Established by an act of the Florida Legislature on June 14, 1925, the Everglades Research and Education Center (EREC) in Belle Glade, Florida, is an agricultural and environmental research and education unit of the University of Florida’s Institute of Food and Agricultural Sciences (UF/IFAS). The Everglades Research and Education Center is distinctive in that it is the only academic agricultural research and extension education facility in the United States located on subtropical organic soils.

Barn Owl Update

The barn owl boxes that were destroyed by Hurricane Wilma are quickly being repaired and re-colonized. There are now 160 boxes in Palm Beach County (down from 270), 78% of which currently have nests in them. Jason Martin, a Ph.D. student from the Department of Wildlife Ecology and Conservation, is studying the potential of barn owls to impact rodent populations in the EAA. He is also examining the ecology of the owls in the area (diet, nesting success, juvenile dispersal, nest site fidelity). He recently completed his first year of data collection and will be working on this project for one additional year. There are two live barn owl webcams positioned in nests in the EREC barn. These cameras can be accessed through the EREC webpage (http://erec.ifas.ufl.edu).

Green cane management strategies for South Florida

There is worldwide pressure on sugarcane industries towards adoption of the green cane production system (harvesting sugarcane without burning). Motivation comes largely from regulatory response to changed community attitudes to smoke and ash from cane fires. A clear examination of the benefits and challenges of green cane harvest in Florida is necessary for an informed dialogue on this issue.

The green cane system is clearly most suited to rain-fed systems on well drained soils in the tropics and subtropics, where soil and water conservation benefits often translate into increased yield. Research needs to be conducted to determine the best management strategies for green cane systems on the often-flooded organic and mineral soils of Florida.

Scientists at EREC (R. Gilbert, G. Kingston, M. McCray, G. Nuesly, R. Raid, C. Rainbolt, and R. Rice) are working with our sugarcane clientele on a multidisciplinary research program to examine different residue management strategies in green cane systems. This effort will indicate opportunities for success and challenges for management in adoption of a green cane system in South Florida.

In November 2004 and March 2005, green cane trash management trials were established at EREC on organic soil after early and late harvest to compare impact on yield, crop nutrition, weed, pest and disease activity in response to a full blanket, trash raked from the stool and pre-harvest burning of trash (see photos). In December, 2005 and February, 2006 a second field experiment on sand land soils at Hilliard Bros. Farms was established with like EZenvo and Kelly Morgan of SWFREC with objectives similar to the EREC site. Research at both sites will continue through the second ratoon crop.

Economic Contribution of EREC Research

In October 2001, the Food and Resource Economics Department at UF/IFAS published the results of a study conducted by Edward A. Evans, Max R. Langham and Leon C. Polopulos titled Historic Analysis of the Economic Contribution of the Everglades Research and Education Center (EREC). Previous issues of this newsletter have highlighted EREC’s general and specific contributions. This one expands on the topic of the last issue: funding.

Recall that, during the study period (1950-97), EREC’s funding increased at only 1.7% per year in constant dollars, reflecting a decline in state contributions. Despite that, the average annual rate of return on investment – excluding non-measurable benefits – was a substantial 16%.

By the mid 1990’s, it became obvious that new approaches needed to be pursued to make up for shrinking state allocations to allocate the situation. A strengthened partnership between industry, USDA/ARS - Canal Point, and UF/IFAS/EREC came to the rescue of sugarcane funding for research and extension programs. The chart shows how much progress has been made in only five years (2000-2004). For example, the increase in the number of FTEs (Full Time Equivalent scientists, involved in sugar-cane research) increased more than five-fold at the EREC and almost two-fold at USDA/ARS (Fig. 1). The resources allocated to sugarcane research increased 2.7 times from $1,910,500 in 2000 to $5,148,750 in 2004 (Fig. 2). Important points to consider: First, the industry lobbying efforts at the federal and state levels were instrumental in obtaining those additional funds. Second, industry figures do not include in-kind contributions in the experiments conducted in commercial fields by the scientists. If their donations of land, labor, machinery and equipment, and other inputs were considered, the implied value would reach a few million dollars per year. Those resources are in fact the substitutes for shrinking state dollars.

Despite the recent gains, funding is still insufficient. Recognizing that, the new sugarcane partnership has initiated a Legislative Budget Request of 4.1 million dollars in state funding. Both UF/IFAS and industry intellectuals in making the request a reality. Sugarcane is Florida’s number one agronomic crop and the second in acreage and cash receipts. However, funding is critical to the state’s economy.

