

Miami-Dade Extension Connection

UF/IFAS Extension Miami-Dade County
18710 SW 288 Street, Homestead, FL 33030
<http://sfyl.ifas.ufl.edu/miami-dade/> 305-248-3311

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Dr. Romina Gazis looks for evidence of disease and insect damage at the Kirstenbosch National Botanical Garden, Cape Town, South Africa. Photo: Shannon Lynch. TREC spotlight on [page 4](#).

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Letter from the Editor

Ana Zangroniz, Florida Sea Grant Extension Agent

Dear Friends of Extension,

This spring has begun with a series of events that are unprecedented for most of us. Never in my lifetime have I truly been on the forefront of a public health crisis. Admittedly, when reports of COVID-19 began emerging, I didn't pay much attention and was guilty of a "this won't happen here" mentality. I even took a pre-existing trip without much thought and considered taking advantage of amazingly low airfares to travel again. However, once I sat down and did some research, seeking science-based information, I began to change my mind and became more concerned.

This letter is not intended to be a piece about COVID-19. There are plenty of sources where you can get that kind of information. I simply want to use this opportunity to acknowledge the fear and uncertainty that we as a society are facing, and say that no one has to do this alone, despite the recommendations of "social distancing." To ensure a higher level of safety, we at UF/IFAS Extension have received directives from both sets of leadership; the University of Florida and Miami-Dade County, to cancel or postpone all group classes, trainings, workshops, field visits, etc. We are being encouraged to investigate online platforms to deliver education, which is an opportunity for us to really expand what we do.

In addition to learning how to teach via an online platform, I'm taking advantage of this time to catch up on those pesky tasks that I kept saving for another day, like developing written pieces, performing duties for my professional organizations, researching blog pieces, and taking online courses to learn a new video editing software. While I have dabbled with iMovie for over a decade, I've never been particularly motivated to explore other platforms, namely those that can make your visual production even more professional. I'm out of excuses now, because my schedule has more pockets of time in it! With all that being said, my question to you, friends of Extension, is this: what will YOU do during this time? I encourage you to set a goal for yourselves—whether it be educational or otherwise. Regardless of what you choose, please know that we are still here for you—while you might not be able to walk in and ask a question, you can reach us by email or phone see p. 11 and we will assist you.

Faithfully yours,



Comings and Goings

Welcome, Lunique!

Lunique St. Hilaire is the new program manager for the Family Nutrition Program. For the past 10 years Lunique has had the privilege of assisting the community within Miami-Dade County in different ways. She has worked as an HR assistant for the non-profit organization Miami Rescue Mission whose purpose is helping the less fortunate in our community. She then took the opportunity to work as site coordinator for another non-profit organization by the name of Gang Alternative Inc. funded by the Children's Trust. This position led her to get more involved in the day-to-day activities within the Little Haiti, North Shore, and North Miami communities. It also allowed her to discover her true passion for helping and connecting with individuals. As a community worker, she has had the opportunity to put together both small and big events in order to honor and unify our community as a whole.

Lunique is still in the learning process of trying to know and do more for the community, and it truly gives her a sense of gratitude that she is part of such of a great organization (UF/IFAS FNP). She looks forward to sharing and implementing her resources with her peers and becoming fully integrated in to the UF/IFAS team.

