

# Miami-Dade Extension Connection

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Participants in the Stony Coral Tissue Loss Disease Observer Training prepare for their in-water training session in La Parguera, Puerto Rico. This session was lead by Florida Sea Grant Extension Agent Ana Zangroniz (left, orange shirt, blue fins). Story on page 7.  
Photo: Puerto Rico Sea Grant/Pinchón Duarte

## Inside this Issue

Letter From the Editor	2
Comings and Goings	3
Tropical Research and Education Center Spotlight	4
How to Make Your Own Compost	6
SCTLD Training Goes on the Road	7
Did You Know?	8
What's New at Miami-Dade Extension?	9
Contact Information	10



# Letter from the Editor

*Jeff Wasielewski, Commercial Tropical Fruit Extension Agent*

Dear Friends of Extension,

The new year is always a time where people like to look forward to the future and resolve to be better. I like to take this time to also look back to see what was accomplished in the past year and how I can improve.

2019 was a good one for the commercial tropical fruit program. I was able to partner with Dr. Jonathan Crane, the tropical fruit specialist from the UF/IFAS Tropical Research and Education Center to offer a series of eight workshops for new tropical fruit growers. We taught attendees how to grow twelve different fruit crops including mango, annonas, dragon fruit, passionfruit, lychee to name a few. We also offered the new growers workshops on how to prepare for hurricanes and freezes. With over 280 attending the eight workshops, the need for these workshops was evident. That series of workshops was a grand success, and I am unbelievably appreciative of Dr. Crane for his time and effort in helping to put the workshops together.

I feel that looking back at the past year to see what was accomplished is good, but looking back to see what wasn't accomplished is better. This self-evaluation allows me to set my goals for the next year. Although I published a quarterly column in [\*Edible South Florida\*](#) magazine and an [EDIS publication on fruit propagation](#), I still fell far short of my personal publishing goals. In 2020 I resolve to write more blogs, more factsheets along with a new EDIS document and my quarterly column.

It's not just me, everyone at Extension is in the process of looking back and looking forward to see what they accomplished and to see what they can do better for next year. It is such a pleasure for me to be able to work with so many professionals that are working their jobs so well, not to serve themselves, but to serve their clients. I take inspiration from my colleagues daily, and I look forward to another productive year at Extension.

Sincerely,



# Comings and Goings

Welcome, Sam!



Sam Chillarón in the Extension office fruit grove. Photo: Sam Chillarón

Sam Chillarón is our new Urban Horticulture Program Specialist working in the Florida Yards and Neighborhoods (FYN) Program for UF/IFAS Extension Miami-Dade County. He started with us in August 2019 and works with team members Laura Vasquez, Barbara McAdam and Jesus Lomeli to serve the public through administration of Miami-Dade County's Landscape Irrigation Rebate Program and teaching the nine Florida Friendly™ Landscaping Principles. Sam previously worked as a middle school science teacher in Broward County and prior to that was the first field manager for the Education Fund's Food Forests for Schools garden program.

Sam has a passion for sustainable agriculture, environmental conservation, and tropical fruit. In his spare time, he works to further the goals of the local food movement and volunteers at local farmer's markets and community gardens. He has a B.A. in Anthropology from New College of Florida and underwent Master Gardener Volunteer training with UF/IFAS Broward County Extension. He is grateful and overjoyed to be working for UF/IFAS, whose [EDIS publications](#) have been critical to his horticulture education.



# Tropical Research Education Center Spotlight

## Integrating Science and Technology for Sustainable Use of Water Resources

*Dr. Haimanote Bayabil, Assistant Professor, UF/IFAS TREC*



Dr. Haimanote Bayabil, second from left and his research group test their drone. Photo: UF/IFAS TREC

Combined effects of population growth and climate variability are exerting more pressure on available freshwater resources globally. As population growth continues, natural resources including freshwater are becoming increasingly scarce. This necessitates agriculture and urban water users to adopt more efficient water use strategies that conserve water while ensuring optimal plant growth and environmental sustainability.

