



News Release

March 21, 2007

'Green' Corn Project Receives \$2.8 Million

Helping to feed more people around the world in more efficient and environmentally friendly ways is the goal of a University of Guelph project that has just received \$2.8 million from the provincial government.

The "Genes to Fields: Corn Biotechnology Capacity for Ontario" initiative involves finding new ways to increase the yield of Ontario's corn crop, an industry worth almost \$1 billion a year. It will also help strengthen Ontario agriculture and make Guelph an international biotechnology hub, said lead researcher Steven Rothstein, a professor in the Department of Molecular and Cellular Biology.

Corn is one of the world's most important food crops and the foundation of a new "green" economy based on renewable corn-based ethanol and industrial polymers, Rothstein said. The Guelph team hopes to learn more about genes to enhance breeding, and then use biotechnology to improve crop yields and help farmers grow corn in more efficient and sustainable ways.

"We plan to combine experts in molecular genetics with experts in plant breeding and whole-plant physiology to develop a unique research program," he said.

"We believe no other publicly funded institution has the same capability. This funding will allow us to bring that expertise together and bring things to fruition that wouldn't otherwise happen."

The researchers will test how various genes affect plant development and determine which genes are responsible for desired traits. For example, Rothstein studies genes that help crop plants use nitrogen more efficiently. That may help reduce fertilizer pollution of ground and surface water and lower emissions of nitrous oxide, a greenhouse gas.

"Nitrogen fertilizers are the No. 1 cost for farmers and the No. 1 source of pollution from crop agriculture," he said. At the same



Enter your email to subscribe:

Subscribe me!

Powered by **FeedBlitz**

time, farmers need to double yields over the next 30 to 40 years to meet expected demand for crops used for food, animal feed and ethanol-based fuels.

The researchers expect their work will yield candidate genes for other scientists and the private sector to use in developing enhanced plant lines.

"This project will allow us to explore innovative ways of altering corn to take better advantage of soil nutrients," added Manish Raizada, a plant agriculture professor who studies genes involved in plant regeneration. "We must save water and fertilizer and reduce grower costs while buffering agricultural systems from changes in climate."

Provincial support for the project came from the research excellence program of the Ontario Research Fund, intended to undertake major research projects, hire research teams and cover other operational costs. When added to funding from Syngenta, a leading agricultural biotech company, and from the University, the four-year project will receive more than \$9 million.

Other Guelph scientists involved in the project are Prof. Joseph Colasanti and Yong-Mei Bi, Department of Molecular and Cellular Biology and Profs. Elizabeth Lee and Matthijs Tollenaar of the Department of Plant Agriculture.

Contact:

Prof. Steven Rothstein

Department of Molecular and Cellular Biology

rothstei@uoguelph.ca

519-824-4120 x58524

For media questions, contact Communications and Public Affairs:
Lori Bona Hunt, 519-824-4120, Ext. 53338, or Deirdre Healey, Ext. 56982.