



Plant Sensory Systems Awarded \$1.8 Million from ARPA-E to Engineer Beets for Biofuel

The Award Will Support the Development of High-Output, Low-Input Energy Beets, Optimized for Biofuel Production

BALTIMORE, MD, December 11, 2012 — Plant Sensory Systems, LLC today announced the award of \$1.8 million in funding from the US Department of Energy's Advanced Research Projects Agency-Energy (ARPA-E). The award will support a three-year program to develop an enhanced energy (sugar) beet, optimized for biofuel production. The beets will be engineered to use fertilizer and water more efficiently and produce higher levels of fermentable sugars compared to current feedstocks. The new beet crop will have lower production costs and increased yield for biofuels without competing against food-grade sugar.

"ARPA-E's support will allow us to accelerate the development of the enhanced energy beets for biofuel," said Frank Turano, Plant Sensory Systems' Chief Research Officer. "We anticipate a 30% increase in fermentable sugars which will substantially increase domestic fuel production. The benefits will be shared by a number of entities in the biofuel supply chain including beet producers as well as the biorefineries."

The energy-beet project, headed by Dr. Frank Turano, will be conducted in collaboration with Dr. Ann Smigocki, a sugar beet research geneticist at the US Department of Agriculture, Beltsville, MD and economists at North Dakota State University led by Dr. David Ripplinger. The team will work closely with ARPA-E to expedite the development and commercialization of the enhanced beets for biofuel production.

ARPA-E supports transformational research that translates science into breakthrough energy technologies that are too early for private-sector investment. Projects are selected through a merit-based process that is highly competitive. Plant Sensory Systems' Energy-Beet project was one of 66 projects selected from thousands of concept papers and hundreds of full applications.

"The 66 projects selected today represent the true mission of ARPA-E: swinging for the fences and trying to hit home runs to support development of the most innovative technologies and change what's possible for America's energy future," said Energy Secretary Steven Chu.

Plant Sensory Systems' Energy-Beet project is one such innovated project whose goals are closely aligned with ARPA-E's mission. If successful, the engineered beets will enhance the economic and energy security of the US by expanding and diversifying the biofuel feedstock in the US and increasing the biofuel production capacity per acre, and they will reduce energy-related emissions by requiring less nitrogen fertilizer.

About Plant Sensory Systems

Plant Sensory Systems, LLC is a privately held agricultural biotechnology company that develops technologies to improve crop performance for production of food, feed, fiber, biofuel and bio-based products. Plant Sensory Systems has developed traits that increase yields, improve nitrogen and water use efficiency, promote tolerance to drought and high temperature, increase seed oil content for biofuel production, and enhance nutritional value. The company is located in Baltimore, Maryland at bwtech@UMBC Research and Technology Park. For more information visit: <http://www.plantsensorysystems.com>

Contact Information:

Frank Turano
fturano@plant-ss.com
+1 443-543-5580