While the development of smart irrigation technologies (e.g., smart controllers, sprinklers etc.) have resulted in a significant reduction in water uses, more efficient technologies are still needed to further reduce water use both in urban and agriculture sectors. Efficient freshwater use is critical not only to reduce water usage but also to minimize pollution of water bodies due to the transportation of nutrients and other waste due to poor water management. As a result, developing smart and sustainable water management practices is critical to meet future water, food and energy needs that sustain future population and ensure environmental sustainability. One such management practice is the use of Unmanned Aerial Vehicles (UAVs).

Florida has an extensive network of lakes, rivers, streams, and wetlands. However, rainfall is highly variable both spatially and temporally resulting in cycles of drought and flooding. Therefore, irrigation is critical to grow crops and maintain landscapes. In addition, Florida's surface and groundwater resources are hydrologically connected, and surface water management practices (e.g., irrigation) have a direct impact on the groundwater both in quantity and quality.

# Tropical Research Education Center Spotlight

*continued*

## Applications of Unmanned Aerial Vehicles (UAVs) for Precision Water Management

One approach that would potentially have a significant impact on water conservation and quality would be irrigation scheduling based on plants' water stress levels (level of thirst). However, crop management to mitigate plant water stress requires continuous monitoring and processing of information in a way that can be used for decision making. In this regard, unmanned aerial vehicles (UAVs) such as Drones, equipped with different sensors, are increasingly being used for different applications including vegetation mapping and natural resources monitoring.

UAVs offer the advantage of collecting data at greater spatial and temporal scales, ease of operational flexibility, and control over data collection and analysis. The use of UAVs are becoming more exciting with the advancement of computer and internet technologies that allow near real-time transmission, processing, and visualization of data, reducing the time required to identify problems and thus allow the timely implementation of corrective measures. A plant's canopy reflects specific bands of light from the electromagnetic spectrum. When plants are under stress such as water stress, nutrient stress, or disease and pests, their reflectance properties change. In line with this, the application of UAVs equipped with different sensors for precision water management is being tested at UF/IFAS TREC. Current research employs the use of different drone-based and in situ sensors, such as multispectral, thermal, and moisture sensors, to understand soil-water-plant relationships under variable rate irrigation, which in turn will be used to develop crop-specific efficient water management practices. In this project, we aim to develop a precision water management system for Sweet corn based on water stress levels calculated from canopy temperature and reflectance measurements.



Top: A big-gun sprinkler system being used at TREC .

Bottom: A thermal image of a big-gun system.

Photos: Haimanote Bayabil



# How to Make Your Own Compost

*Adrian Hunsberger, Urban Horticulture Extension Agent*

It's easier than you think! By making your own compost, you will be helping to reduce waste from going into landfills and produce a wonderful product for your plants. When done correctly, compost is not smelly, and does not attract unwanted wildlife and pests.

Composting is the decomposition of organic waste such as food or plant material by microbes (bacteria and fungi), earthworms and other organisms. The end result of composting is decayed organic matter called humus. Humus is a fantastic product to use in your yard to help keep your plants healthy.



Filling an Earth Machine™ compost bin.

Photo: Adrian Hunsberger

Decomposers are not much different than people in terms of their basic needs, so be sure to provide your microbes with all of the basics:

**Food:** Carbon and Nitrogen (brown and green plant material)

**Water:** moist, not soggy

**Air:** Oxygen

**Volume:** minimum of 3' long x 3' high x 3' deep or 3 to 5' diameter by 3' high cylinder

**Particle Size:** Less than 2–3 inches

**What can I compost?** Anything that was a plant can be composted. All plant materials contain nitrogen and carbon. Materials high in nitrogen are called "greens" (grass clippings, green leaves, fruit and vegetable kitchen scraps).