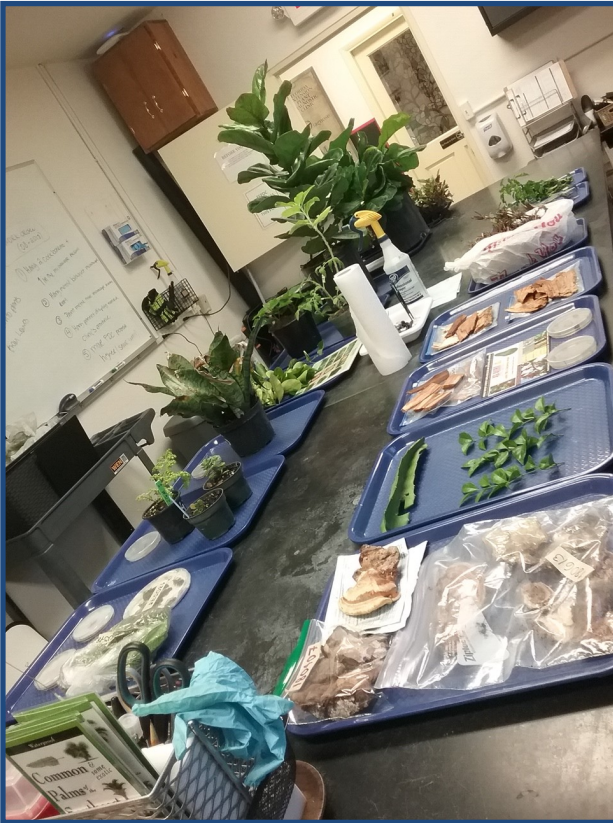


Lunique St. Hilaire. Photo: Kemuel St. Hilaire

Tropical Research Education Center Spotlight

Plant Diagnostic Clinics: Keeping Crops Healthy

Dr. Romina Gazis, Assistant Professor, UF/IFAS TREC



Samples displayed during an educational tour to the PDC. Displayed samples included specimens showing Laurel Wilt, Citrus greening, wood-decaying fungi, and multiple submissions of ornamental samples for disease diagnosis. Photo: Romina Gazis

Florida's agriculture sector contributes approximately \$7.467 billion annually to the state's economy with high-value crops ranging from citrus, blueberry, avocado, to vegetables, strawberries, and ornamentals. However, this agricultural diversity is threatened by a large number of pathogens, so the state's crop protection professionals must remain alert. State-wide diagnostic infrastructure is in place to support crop-wide surveillance and information-sharing. Information is communicated directly to stakeholders, or through cooperation with the state's extension service. To facilitate access to stakeholders, the state's diagnostic network is distributed in five regional diagnostic labs: Panhandle region (Quincy), North (Gainesville), Central (Balm), Southwest (Immokalee), and South (Homestead). Plant diagnostic laboratories provide identification of diseases and insects that threaten our green industry and natural ecosystems.

In South Florida, where environmental conditions are optimum for plant growth, pest and disease pressure is a major limiting factor to increasing profit margins as the steps taken to ensure marketable crops usually require costly inputs. Rapid and accurate diagnosis of plant health problems is essential to maintaining healthy landscapes, forests, farms, and public spaces (urban ecosystems). As a member of the National Plant Diagnostic Network, the mission of the Plant Diagnostic Clinic (PDC) at TREC is to promote the health and

security of plants by timely and accurately identifying, intercepting, and providing management recommendations for newly introduced and re-emerging pests and pathogens that could threaten Florida's and the country's agriculture and natural ecosystems. Since 1990, PDC-TREC has served as a resource for the local horticulture industry, receiving approximately 1,000 samples per year. Most of the samples originate in the Miami-Dade area but some are sent by mail from across the state. Like most clinics, PDC-TREC supports extension, research, teaching, and regulatory programs at the state and federal level.

Why should I get an accurate diagnosis?

Control measures depend on proper identification of diseases and of the causal agents. Without proper identification of the disease and the disease-causing agent, disease control measures can be a waste of time and money and can lead to further plant losses. Even though there are some broad-spectrum pesticides, most of these chemicals have been formulated towards specific groups of pathogens. Accurate and timely identification of the causal agent of disease represents the first step in an Integrated Pest Management

