

Arcadia Biosciences Contributes Technology License to the African Agricultural Technology Foundation to Develop Nitrogen Efficient and Salt Tolerant African Rice

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-- Technology Donation to Foster Environmentally Sustainable Increase in Food Security and Productivity of African Farmers --

DAVIS, Calif. and NAIROBI, Kenya (April, 24) – Arcadia Biosciences, Inc., an agricultural technology company focused on products that benefit the environment and human health, and the African Agricultural Technology Foundation (AATF), a not-for-profit organization focused on the access and delivery of new agricultural technologies for African smallholder farmers, have entered into a licensing agreement for the use of Arcadia's technologies to develop rice varieties that will be available royalty-free to smallholder farmers in Africa. Under the agreement, AATF receives a license to Arcadia's Nitrogen Use Efficiency (NUE) and Salt Tolerance technologies for use in African rice. As part of Arcadia's stated commitment to agricultural and environmental improvement in the developing world, the company will not receive monetary compensation for the research and commercial rights granted in the agreement. In addition, Arcadia will complete the early-stage research and development work for the project and will provide improved rice lines to African research collaborators for field-testing.

Rice is one of the largest and most important food sources in Africa. Rice consumption in West Africa is growing by almost 10 percent annually, while production is only growing by about 4 percent. Rice consumption on the entire African continent is growing by 6 percent annually and has created an annual shortage of 6.5 million metric tons, which is imported at a cost of about \$1.7 billion. According to the United Nations Food and Agriculture Organization (FAO), farmers in Sub-Saharan Africa produce between 12 and 17 million metric tons of rice annually. Most of this rice is produced and consumed by small-scale farmers.

The problem for Africa goes beyond high demand and low yields for rice. Many African soils have inherently poor fertility because they have been farmed for very long periods of time without adequate nutrient replenishment. A report presented at the 2006 African Fertilizer Summit states that land use and management practices, and a lack of nutrient inputs, have led to a decline in productivity, increased soil erosion, and salinization in many parts of Africa.

The goal of the agreement between Arcadia and AATF is to increase rice productivity, improve profitability for African farmers, and benefit the environment. Having demonstrated that NUE Rice can achieve high yields with 50 percent less nitrogen fertilizer than conventional rice, and that Salt Tolerant rice may reduce the demand for scarce fresh water supplies, NUE and Salt Tolerant African Rice can have a major positive impact on African rice farming, food security, and human health.

"The availability of new agricultural technologies to African farmers has historically been slow because of issues around development costs and intellectual property ownership. The partnership between Arcadia and AATF is designed to solve both of these issues," said Eric Rey, president and CEO of Arcadia. "Plant yields respond to nitrogen fertilization, but plants are generally inefficient absorbers of nitrogen. Because of this, farmers in highly developed countries often apply more fertilizer than plants are able to absorb. In Africa, the on-farm price of nitrogen fertilizer is very high due to importation and supply chain costs. Because of this, the amount of nitrogen fertilizer required to significantly improve yields is cost-prohibitive for many African farmers. Similarly, fresh water is a precious and scarce commodity in Africa, and the ability to irrigate crops with salty water can improve productivity, reduce irrigation costs, and make more fresh water available for human consumption. We believe that NUE and Salt Tolerant African Rice will provide substantial economic benefits to smallholder African farmers by reducing total input costs and increasing yields. This can all happen without increasing the environmental footprint of rice production."

"Strategic partnerships between public and private sector organizations are key to setting in motion the process of access, adaptation and delivery of technologies that will raise the productivity of smallholder farming systems," said Mpoko

Bokanga, executive director AATF. "The license granted by Arcadia presents an opportunity for smallholder farmers to access technologies that will address low rice productivity characterized by low soil nitrogen and high soil salinity and AATF will share these technologies with research institutions and seed multipliers in Africa to ensure that farmers benefit from these technologies," he added.

After Arcadia completes the transformation of NUE and Salt Tolerant African Rice, AATF will work with its regional development partners to breed rice varieties that are most effective for local environmental conditions and then distribute to local growers.

Arcadia and AATF expect NUE and Salt Tolerant African Rice to be first available by 2016.

About Arcadia Biosciences, Inc.

Based in Davis, Calif., with additional facilities in Seattle, Wash. and Phoenix, Ariz., Arcadia Biosciences is an agricultural biotechnology company focused on the development of agricultural products that improve the environment and enhance human health. For more information visit www.arcadiabio.com.

The African Agricultural Technology Foundation (AATF) is an African-led charity designed to facilitate and promote public/private partnerships for the access and delivery of appropriate proprietary technologies with potential to increase the productivity of resource-poor smallholder farmers in Sub-Saharan Africa. www.aatf-africa.org.