Jose Alvarez

Fig. 1. Number of FTEs (Full Time Equivalent scientists) in sugarcane research, January 2000 and December 2004.
Dr. Richard Raid is currently investigating new control measures for lettuce downy mildew. He had a field demonstration on March 1st at C&B Farms and hopes to have several more field trials for display before the end of spring. Stay tuned. Drs. Raid and Nagata are also conducting trials to evaluate the effect of Environmental Protection-sponsored working for the Farmers and the Environment in the Everglades Agricultural Area.

Dr. Alan Wright's student, Linley Smith, a PhD student from Maryville University in Kansas, is conducting research focused on the essential oils of plants. Linley is a student intern from Zamorano University in Honduras who is shown here cutting a tomato stem. Linley works with Dr. Pernezny conducting research focused on the essential oils of plants. Linley is from Ecuador.

In addition to the debate about winners and losers in the free trade agreements that the United States has signed or is negotiating at present, there are other important aspects that do not receive adequate publicity. The website of the Office of the United States Trade Representative (www.ustr.gov) contains a wealth of factual information. This issue of the Newsletter covers two of these aspects.

The Policy Corner
By José Alvarez

The trade enforcement strategy is to use every available tool to level the playing field for America's farmers, ranchers, workers, and businesses by:

• Opening new markets.
• Removing barriers that hinder American exports.
• Bringing WTO enforcement actions.
• Combating unfair trading practices.
• Increasing dedicated trade enforcement resources.
• Empowering American workers to remain the best in the world.

The fact sheet contains eight pages of specific achievements under each of those six objectives, and interested persons are encouraged to visit the website for startling insights that remain unknown most of the time.

FREE AND FAIR TRADE: REAL RESULTS IN LEVELING THE PLAYING FIELD

State Sovereignty and Trade Agreements: The Facts

This is one of the fact sheets in the “Trade Facts” series. It explains how the United States remains very sensitive to, and protective of, our federal system of shared power. It does so by following these three general principles:

• Trade agreements fully preserve a state’s right to regulate.
• Trade agreements do not automatically preempt or invalidate state and local laws.
• Trade panels cannot overturn or change U.S. federal, state or local laws.

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Dr. Victor Guzman [retired] continues his work on breeding varieties adapted to the soils in south Florida. He is also working on a project which involves methods to reduce phytotoxicity application to vegetable crops. His “luxury consumption” method is being tested with local growers.

Dr. Mahy McCrory’s work on sugarcane in the Southern Florida REC in Immokalee is proceeding reasonably well despite hurricanes the last two years. Treatment differences were found in the plant cane crop of phosphorus and silicon small-plot studies that were planted in fall 2005. New trials planted in fall 2005 were a calcium silicate rate study at EREC, a test of nitrogen response on organic soil at EREC, and a mill meal (corn meal) amendment study on a mineral soil at Hilliard Brothers of Florida farm in Hendry County.

Dr. Russell Nagata’s research group has been busy propagating NUF-76 plugs for the Florida Sod Grower Cooperative members who signed up to evaluate this material. If you signed up and have not received your allotment please contact him. Evaluation of 23 bacterial spot resistant bell pepper varieties is ongoing in Immokalee and Delray Beach despite the slow start due to hurricane Wilma which destroyed the first planting in October. A pepper field day is being planned at Delray Beach for March 31, and then around the first of May for Immokalee. Look for the announcements.

Dr. Gregg Nuesly is conducting research to establish field tests in sweet corn and cabbages at the EREC during the Spring. A project on sugarcane variety testing for susceptibility to yellow sugarcane aphid and lesser corn borers will also be conducted at an EREC greenhouse in the coming months. And, with his research with the insect pest management of greenanne/avocado will continue on the organic soils.

Dr. Ken Pernezny and his staff are currently researching copper resistance among bacterial pathogens of vegetable crops (including lettuce, pepper, and tomato). Their research shows that resistant and susceptible strains react quite differently when populations are exposed quantitatively in vitro. However, so far, this has not translated into differences in disease control with copper bactericides in the greenhouse. They are also investigating novel materials for bacterial disease control, including plant essential oils and commercially available biological bactericides (fungicides).

For additional information on any of these projects you are welcome to contact faculty members at 561-993-1500.