

Posted on Thu, Mar. 22, 2007

HOMESTEAD

Can technology help produce blossom?

Research underway at the Tropical Research and Education Center may one day change the way we eat, the way we drive and what farmers choose to grow.

By Kyle Bailey

kbailey@MiamiHerald.com

Some of the biggest challenges facing the world today are related to water and food supplies -- and solutions might be found just 30 miles south of Miami, at the Tropical Research and Education Center in the heart of Homestead.

The humid sub-tropical climate of South Florida provides the perfect environment for studies of tropical and subtropical crops -- the specialty at the 160-acre center, which also houses the University of Florida's Institute of Food and Agricultural Sciences.

Moving beyond pure science, the center hired Edward "Gilly" Evans, the first economist in the center's 76-year history. He came on board in 2004 in response to increasing globalization of the world economy.

"A farmer knows how to produce tomatoes," Evans said, "but a trade agreement signed in Washington can now make it cheaper to just import them. My job is to analyze these policies and bring them into the [center's] research."

Evans' education prepared him for his job: He has a bachelor's degree in agriculture, a master's in agricultural economics and a Ph.D. in food and resource economics.

He weighs the costs versus benefits of adapting new technologies and farming practices.

"You can't just develop technology for technology's sake," he said.

"It must make sense, dollars and cents."

The research facility has 16 faculty members and 45 support staff, with a cooperative extension office that serves farmers.

The mission is to apply scientific research of tropical horticulture and natural sciences for the benefit of the environment and people.

Last year, they received about \$125 million in grants, primarily from the federal government, said center director Van Waddill.

Evans works with scientists on a variety of projects, including an effort to use genetic engineering to eliminate common viruses in local fruits. It's called the Papaya Project, and the researcher is Kati White Migliaccio, who tends to the facility's papaya grove that fills the air with sweet scents.

He's studying the cost of cultivating an engineered papaya.

Genetic engineering experiments also are underway with orchids, leading to advances in the cloning of the beautiful plant.

"From a little piece of orchid we can get 50 to 100 new plants," said Wagner Vendrame, an assistant professor at the center.

Evans is also looking for new ways to make farms profitable while being mindful of the environment. "A lot of people don't believe they can co-exist," he said.

Evans said increasing urbanization is a major priority with farmers in Homestead.

"Now farmers need to be more careful spraying pesticides," he said. "I'm currently looking at ways to reduce the amount of chemicals needed for pest management."

Another by-product of Homestead's growing population is the rising cost of land. The center is looking for new ways for farmers to maximize their output per acre.

"Lands that used to sell years ago for \$10,000 to \$15,000 an acre are now being sold for \$100,000 to \$130,000, and many of the returns from farming today cannot pay the mortgage," Evans said.

The rising population isn't all bad news for farmers, though. Evans said it has helped create a growing market for produce sold straight from the farm.

Evans recently won the 2006 UF-IFAS International Achievement award for his work in developing economic strategies for managing the problem of invasive species in the Caribbean and Pacific basins.

In spite of the difficulties facing Homestead's farmers, Waddill is optimistic.

"I believe that agriculture will remain here in the future," Waddill said, "and I think the center will play a key role."