

Nitrogen Use Efficient Rice Demonstrates an Average Yield Increase of 30 Percent in Four Years of Field Trials

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-- Major Yield Increase Has the Potential to Change the Economics of Rice Production and Enhance Food Security --

DAVIS, Calif. & PALMIRA, Colombia & NAIROBI, Kenya--(BUSINESS WIRE)--Sep. 9, 2015-- Four years of field trials with a leading line of Nitrogen Use Efficient (NUE) rice have demonstrated an average 30 percent yield increase over conventional controls. These results were reported jointly today by Arcadia Biosciences, Inc., an agricultural technology company, the International Center for Tropical Agriculture (CIAT) and the African Agricultural Technology Foundation (AATF). CIAT has been testing the novel rice lines using Arcadia's NUE trait at the center's research fields in Colombia.

In this most recent field trial under irrigated upland conditions and 50 percent of normal nitrogen fertilizer application, the leading NUE rice line out-yielded the conventional control lines by 34 percent. In the three previous years of trials under both irrigated lowland and upland rainfed conditions, the leading line out-yielded control lines by 22, 30 and 33 percent, respectively.

Over the four years of field trials, the average yield increase for the leading NUE rice line was 30 percent over the conventional controls. In the fourth-year trial, two additional NUE rice lines increased grain yield by 24 to 28 percent at 17 percent of normally applied nitrogen fertilizer in Colombia, and by 10 to 22 percent at 50 percent of normal nitrogen application.

"Yield increases greater than 15 percent from a single trait are very rare in agriculture," said Eric Rey, president and CEO of Arcadia. "For our NUE trait in rice, we now have a solid history over four years of independent field testing at CIAT showing consistent yield increases well above 20 percent. These results in NERICA rice, combined with our results in other types of rice, demonstrate the major yield increase opportunity from our NUE trait in all major types of rice."

"Yield increases of this magnitude have the potential to significantly change the economics of rice production, benefitting farmers, rural economies and food security simultaneously," Rey added. "Together with our seed company partners, Arcadia is working diligently to bring commercial seed with our NUE trait to farmers in rice and several other major crops."

Arcadia currently has five NUE products, including NUE rice, in Phase 3 of product development. The company recently completed the US Food and Drug Administration (FDA) Early Food Safety Evaluation for the NUE trait, which establishes the foundation of trait safety data for future regulatory approvals of the trait in all crops globally.

Rice is the world's most valuable crop, grown on 165 million hectares globally with a harvest value of \$429.3 billion in 2013. The crop plays a critical role in food security for more than half of the world's population. In a recent report, the International Food Policy Research Institute predicted that sustainable maintenance of food security in the face of climate change and population growth will require a combination of technologies that target broad-based yield improvement, improved nitrogen use efficiency, and abiotic stresses such as heat and drought.

Arcadia's NUE trait was developed to help farmers increase crop yields per unit of applied nitrogen fertilizer. Nitrogen fertilizer is a key input to the global agricultural industry for increasing crop yield, but conventional crops typically utilize less than half of nitrogen fertilizer applied. Much of the remainder moves through the soil and enters ground and surface water systems, or volatilizes into the air as a greenhouse gas 300 times more potent than carbon dioxide. Arcadia's NUE trait enables plants to produce higher yields while reducing the environmental footprint of agriculture.

The NUE rice field trials in Colombia are part of a five-year collaboration between Arcadia, CIAT and AATF under the Nitrogen-use Efficient, Water-use Efficient and Salt Tolerant (NEWEST) rice project. The collaboration is funded by the United States Agency for International Development (USAID) under [Feed the Future](#), the U.S. Government's global

hunger and food security initiative.

About Arcadia Biosciences, Inc.

Based in Davis, Calif., with additional facilities in Seattle, Wash. and Phoenix, Ariz., Arcadia Biosciences (NASDAQ: RKDA) develops agricultural products that create added value for farmers while benefitting the environment and enhancing human health. Arcadia's agronomic performance traits, including Nitrogen Use Efficiency, Water Use Efficiency, Salinity Tolerance, Heat Tolerance and Herbicide Tolerance, are all aimed at making agricultural production more economically efficient and environmentally sound. Arcadia's nutrition traits and products are aimed at creating healthier ingredients and whole foods with lower production costs. The company was recently listed in the Global Cleantech 100 and was previously named one of MIT Technology Review's 50 Smartest Companies. For more information, visit www.arcadiabio.com.

About the International Center for Tropical Agriculture (CIAT)

CIAT is an international agricultural research organization focused on eco-efficient agriculture that is, farming systems that better harness the available resources to be more competitive and to sustainably increase productivity, while leaving a smaller environmental footprint. CIAT significantly contributes to major global initiatives that seek to reduce rural poverty, strengthen food security, improve human health and nutrition, and sustainably manage natural resources throughout the developing world. For more information, visit www.ciatnews.cgiar.org.

About The African Agricultural Technology Foundation (AATF)

The African Agricultural Technology Foundation (AATF) is a not-for-profit organization that facilitates and promotes public/private partnerships for the access and delivery of appropriate agricultural technologies with potential to increase the productivity of resource-poor smallholder farmers in Sub-Saharan Africa. For more information, visit www.aatf-africa.org.

About USAID

USAID is the lead U.S. Government agency that works to end extreme global poverty and enable resilient, democratic societies to realize their potential.

About Feed the Future

Feed the Future is the U.S. Government's global hunger and food security initiative. With a focus on smallholder farmers, particularly women, Feed the Future supports partner countries in developing their agriculture sectors to spur economic growth and trade that increase incomes and reduce hunger, poverty and under nutrition. For more information, visit www.feedthefuture.gov.

Note Regarding Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including statements relating to Arcadia's NUE trait and the regulatory process for such trait. Forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially, and reported results should not be considered as an indication of future performance. These risks and uncertainties include, but are not limited to: Arcadia's and its partners' ability to develop commercial products incorporating its traits, including the NUE trait, and complete the regulatory review process for such products; Arcadia's compliance with laws and regulations that impact the company's business, and changes to such laws and regulations; Arcadia's future capital requirements and ability to satisfy its capital needs; and the other risks set forth in Arcadia's filings with the Securities and Exchange Commission from time to time, including the risks set forth in Arcadia's Quarterly Report on Form 10-Q for the quarter ended June 30, 2015 and other filings. These forward-looking statements speak only as of the date hereof, and Arcadia Biosciences, Inc. disclaims any obligation to update these forward-looking statements.

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