

Southwest Florida  
Research and  
Education Center

2685 SR 29 North  
Immokalee, FL 34142

Phone: 239-658-3400

Fax: 239-658-3469

E-mail:

[swfrec@ifas.ufl.edu](mailto:swfrec@ifas.ufl.edu)

Update Editor:

Julie A. Carson

[carsonj@ufl.edu](mailto:carsonj@ufl.edu)

## INSIDE THIS ISSUE:

Latest Research 2

Staff News 4

Spotlight On... 6

Dr. Strauss Introduction 7

Coming Events 8

## Center Director's Corner

Although summer in south Florida is typically a calmer time for the agricultural industry, things are still in full swing at the SWFREC.

Our center hosted the 5th Annual South Florida Graduate Research Symposium in late July. Twenty-four students presented their research at the event, which was chaired by our agricultural engineer Dr. Sanjay Shukla. Special guests included Dr. Elaine Turner, Dean of the UF/IFAS College of Agricultural and Life Sciences, and Dr. Sherry Larkin, UF/IFAS Associate Dean for Research. For a report on this most successful event, see pages 6-7 of this issue.

I recently had the honor of serving as the master of ceremonies at the 2016 Gulf Citrus Growers Association Industry Celebration at the Harborside Event Center in Fort Myers. The event was a star-studded affair, with UF President Dr. W. Kent Fuchs and Florida Commissioner of Agriculture Adam Putnam as featured speakers.

Allow me to bring you up to speed on our new faculty hires at the SWFREC. Dr. Sarah Strauss began her time at the center in May as our first-ever soil microbiologist. She previ-



ously worked in California at the USDA-ARS Crops Pathology and Genetics Research Unit in Davis and in Washington at the USDA-ARS Tree Fruit Research Laboratory in Wenatchee.

For more information about Dr. Strauss and her plans for soil microbiology research at the center, see page 7 of this issue.

SWFREC's new citrus plant pathologist, Dr. Ozgur Batuman, will begin work at the center in late September. He currently conducts research in the plant pathology department at the University of California, Davis.

Regarding other new faculty positions at the center, we are narrowing in on a final candidate selection for the weed science position, and interviews have just completed for the ag/natural resource economics position. Plus, we are currently advertising for our recently vacated citrus horticulturist position and the new precision agriculture position.

Calvin Arnold

[cearnold@ufl.edu](mailto:cearnold@ufl.edu)



# Latest SWFREC Research

## Vegetable Pest and Disease Update

Dr. Pamela Roberts, Plant Pathologist

This spring, there was an increase in several viruses occurring on watermelon. One of these viruses, *Squash vein yellowing virus* (SqVYV), known commonly as watermelon vine decline, re-emerged this spring after a nearly eight years of infrequent detections. Squash vein yellowing virus is transmitted by whiteflies and causes decline and death of watermelon vines typically near harvest. In some cases, the internal fruit quality is affected and fruit is non-marketable.

Another whitefly transmitted virus, *Cucurbit yellow stunting disorder virus* (CYSDV), has been in Florida since 2007 but at relatively low incidence, or number of infected plants, per field. This spring season 2016, the incidence of CYSDV was much higher and was near 100% in small sections of certain watermelon fields in southwest Florida. The effect of this high incidence of CYSDV related to the overall health of the plants and impact on yield remains to be determined.

A third whitefly transmitted virus, *Cucurbit leaf crumple virus* (CulCrV), was present but at much lower incidence which is more typical of the distribution of the this virus. Symptoms of the aphid-transmitted virus *Papaya ringspot virus* (PRSV) were observed on plants in many watermelon fields. In some fields, all of the viruses determined by symptoms were present on watermelon.

The increased incidence of some of these viruses might be due to the warmer weather and lack of cold this season which did not greatly impact alternative hosts and whiteflies. Management of these viral diseases is through control of their vectors, and even though appropriate management through insecticides is applied, the presence of the viruses indicates that the populations were probably in the crop early in the season.

Late blight caused by *Phytophthora infestans* is a chronic disease problem on tomato and potato in southwest Florida. However, this season, while the disease has been detected in other parts of the state, late blight was not detected locally in the Immokalee area. Interestingly, for the

first time in many years, two other *Phytophthora* species, *Phytophthora capsici* and *Phytophthora nicotianae*, were found on symptomatic tomato leaves and fruit. While unexpected, both of these species of *Phytophthora* are reported to occur on tomato and their management would be similar to late blight.

Every year, we conduct multiple field trials on integrated disease management on tomato at SWFREC to control late blight, target spot, and bacterial spot. Results of these efforts include identifying several promising, novel combinations as well as evaluating labeled products. In cucurbits, we also conduct trials to evaluate management options for the control of powdery mildew on squash and downy mildew and gummy stem blight on watermelon in addition to other diseases.

