

U.N. Clean Development Mechanism Approves Arcadia Biosciences Methodology, Links Carbon Credits to Crop Genetic Improvements for First Time

December 19, 2012 12:27 PM ET

-- Nitrogen Use Efficient Seeds Reduces Nitrous Oxide Emissions by Requiring Less Fertilizer Application --

DAVIS, Calif. (December 19, 2012) – Arcadia Biosciences, Inc., an agricultural technology company focused on developing technologies and products that benefit the environment and human health, today announced that the Executive Board of the Clean Development Mechanism (CDM) of the United Nations Framework Convention on Climate Change has approved Arcadia’s methodology to allow farmers to earn carbon credits from reduced fertilizer use in conjunction with Nitrogen Use Efficient (NUE) seed. Arcadia’s NUE technology enables crops to maintain high yields while requiring significantly reduced levels of nitrogen fertilizer. The approved methodology is applicable to all crops planted with NUE seed.

Globally, agriculture is the second-largest industrial source of greenhouse gas (GHG) emissions, and the use of nitrogen fertilizer is typically the largest source of those emissions. Despite its significance, many efforts to incentivize adoption of low-carbon practices and technologies have bypassed agriculture. The CDM is the legal mechanism under the Kyoto Protocol to allow developing countries to earn carbon credits from implementing approved carbon-reducing methodologies, and then trade and sell those credits to parties in industrialized countries. The CDM is by far the largest carbon offset market, having generated \$215 billion in investment for GHG-mitigation projects around the world. This new methodology will potentially trigger significant new investment in the agricultural sector.

Most agricultural crops are inherently inefficient nitrogen users. Less than one-half of nitrogen fertilizer applied to fields globally is used by plants, and much of the remainder enters water systems or converts into nitrous oxide, a greenhouse gas nearly 300 times more potent than carbon dioxide. Arcadia’s NUE technology has demonstrated its effectiveness in achieving high crop yields while significantly reducing the requirement for nitrogen fertilizer applications. The ability to earn carbon credits in any crop utilizing NUE technology under the approved methodology may add a significant new source of revenue for farmers and further stimulate the use of environmentally beneficial genetic improvements such as NUE seeds.

Arcadia developed the new methodology in collaboration with the Ningxia Academy of Agricultural and Forestry Sciences (NAAFS) in China. NAAFS carried out extensive field trials with conventional crops, including rice, wheat, and maize, to develop baseline GHG emissions data that were critical to the new methodology.

“Our goals in facilitating access to carbon credits are to add value to farmers and to deliver new tools for improving the environmental footprint of agriculture,” said Eric Rey, president and CEO of Arcadia Biosciences. “It is abundantly clear that agriculture needs to be positioned to adapt to climate change in order to meet our global food needs, and also clear that there are significant opportunities for agriculture to play a central role in the cost-effective mitigation of climate change. We are developing technologies and systems to advance progress against both these challenges. We are particularly pleased with the approval of this new methodology because it is the first to recognize the huge opportunity for genetic improvements to mitigate climate change and create value at multiple levels.”

The approved methodology provides for three distinct options through which farmers can claim carbon credits, ranging from the use of default nitrous oxide emission rates to direct monitoring of emissions in fields. In addition to investing in the development of the methodology, Arcadia has a proprietary business model that will simplify the process of calculating, claiming and trading the carbon credits farmers can earn through it.

“While developing the methodology we wanted to create a process that maximizes its environmental and economic benefits. We believe the business model we’ve created achieves this in a way that will make it easy for farmers to participate,” said Rey.

Arcadia has licensed its NUE technology to seed companies worldwide for use in all major agricultural crops. Commercialization of crops with NUE technology is expected to begin in 2016.

About Arcadia Biosciences, Inc.

Based in Davis, Calif., Arcadia Biosciences is an agricultural technology company focused on the development of agricultural products that improve the environment and enhance human health. Arcadia's agronomic traits, including NUE, Water Efficiency, Salt Tolerance, Heat Tolerance, and Herbicide Tolerance, are all aimed at making agricultural production more economically efficient and environmentally sound. Arcadia's health technologies and products create healthier nutritional ingredients and foods with lower cost of production. For more information visit www.arcadiabio.com.