sir and/or madam, Miami–Dade Extension is here for you as a free service.” We have experts on food and nutrition, urban and commercial horticulture, ornamental plants, pesticide training, water saving techniques, growing commercial fruit and vegetables, the wonderful 4–H program, marine sciences, and so much more.

In addition to having so many experts at Miami-Dade Extension (for a list of our extension agents and their contact information, please refer to the last page of this newsletter), we also have a vast network of informational avenues that we are able to explore when helping a client. By far our greatest source of information is the University of Florida itself. When we say “Miami–Dade Extension” the very thing we are “extending” is research based information from one of the world leaders in food and agricultural sciences, UF/IFAS. UF has an extension office in every county in Florida. One of our primary functions is to take sometimes detailed and complicated information, learn it well, and then repackage it and explain it in a way that can be more readily and easily consumed by our clients.

Miami-Dade Extension’s main office is strategically located in the heart of South Florida’s agricultural industry, and just a few blocks from UF’s Tropical (Continued on page 2)
Retirement

Farewell, but not Goodbye to Ms. Sandra Canales

Jeff Wasielewski, Commercial Tropical Fruit Extension Agent

Miami-Dade Extension would like to extend a heartfelt thank you to Ms. Sandra Canales, who recently retired after an incredibly impressive 33 years with us. Ms. Canales was our expanded Food and Nutrition Education Program (EFNEP) agent and worked tirelessly to make South Florida a better place through educating thousands upon thousands of people. She was not only a wonderful co-worker, but Sandra is also an amazing person that takes such genuine pride in her family and heritage that you cannot help but to feel better about the world in general when she speaks about them. We will miss you terribly Sandra, but we have left the door wide open for you to visit us as volunteer whenever you like!!

Research and Education Center. TREC’s Ph.Ds and their highly educated and helpful support staff work long and difficult hours looking for, and finding, solutions to the problems our growers and stakeholders face. It is an honor to work for Miami–Dade Extension and UF/IFAS and I go to work every day knowing that I will make a difference in someone’s life that day, perhaps only in a very small way by making someone smile, but many times in a big way by saving a grower from doing something that would cost time, labor and capital, but may not be needed to achieve their goal.

With warmest regards,

[Signature]

Did you know???

During World War I, Extension played a significant role to help meet wartime needs.

- Food shortage was a big concern. Because of Extension’s work, wheat acreage increased from 47 million acres annually in 1913 to 74 million in 1919.
- The draft created a decrease in the number of farm laborers. The organizing of the Women’s Land Army and the Boy’s Working Reserve helped to address this issue.
Laura Vasquez, and that has already educated close to 60,000 individuals in our county over the last five years through various presentations, workshops, and outreach events.

Always on the move to educate the next resident about transforming their yard into a Florida-Friendly oasis while saving water, the Florida Yards and Neighborhoods (FYN) crew has no trouble staying busy. Our program’s goal is to educate homeowners about the nine Florida-Friendly Landscaping™ (FFL) principles, and we have found no shortage of an audience here in Miami-Dade County. As a new program agent, I am settling in to an already stellar program that includes Barbara McAdam, Jesus Lomeli, and

Our partnership with Miami-Dade Water and Sewer Department (WASD) allows us to promote and teach FFL principle #2, “Water Efficiently”, through rainwater harvesting workshops and water conservation presentations for schools, community groups, and outreach events. Whether it is planting the proper plants for our climate, or harvesting

Educating kids about water conservation at Air Base Elementary School (Photo Credit: Laura Vasquez)

Barbara McAdam and Thalia Quintana, a high school volunteer preparing a rain barrel (Photo Credit: Morgan Hopkins)
rainwater to reduce soil erosion from storm water runoff and use as an irrigation source, our team focuses on teaching adults and children various ways to conserve water in the landscape. Another component of our partnership with WASD is conducting the thriving Landscape Irrigation Evaluation and Rebate Program (LIERP) for residential and commercial properties. Through this program, we are able to assess landscapes and irrigation systems, and then provide recommendations to increase water efficiency. Since the inception of this program in 2008, our team has contributed to Miami-Dade County’s cumulative water savings of 14.14 millions of gallons per day, with over 1,150 rebates issued. As our team moves forward, we are excited to continue connecting with residents in our county and educating them about water conservation and FFL principles. Keep an eye out for us Miami, we are coming to a neighborhood near you!
The Rise and Fall of Invasive Pests: Rugose Spiraling Whitefly and Croton Scale

Dr. Catharine Mannion, Research and Extension Specialist, UF/IFAS, TREC

Numerous new arthropods show up in Florida every year with the potential of threatening our food crops, landscapes, or other products. Under the right conditions, the pest population often explodes and the chance of spreading to new areas is almost automatic. This pest explosion is not only due to the availability of food and suitable environmental conditions but also an immediate lack of competitors and natural enemies. As a result, the pest population increases rapidly but will also often decrease after several years. A decrease in population can be associated with an increase in natural enemies and competitors, other applied management strategies, and the natural balance of the pest optimal for its survival. However, the population may not decrease to the point that no management is necessary.