Materials high in carbon are called "browns" (brown leaves, coffee grounds and paper filters, used tea bags, stale cereals and rice, crushed eggshells, newspaper, and chipped tree branches). To speed up the process, before adding materials to the compost bin, chip or shred items so they are no more than 2–3 inches long.

The compost will heat up due to biological activity and will settle as the materials decompose. To speed up the process, turn the compost periodically (weekly or so). Turning means mixing the compost or taking everything out of the bin and then putting it back.

The compost is finished and ready to use when it has a uniform look, dark color, small particle size, and an "earthy" odor. Use finished compost as a slow-release fertilizer, soil amendment, in your potting soil and raised bed vegetable garden.

To learn more about how to compost, Extension offers [compost classes](#) throughout the year. Miami-Dade County residents may be eligible to receive a free Earth Machine™ compost bin by attending a class! We also have a [web page](#) where you can learn more about making your own "black gold".

Happy composting!



"Black Gold" ready to be added to your yard and gardens. Photo: University of Illinois

## SCTLD Training Goes on the Road

*Ana Zangroniz, Florida Sea Grant Extension Agent*

Back in November, I experienced one of my proudest moments since starting at UF/IFAS Extension in Miami-Dade County. Rene Estevez, a colleague from Puerto Rico Sea Grant (PRSG), reached out to me inquiring about the Stony Coral Tissue Loss Disease (SCTLD) training that we developed to engage recreational divers here in Florida to become citizen scientist observers. Rene was concerned that the SCTLD outbreak might reach Puerto Rico, and wanted to hold a proactive training session to prepare the dive community for this possibility.

I responded to Rene with a resounding “yes.” We were fortunate that PRSG offered to fund myself and my Monroe County Sea Grant Extension Agent, Shelly Krueger to travel to Puerto Rico and offer this workshop. As we developed the agenda, Rene expressed interest in having two training sessions: one for the recreational divers, and another session for local resource managers, biologists, and contractors. Since this audience presumably would have a higher level of experience with coral identification and familiarity with coral disease signs, we needed to understand the groups’ objectives and create a new training session with their needs in mind. I worked with Maurizio Martinelli, the Florida Sea Grant Coral Disease Response Coordinator to create this content. This is exactly what we do in Extension; identify the audience, their needs, and fill that need using best available science.



Recreational divers in the Puerto Rico SCTLD training identify corals and other organisms on a reef off of La Parguera, Puerto Rico. Photo: Puerto Rico Sea Grant/Pinchón Duarte

Maurizio and I designed a training session for the Puerto Rico scientific cohort that consisted of five parts: overview and status of the disease event in Florida and greater Caribbean, the levels of susceptibility of the different coral species, how to distinguish between SCTLD and other stressors, monitoring protocols and objectives, and an overview of the Florida disease response structure. This session went beautifully and was quite well-received by the group, consisting of about 30 participants.

Shelly and I taught our original SCTLD observer training in the afternoon, working with recreational divers from different parts of the island. A major bonus was that Melissa Gonzalez, the National Oceanic and Atmospheric Administration’s (NOAA) Coral Management Fellow worked with the University of Puerto Rico



## SCTLD Training Goes on the Road

*continued*

to be able have us lead an in-water practice session! This was the cherry on top for me, as I will happily take any reason to get into the water, especially when this opportunity has previously resulted in the largest impact of the class. We are confident that Puerto Rico's stakeholders are more prepared for the possibility of SCTLD, and we look forward collaborating again.



Left: Sarah Elise Fields of Vieques photographs during her in-water training session. Right: The afternoon session poses for a final photo together following their SCTLD training session. Photos: Puerto Rico Sea Grant/Pinchón Duarte

## Did You Know?



Did you know that Miami-Dade Extension has four weather stations? [These stations](#) record data on wind speed and direction, maximum and minimum temperatures, humidity, and precipitation. The four stations are located throughout the Homestead agricultural area. They are particularly useful for growers during freezes and high rainfall events. UF/IFAS also has several weather stations in the Homestead area under the [FAWN system](#) which also has easily accessed historical and current weather data. The FAWN system also has stations located throughout Florida.