Tropical Research Education Center Spotlight

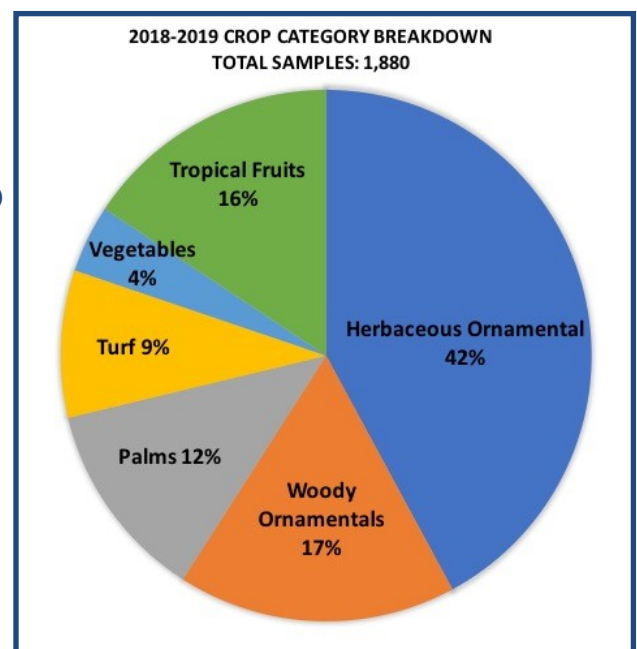
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most of these chemicals have been formulated towards specific groups of pathogens. Moreover, pathogen identity (and its biology) can inform growers on which cultural practices can be adopted to reduce inoculum and prevent future outbreaks. Growers and other industries associated to farming (consultants, nurseries, landscaping/pest control) should opt to have their diseased plants diagnosed before investing in a management plan. The use of symptoms alone is often an inadequate method for disease identification because similar symptoms can be produced in response to different causal agents. For instance, root rot symptoms can be caused by different etiological agents: Oomycetes (Phytophthora, Pythium), Fungi (Fusarium, Rhizoctonia), Bacteria, or soil-borne nematodes. Moreover, these symptoms can also be caused by roots growing in waterlogged soil and dying due to the lack of oxygen. Proper disease diagnosis is therefore vital. An accurate identification of the disease-causing agent may take several laboratory tests (cultural, serological, DNA sequencing etc.) and the expertise of trained staff members.

As Director of the PDC my goals are to: (1) expand the impact of PDC-TREC and build a collaborative network comprised of regulatory agencies and research institutions across the country and overseas; (2) improve, develop, and implement novel disease diagnostic approaches to better inform disease management programs; (3) establish a framework for the prediction of disease incidence and severity based on host, location, and seasonality; (4) support research that explores the establishment of alternative crops in South Florida; and (5) generate baseline data on locally adapted, indigenous natural enemies to improve plant health. Lines of research include etiology and epidemiology of emergent diseases, genetic diversity of pathogens, pesticide resistance acquisition and spread, early detection and management of diseases, host-pathogen interactions, and microbiome studies (rhizosphere, endophytes). Work includes direct research on empirical disease biology topics as well as associated outreach and education programs to enhance awareness about pathogens, emergence and management of diseases, and potential use of locally adapted natural enemies in disease management.

Since I joined UF-TREC my research and extension teams have been very busy. Between 2018 and 2019, a total of 28 workshops (lecture and laboratory/hands on demonstrations) were offered in Spanish and English, with a total of 844 participants. In addition, a total of 39 educational tours were given to a total of 308 participants, including faculty from other institutions, national and foreign researchers, visiting scholars, graduate and undergraduate students, and high schoolers.

My research program has recently received two grants, one from the USDA-Forest Service (Laurel Wilt) and one from FDACS (Dragon Fruit). Other research projects include testing tolerance of different lime cultivars to citrus greening and fungicide trials within the IR-4 program.



Graph showing the distribution by crop of sample submitted to the Plant Diagnostic Clinic between 2018 and 2019.

Outbreak of Red Node Disease Threatens Snap Bean Production in Miami-Dade County

Dr. Qingren Wang, Commercial Vegetable Extension Agent & Pesticide Trainer

Dr. Shouan Zhang, Associate Professor UF/IFAS TREC

Outbreak of Red Node Disease

Miami-Dade County has ranked as the top county in snap bean production not only in the state of Florida but across the US as well. Annually, more than 11,000 acres of snap bean are grown in open fields. Since the fall of 2019, a severe outbreak of red node disease caused by tobacco streak virus (TSV) in snap beans has occurred in Miami-Dade County, which resulted in significant yield losses (Figure 1) to the growers. TSV is transmitted and spread by thrips, and many vegetable crops, ornamental plants and weed species are reported to be the plant hosts of TSV. In the 2019–2020 season, it was reported that hundreds of acres of snap beans were lost due to the red node disease in Miami-Dade County. Some growers had to destroy their crops by disking the fields due to heavy infection with this disease. However, management of this destructive disease is challenging largely due to little research on this disease in Florida and lack of effective insecticides registered on snap beans for thrips control and the development of resistance to insecticides in thrips.



