Guelph Research Improving Food Production in Developing Countries

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Two University of Guelph projects have earned praise from the federal government as models of innovative scientific research making a difference in developing countries.

Work by plant agriculture professors Jayasankar Subramanian and Manish Raizada was recognized today by the Canadian International Development Agency (CIDA) and Canada's International Development Research Centre (IDRC)).

Federal officials were in Guelph to meet the U of G professors and to launch Phase 2 of the Canadian International Food Security Research Fund (CIFSRF), which will run for five more years and provide an additional $62.5 million in support.

The announcement and U of G research were featured today in the ***Toronto Star*** ***(http://www.thestar.com/news/world/2013/04/04/canadian_food_research_helping_farmers_boost_crop_yields_in_asia_africa.html)*** .

CIFSRF supports partnerships between Canadian and developing-country researchers to help subsistence farmers find practical solutions to hunger and malnutrition. Funded by CIDA and IDRC, the program is a key component of Canada's food security strategy announced at the 2009 G8 meeting.

Phase 1 – also a five-year, $62-million initiative – covered 19 projects with researchers from 11 Canadian universities and 26 organizations. The two Guelph projects were singled out as examples of effective initiatives.
"These projects reflect the University of Guelph's commitment to being engaged globally," said Kevin Hall, Guelph's vice-president (research).

"Working with IDRC and CIDA, the goal is to find ways to use our research and training strengths to address critical issues such as food security and scarcity, and to find simple solutions that improve the quality of people's daily lives. In addition to economic benefits, we want our efforts to help bring about positive social change."

Subramanian developed innovative packaging to reduce post-harvest losses in mangoes, the second largest fruit crop in India and third in Sri Lanka. Farmers often lose 35 to 40 per cent of their crops — worth $800 million a year — because of poor storage.

Patented technology created by the Guelph-led team uses plant-derived chemical compounds to reduce post-harvest loss. Special fruit cartons, dividers and wraps lined with nanoparticles from coconut husks and banana plants help to prolong freshness and improve quality.

The nanoparticles come from agricultural waste products, creating new income opportunities for small-scale entrepreneurs, particularly women.

Raizada introduced “tool kits” to more than 2,000 marginalized farmers in Nepal, Sri Lanka and India to help boost millet production. The hardy, nutritious grain is an important crop in Asia and Africa; seven million farmers produce minor millets in South Asia alone.

The kits contain seed packages, storage bags that prevent fungus and insects from spoiling harvested millets, and micronutrients such as zinc, magnesium and iron. Instructional booklets tell farmers how to conduct simple field tests and how to produce the highest yield.

Farmers were also encouraged to use some of the extra income earned by increasing production to send their children – especially their girls – to school.

Today’s event was attended by Lois Brown, Parliamentary Secretary to the Minister of International Cooperation and Member of Parliament for Newmarket-Aurora; Darren Schemmer, VP, Partnership with Canadians Branch, CIDA; and Stephen J. McGurk, Director, Agriculture and Environment, IDRC.

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