To access the Miami-Dade weather stations, visit: <http://data.locherenv.com:8080/index.html>

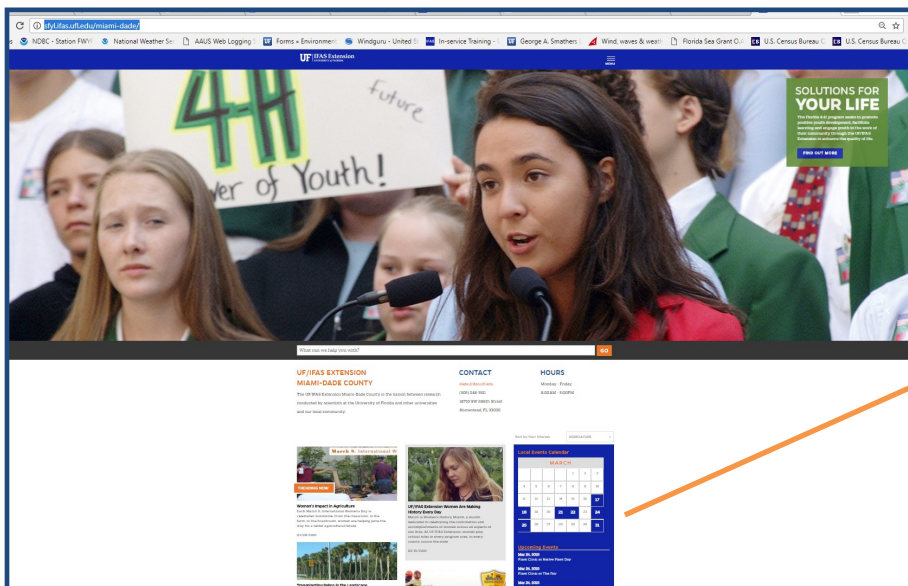
To access the UF/IFAS FAWN weather stations, visit: <https://fawn.ifas.ufl.edu>.

The Miami-Dade weather station located at the Homestead Airport. Photo: Jeff Wasielewski



# What's New at Miami-Dade Extension?

Check out our new website! To access our Extension Calendar, please visit our website: <http://sfyl.ifas.ufl.edu/miami-dade/> and scroll through the calendar. There, you will find all event information including how to register for classes and workshops.



Local Events Calendar						
MARCH						
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

**Upcoming Events**

**Mar 24, 2018**  
Plant Clinic at Native Plant Day

**Mar 24, 2018**  
Plant Clinic at The Fair

**Mar 24, 2018**  
Rain Barrel/Water Conservation Workshop at Native Plant Day at A.D. Barnes Park

## What is UF/IFAS Extension?

The **UF/IFAS Extension Service** is the liaison between research conducted at the University of Florida, other institutions of higher learning, other universities, and stakeholders 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.

**UF/IFAS Extension Miami-Dade County** 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](#).

The **United States Department of Agriculture (USDA)** is the third partner in this cooperative agreement. The Miami-Dade County offices are part of a nationwide system of information, outreach, and education offered by county governments and land-grant educational institutions in each state.

## Get Social With Us!

Follow us on our various social media outlets:



Like our FB Page: [UF IFAS Extension Miami-Dade County](#)



Check out our various informative videos on our YouTube channel: [UF/IFAS Extension Miami-Dade](#)



Tweet with our agents and programs on Twitter:  
[@sflhort](#)  
[@MiamiUCU](#)  
[@miamidade4h](#)  
[@evcampoverde](#)

This newsletter is edited by Jeff Wasielewski and Ana Zangroniz. If you have any questions or concerns, please contact us at [sflhort@ufl.edu](mailto:sflhort@ufl.edu) or [azangroniz@ufl.edu](mailto:azangroniz@ufl.edu).

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