Figure 1: Field view of red node disease in snap beans. Photo: Shouan Zhang

Hosts, Distribution and Vectors

Red node disease is not new, but it has never been so severe as in this growing season. Red node is caused by Tobacco streak virus (TSV), a virus of Ilarvirus in the family Bromoviridae. A large number of plant species are reported to be hosts for this virus, such as cotton, dry beans, sweet clovers, asparagus, cucurbits, cowpea, tomato, and weeds including wild mustard and thistle. It has been reported the incidence of the

disease in more than 26 countries with over 200 plant species. As reported, western flower thrips (*Frankliniella occidentalis*) and onion thrips (*Thrips tabaci*) are major vectors transmitting the virus. Therefore, it is critically important to control these thrips in collaborative efforts with neighbor growers in the same or different commodities because of a large number of hosts for the virus.



Figure 2. Symptoms of red node in beans. Photo: Howard F. Schwartz

Identification and Development

Symptoms of the disease are reddish discoloration of nodes at the point of attachment of leaf petioles to stems (Figure 2). In severe cases, infected plants will flex or break at a discolored node. The veins and veinlets of infected leaves exhibit a red to reddish-brown streaking.

Outbreak of Red Node Disease is Threatening Snap Bean Production in Miami-Dade County

continued

It may appear as red to reddish-brown concentric rings on pods, which become shriveled or puffy and do not produce seeds. Plants can be severely stunted (Figure 3) and killed by the virus if the infection occurs at an early growth stage of the plant (McAvoy, 2014).

Environmental factors may contribute to an occurrence of the red node disease. As reported from India on cotton, with a minimum temperature of 73 oF, moisture of 82%, and leaf wetness of 24 hours, the disease incidence can reach up to 31% (Vinodkuma et al., 2017).

Management

To control the disease, integrated pest management approaches are essential including physical, cultural, and chemical practices. The practices include the use of cultivars with resistance to TSV as a genetic approach if available; seeding with pathogen-free seeds (McVoy, 2014; Zhang, et al. 2017) because seed transmission has occurred in beans, chickpeas; destructing potential reservoirs including weeds in close proximity; and spraying appropriate insecticides to manage thrips. Chemical control only is inefficient to stop the disease. However, certified insecticides for beans, such as Radiant (spinetoram), Movento (spirotetramat), and Exirel (cyantraniliprole) with rotations to suppress the population of thrips is required to reduce the development of resistance in thrips.

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Figure 3. Bean plants stunted by the infection of the red node disease. Photo: Qingren Wang

NRLI: Gnarly and Fun!

Ana Zangroniz, Florida Sea Grant Extension Agent



NRLI fellows Matt Warren, left, and Ana Zangroniz identify black bear scratch marks on a tree in Ocala National Forest with assistance from an FWC staff member (right).
Photo: Katelyn Cuccinotta

Last August, I embarked upon my journey as a fellow in the Florida Natural Resources Leadership Institute (NRLI). NRLI is an eight-month professional development program with the University of Florida/IFAS Extension. NRLI brings together professionals in sectors that impact or are impacted by natural resource issues. Each intensive three-day session is held in a different part of the state and focuses on a specific and contentious natural resource issue. Sessions include immersion in the issue through first-hand experience with the resource, engagement with stakeholders from diverse institutions/organizations and perspectives, and experiential training skills, concepts, tools, and strategies for effective collaborative decision making, conflict management, communication, and negotiation.

NRLI is not your typical professional development or in-service training offering. From the moment we walk into the room, we are “on”– in other words, engaged, participating, thinking, talking. It is intense. Our agenda contains the following components: we are introduced to the overall natural resource issue by a content speaker who has worked or been a part of the particular issue. We take a field trip to view the actual resource and/or conflict, and we prepare questions for a stakeholder panel with individuals representing multiple sectors surrounding the issue. In between all of these segments are discussions and activities lead by the NRLI project team, introducing us to the specific content focus of the session, for example: dealing with challenging behaviors,

identifying roots of conflict, asking good questions, etc. All of these pieces are woven together into an exhausting, albeit exhilarating and stimulating.

