 in unearned revenue related to the recognition of revenue.

Cash provided by (used in) investing activities

Cash provided by investing activities for the nine months ended September 30, 2017 of $38.3 million primarily consisted of $57.8 million in proceeds from sales and maturities of investments, which was offset by $19.4 million in purchases of short-term investments.

Cash used in investing activities for the nine months ended September 30, 2016 of $1.1 million primarily consisted of $21.3 million in purchases of investments, property, and equipment, which was offset by $20.2 million in proceeds from the sale and maturities of short-term investments.

Cash (used in) provided by financing activities

Cash used in financing activities for the nine months ended September 30, 2017 of $26.1 million consisted of payments on notes payable and related debt extinguishment costs (Note 8).

Cash provided by financing activities for the nine months ended September 30, 2016 of $382,000 consisted of proceeds from the exercise of stock options and the purchase of ESPP shares.

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 other than Verdeca, which is discussed in the notes to our condensed consolidated financial statements.

Critical Accounting Policies 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 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 consider our critical accounting policies and estimates to be revenue recognition, inventories, income taxes, and stock-based compensation. There have been no material changes to our critical accounting policies and estimates during the nine months ended September 30, 2017 from those disclosed in our Annual Report on Form 10-K filed with the SEC on March 8, 2017.

ITEM 3: QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not Required.

ITEM 4: CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain "disclosure controls and procedures," as such term is defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, or Exchange Act, that are designed to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in Securities and Exchange Commission rules and forms, and that such information is accumulated and communicated to our management, including our President and Chief Executive Officer and our Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating our disclosure controls and procedures, management recognized that disclosure controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the disclosure controls and procedures are met. Our disclosure controls and procedures have been designed to meet reasonable assurance standards. Additionally, in designing disclosure controls and procedures, our management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible disclosure controls and procedures. The design of any disclosure controls and procedures also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions.

Based on their evaluation as of the end of the period covered by this Quarterly Report on Form 10-Q, our President and Chief Executive Officer and our Chief Financial Officer have concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting (as such term is defined in Rule 13a-15(f) under the Exchange Act) identified in connection with the evaluation identified above that occurred during the quarter ended September 30, 2017 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. 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.

ITEM 1A. RISK FACTORS

In addition to the other information set forth in this Quarterly Report, you should carefully consider the factors discussed in Part I, "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2016, which could materially affect our business, financial condition, liquidity or future results. The risks described in our Annual Report on Form 10-K are not the only risks facing our company. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition, liquidity or future results.

On February 14, 2017, we received a letter from Nasdaq notifying us that we were not in compliance with the minimum closing bid requirement set forth in Nasdaq Listing Rule 5405. In accordance with Nasdaq Listing Rule 5450(a)(1), we are required to regain compliance with the minimum closing bid requirement by August 14, 2017.

On May 25, 2017, we received a letter from Nasdaq notifying the Company that it no longer is in compliance with Nasdaq Listing Rule 5450(b)(1)(C) because the market value of the Company's publicly held shares fell below the $5.0 million minimum requirement for continued listing on the NASDAQ Global Market for a period of at least 30 consecutive business days. Nasdaq calculates publicly held shares by subtracting from the total shares of common stock outstanding any shares held by officers, directors or any person who beneficially owns more than 10% of the total shares outstanding. In accordance with Nasdaq Listing Rule 5810(c)(3)(D), the Company had until November 21, 2017 to regain compliance with Nasdaq Listing Rule 5450(b)(1)(C).

On July 21, 2017, the Company transferred the listing of its common stock to The Nasdaq Capital Market (the "Capital Market"), and as a result, the Company was afforded the remainder of the 180 day period, or until August 14, 2017, to regain compliance with the minimum $1 bid price per share requirement.

As of August 14, 2017, we were still not in compliance with the minimum $1 bid price per share requirement. However, Nasdaq determined that the Company has until February 12, 2018 to regain compliance with the minimum bid price requirement. Consistent with the Rule, Nasdaq provided the Company a cure period in order to regain compliance as follows:

- if prior to February 12, 2018, the closing bid price of the Company's stock is at or above $1.00 for a minimum of 10 consecutive business days; or
- if the Company chooses to implement a reverse stock split, it must complete the split no later than ten business days prior to the expiration date of February 12, 2018.

In the event the Company does not regain compliance with the Rule by February 12, 2018, Nasdaq will provide written notification to the Company that its common stock will be delisted. At that time, the Company may appeal the determination to a Hearings Panel of Nasdaq.

In the event we are delisted from the Nasdaq Capital Market, we would be forced to list our shares on the OTC Electronic Bulletin Board or some other quotation medium, such as the pink sheets, depending on our ability to meet the specific listing requirements of those quotation systems. As a result, an investor might find it more difficult to trade or to obtain accurate price quotations for such shares. Delisting might also reduce the visibility, liquidity, and price of our common stock.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

The following exhibits are attached hereto or are incorporated herein by reference.

Exhibit Number	Exhibit Description
31.1	Principal Executive Officer's Certifications Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Principal Financial Officer's Certifications Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1(1)	Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2(1)	Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

(1) This certification is deemed not filed for purpose of Section 18 of the Exchange Act or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act or the Exchange Act.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Arcadia Biosciences, Inc.

November 9, 2017 By: /s/ RAJENDRA KETKAR
Rajendra Ketkar
President and Chief Executive Officer

November 9, 2017 By: /s/ MATTHEW T. PLAVAN
Matthew T. Plavan
Chief Financial Officer

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO EXCHANGE ACT RULE 13a-14(a)/15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002

I, Rajendra Ketkar, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Arcadia Biosciences, Inc. for the period ended September 30, 2017;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles; and

    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: November 9, 2017

/s/ RAJENDRA KETKAR

Rajendra Ketkar
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO EXCHANGE ACT RULE 13a-14(a)/15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002

I, Matthew T. Plavan, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Arcadia Biosciences, Inc. for the period ended September 30, 2017;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles; and

    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: November 9, 2017

/s/ MATTHEW T. PLAVAN

Matthew T. Plavan
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION
PURSUANT TO 18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the accompanying Quarterly Report of Arcadia Biosciences, Inc. (the "Company"), on Form 10-Q for the quarter ended September 30, 2017 (the "Report"), I, Rajendra Ketkar, President and Chief Executive Officer of the Company, hereby certify pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002 that:

(1) the Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: November 9, 2017

/s/ RAJENDRA KETKAR

Rajendra Ketkar

President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

CERTIFICATION
PURSUANT TO 18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the accompanying Quarterly Report of Arcadia Biosciences, Inc. (the "Company"), on Form 10-Q for the quarter ended September 30, 2017 (the "Report"), I, Matthew T. Plavan, Chief Financial Officer of the Company, hereby certify pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002 that:

(1) the Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: November 9, 2017

/s/ MATTHEW T. PLAVAN

Matthew T. Plavan,

Chief Financial Officer

(Principal Financial Officer)