The Rugose spiraling whitefly was first identified in Miami-Dade County in 2009 (Fig. 1) and spread quickly to numerous counties in south and central Florida. This whitefly feeds on many host plants including ornamental, palm and fruit species. Some of the most common landscape favorites include the gumbo limbo tree and coconut palms; however, it will lay its eggs on many types of plants as well as nearby walls or other structures. This whitefly makes a big mess. It produces a white waxy substance and also excretes excessive honeydew which is a sticky, sugary substance. The honeydew provides an excellent place for the growth of sooty mold, so everything in the vicinity of an infestation turns black with mold. Although there were several natural enemies identified attacking this whitefly, one of the parasitic wasps, Encarsia noyesi (Aphelinidae) (Fig. 2) specifically taken over and greatly decreased populations of this whitefly. In addition to the natural movement of this wasp, the University of Florida has been collecting and/or rearing and releasing it to new areas. Once the parasitic wasp is well established in an area, the population of whitefly drops dramatically. Currently, the Rugose spiraling whitefly is greatly reduced from what it was a few years ago.

There is another important issue that seems to be related to the decline in Rugose spiraling whitefly, specifically within gumbo limbo trees. Before this...
whitefly became a problem, there was another pest, croton scale (*Phalacrococcus howertoni*), infesting many gumbo limbo trees (Fig. 3). This scale insect can feed on numerous types of plants, but in the landscape it is often found on gumbo limbo trees and crotons. When the Rugose spiraling whitefly started infesting gumbo limbo trees, we began to see less croton scale. Now that we are seeing less whitefly, we are seeing more scale again on the gumbo limbo trees. The croton scale is found on the stems and underside of the leaves. The adult female is oval, relatively flat, and greenish-yellow with some dark spots or striations. The immature stages will be smaller, yellowish, and also oval and flat. Like the Rugose spiraling whitefly, the croton scale produces excessive honeydew. So the problems associated with honeydew such as the growth of sooty mold could still be happening on gumbo limbo trees, but due to a different insect.

In 2009, a ladybird beetle predator called *Thalassa montezumae* was found feeding on the croton scale (Fig. 4). This was the first time this predator had been reported in Florida and was likely introduced with the introduction of the croton scale. The species is known from Mexico, Arizona, and Texas and appears to not feed on too many other insects except croton scale. The adult is small (less than 6 mm), a dull, metallic blue with two yellow or red spots. The larvae of this ladybird beetle resemble a mealybug because it is covered in a white, waxy substance. Often the croton scale goes unnoticed because it blends well into the stems and leaves until the excessive honeydew becomes a problem. By the time a problem is noticed, there are often predatory beetles already feeding on the scale; however, the adult is very small and also not very noticeable. The beetle larvae, on the other hand, are much more noticeable but and are often mistaken as a pest.

Many of the invasive pest populations do ultimately decline, and although they do not go away completely, do not require constant and extensive management. The importance of natural enemies in this decline is vital which is why it is extremely important to conserve and protect the natural enemies that are there.
What is Cooperative Extension?

The Cooperative Extension Service is the liaison between research conducted at the University of Florida and other universities and end users in Miami–Dade County. Our clientele includes growers (agricultural and horticultural), homeowners, youth, people interested in family issues or food and nutrition, and marine industries.

The University of Florida/IFAS Miami–Dade County Extension receives direct funding from the University of Florida’s Institute of Food and Agricultural Sciences (IFAS) and Miami–Dade County’s Parks, Recreation and Open Spaces Department.

What’s New at Miami-Dade Extension

To use our Extension Calendar, please visit our website http://miami-dade.ifas.ufl.edu and scroll through the calendar. There, you will find all event information including how to register.

This newsletter is edited by Jeff Wasielewski and Cassandra Weston–Hainsworth. If you have any questions or concerns, please contact us at jwasielewski@ufl.edu or crweston@ufl.edu.