Our group of 21 fellows has completed six of our eight sessions, traveling around the state: we began in Ft. Lauderdale (impacts of port expansion), Ft. Walton Beach (beach nourishment), Ft. Myers (water quality and estuary health), Ocala (black bear management), Okeechobee (agriculture and water quality), and Sebring (lake habitat management). This has been an amazing opportunity to learn about natural resources outside of the marine and coastal environment, which have always dominated my thinking when it comes to Florida. While conceptually I know that Florida has more to offer beyond the ocean and related activities, it wasn't until I began in this program that I really started to understand more about different industries and the perspectives that come with them, such as dairy farming.

NRLI: Gnarly and Fun!

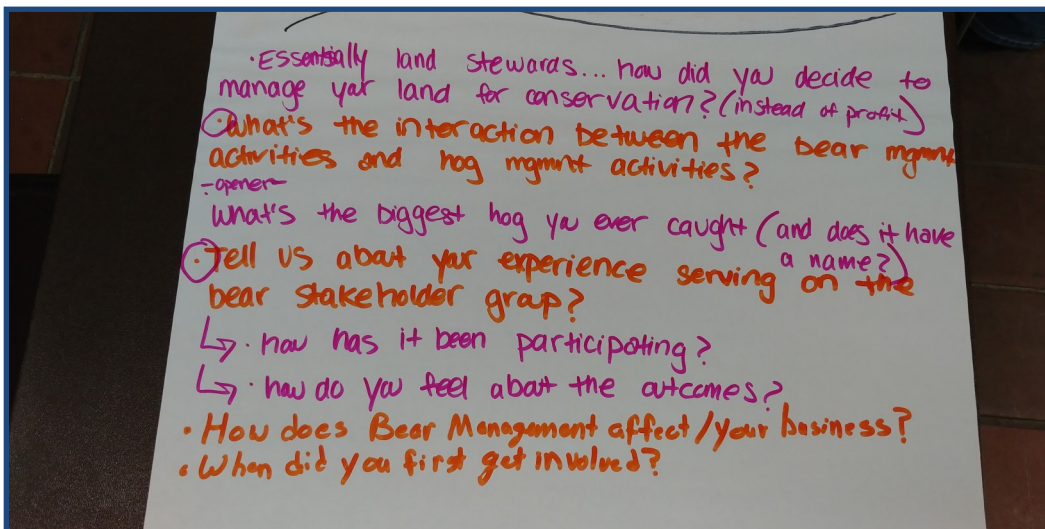
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Participation in this program has been a challenge, but a welcome one. By studying the curriculum topics and how they tie in with the diverse natural resource issues we have around our state, I know that I have greatly expanded my knowledge base and am better prepared to engage stakeholders and guide them towards making decisions. This will continue to gain importance as we move forward into the future, as our population grows and climate change only brings new challenges to all of our sectors. For anyone who works with, in, or around natural resources, the application period for NRLI in 2020 is now open! For more information,

or to apply, visit: <https://nrli.ifas.ufl.edu/index.shtml>.



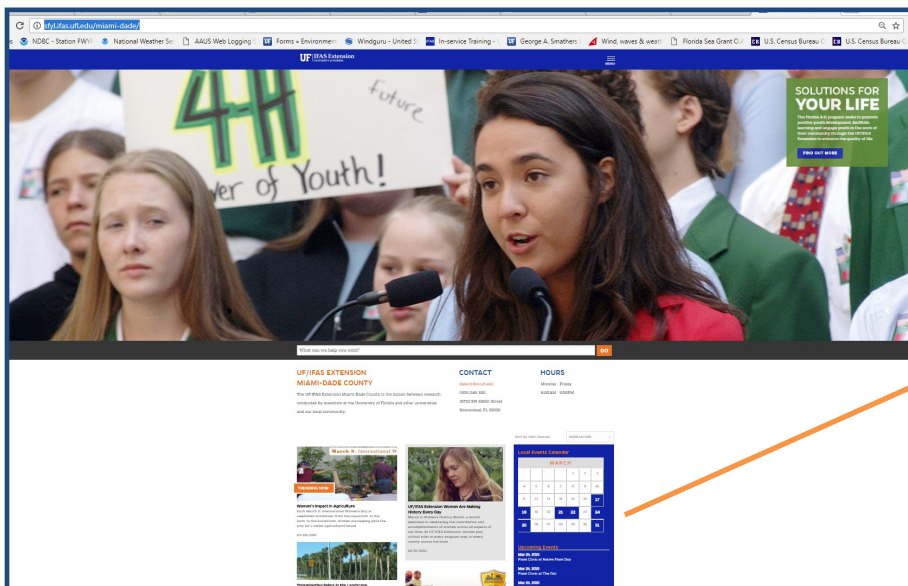
NRLI fellows Ben Glass, front left, and Ben Christ participate in the session 7 review panel lead by their peers, Katelyn Cuccuniotta (rear left) and Cacee Hilliard (rear right). During each session, fellows were responsible for specific tasks including preparing for and facilitating the stakeholder panel, the session review, feedback panel and more. Photo: Ana Zangroniz



