

Arcadia Receives \$950,000 Department of Energy ARPA-E Grant for Development of Plants Engineered to Replace Oil

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- New Technology to Produce Oil in Plant Leaves and Stems, Increase Total Amount of Energy Produced in Plants, and Grow Biofuel Crops on Marginal Land -

DAVIS, Calif. (October 19, 2011) – Arcadia Biosciences, Inc., an agricultural technology company focused on developing technologies and products that benefit the environment and human health, today announced that it has received a grant from the U.S. Department of Energy’s Advanced Research Projects Agency – Energy (ARPA-E) worth approximately \$950,000 to develop technology that enables plants to produce high levels of oil in their leaves and stems. The technology could significantly increase the amount of energy produced by plants, making the production of biofuels and other oleochemicals more cost efficient and environment friendly.

The Arcadia project is designed to produce vegetable oil in plant leaves and stems, turning plant parts that are not usually harvested for many crops into a source of concentrated energy. Vegetable oil is the most concentrated source of energy made by plants, but is usually made only in seeds. Crops can yield remarkably high amounts of fixed carbon per acre in leaves and stems; however, conversion of fixed carbon to usable energy is relatively inefficient. The development of plants that produce oil in leaves and stems, as well as in seed, will increase total energy production per acre and significantly decrease the carbon footprint of resulting biofuels. These crops will offer a new source of sustainable transportation fuel.

The University of California, Davis (UCD), has discovered technology that enables the production of oil in plant leaves and stems. Arcadia Biosciences, in collaboration with Dr. Katie Dehesh at UCD, will utilize this technology to ultimately develop new crops, such as sorghum, that have high leafy biomass production per acre. In addition to high biomass, forage sorghum can effectively be grown on land not currently used for food crops. Development of sorghum varieties that generate oil in leaves and stems would significantly reduce the cost of base material for biodiesel production and use marginal land. Arcadia Biosciences is already working on enhanced productivity of sorghum on non-food farmlands utilizing the company’s other crop improvement technologies.

“Finding sustainable, plant-based alternatives to fossil fuels is a high priority worldwide. Current sources, however, are inherently inefficient and require high levels of energy to produce. And with pressure on arable land resources needed for food production, it’s been a challenge to develop truly sustainable plant-based fuels,” said Eric Rey, president and CEO of Arcadia. “Successful development of new crops that produce oil in all parts of the plant can measurably increase oil production per acre and offer a more sustainable bioenergy alternative.”

The Arcadia grant is part of the DOE Advanced Research Projects Agency-Energy program to facilitate innovation in energy research. The Agency recently invested \$156 million in groundbreaking energy research and development programs.

About Arcadia Biosciences, Inc.

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