An example of questions prepared for the black bear management stakeholder panel. Photo: Ana Zangroniz

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:



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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](#), [@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 or azangroniz@ufl.edu.

Contact Information

Administration, Commercial Agriculture, Horticulture, Florida Yards and Neighborhoods

18710 SW 288 Street, Homestead, FL 33030
Phone: 305-248-3311, Fax: 305-246-2932

Teresa Olczyk: twol@ufl.edu

County Extension Director
Ext. 232

E. Vanessa Campoverde: evcampoverde@ufl.edu

Commercial Ag/Ornamentals Extension Agent
Ext. 241

Samuel Chillarón: Samuel.chillaron@ufl.edu

Urban Horticulture Program Specialist
Ext. 249

Adrian Hunsberger: aghu@ufl.edu

Urban Horticulture Extension Agent
Ext. 236

Jesus Lomeli: jlomeli@ufl.edu

Urban Horticulture Program Specialist
Ext. 246

Elizabeth Luna: lluna@ufl.edu

Office Support Specialist II
Ext. 242

Valentina Marquez: valentinasilva@ufl.edu

Administrative Secretary
Ext. 240

Henrique 'Henry' Mayer: hmayer@ufl.edu

Commercial Urban Horticulture Extension Agent
Ext. 231

Barbara McAdam: bmcadam@ufl.edu

Urban Horticulture Program Specialist
Ext. 245

Adel Peña: penaa@ufl.edu

Urban Horticulture Program Specialist
Ext. 228

Laura Vasquez: lavasquez@ufl.edu

FYN Program Supervisor
Ext. 239

Patty Viera: pviera@ufl.edu

Office Support Specialist II
Ext. 225

Qingren Wang: qrwang@ufl.edu

Commercial Vegetable Extension Agent & Pesticide
Trainer
Ext. 234

Jeff Wasielewski: sflhort@ufl.edu

Commercial Tropical Fruit Extension Agent
Ext. 227

Expanded Food & Nutrition Education Program (EFNEP)

300 East 1 Avenue, Suite 113

Hialeah, FL 33010

Phone: 786-391-0539

Rachel Biderman: rbiderman@ufl.edu

EFNEP Supervisor & Extension Agent

Family Nutrition Program (FNP)

14707 South Dixie Highway, Suite 402

Palmetto Bay, FL 33176

Phone: 305-234-2159

Lunique St. Hilaire: luniquesthilaire@ufl.edu

Miami-Dade FNP Extension Program Manager

Solina Rulfs: solina@ufl.edu

Miami-Dade FNP Food Systems Specialist

4-H & Family Consumer Sciences (FCS)

Amelia Earhart Park

401 East 65th Street

Hialeah, FL 33013

Phone: 305-769-4050

Fax: 305-769-4052

Shirley Bender: skbender@ufl.edu

Support Specialist
Ext. 221

Kimber Sarver: ksarver@ufl.edu

4-H Youth Development Extension Agent
Ext. 223

Whitney Thames: whitneythames@ufl.edu

4-H Agent
Ext. 222

SEA GRANT

4600 Rickenbacker Causeway

Miami, FL 33149

Phone: 305-421-4017

Ana Zangroniz: azangroniz@ufl.edu

Florida Sea Grant Extension Agent