Kousik, C.S., Adkins, S., Webster, C.G., Turechek, W.W., Stansly, P., and Roberts P.D. 2015. Influence of Insecticides and Reflective Mulch on Watermelon Vine Decline Caused by Squash Vein Yellowing Virus (SqVYV). Plant Health Progress doi:10.1094/PHP-RS-14-004

Roberts, P.D., Gevens, A.J., McGovern, R.J. and Kucharrek, T.A. 2015. Vegetable Diseases Caused by *Phytophthora capsici* in Florida. Florida Cooperative Extension Service. EDIS Extension Fact Sheet. PP176/VH045. <https://edis.ifas.ufl.edu/vh045>

Susan E. Webb, David J. Schuster, Phillip A. Stansly, Jane E. Polston, Scott Adkins, Carlye A. Baker, Pamela Roberts, Oscar E. Liburd, Teresia Nyoike, Eugene McAvoy, and Alicia Whidden. 2015. Recommendations for Management of Whiteflies, Whitefly-Transmitted Viruses, and Insecticide Resistance for Production of Cucurbit Crops in Florida. Florida Cooperative Extension Service. EDIS Extension Fact Sheet. ENY-478 <https://edis.ifas.ufl.edu/in871>



**Squash Vein Yellowing**  
Virus symptoms include internal rind discoloration and flesh degradation on fruit and scorched leaves, wilted plants, and rapid vine collapse of mature plants.



***Phytophthora capsici* symptoms** include tan or brown spots often appearing as concentric rings on green fruit.



**Papaya Ring-spot Virus** produces such symptoms as intense mosaic with a narrowing of the leaves, often creating a shoestring effect.

# Staff News

- ◆ Three SWFREC faculty members recently spoke at the 2016 Citrus Expo at the Lee Civic Center in North Fort Myers, Florida: Plant physiologist Dr. Ute Albrecht ("From Planning to Planting: The Latest Information for Establishing New Groves in the Presence of HLB"), entomologist Dr. Phil Stansly ("Developing a Psyllid Management Plan That Works for You"), and soil and water scientist Dr. Kelly Morgan ("BMPs: New Regulations and Compliance Issues").
- ◆ Graduate student Gilma Castillo was named a Regional Prize Winner in the Syngenta Agricultural Scholar-



ship Program in July. The honor comes with a \$1,000 cash prize and earns her entry into the national round of judging to compete for a top award of \$6,000 in her graduate category at the Syngenta Me-

dia Summit awards ceremony in Raleigh, North Carolina, in October. Contestants had to write an essay about the person who inspired them to be in rooted in agriculture. Castillo, who studies under SWFREC vegetable horticulturist Dr. Monica Ozores-Hampton, wrote "A Chain Reaction" about her father.

- ◆ SWFREC center director Dr. Calvin Arnold and agricultural economist Dr. Fritz Roka were invited by the Bonita Springs Chamber of Commerce to make a presentation to its Leadership Bonita Economic Development and Regionalism Day in June. Dr. Arnold provided a historical overview of the center, including information about recent growth in both facilities and the center's faculty roster—made possible by funding from the Florida legislature. And he highlighted key research projects that have been generated by the SWFREC. Dr.

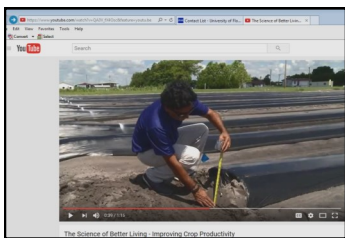
Roka presented information about the importance of agriculture



in southwest Florida as well as current issues important to agriculture, including new technology (higher yields, disease and pest control, and environmental sustainability); consumer demand (evolving tastes and preferences for food); and the political landscape (controlling exotic pests and diseases, access to water and land, immigration reform and farmworker issues, global competition and free trade, and regulations and food safety standards).

# Staff News continued

- ◆ Two SWFREC students have successfully defended their masters theses. Ibukun Timothy Ayankojo presented “Validation of Smart Irrigation App in Vegetable Production on a Florida Spodosol.” His committee chair was SWFREC soil and water scientist Dr. Kelly Morgan. Abdulhamid Al-Riyami presented “Tolerance and Acclimation of Asian Citrus Psyllid *Diaphorina citri* Kuwayama (Hemiptera: Liviidae) to High Temperatures.” His committee chair was former SWFREC associate research professor of entomology Dr. Jawwad Qureshi.
- ◆ UF/IFAS Communication Services (ICS) in Gainesville worked with SWFREC agriculture and biological en-



gineer Dr. Sanjay Shukla to develop a widely reaching press

release about his bed geometry project. The research has included designing novel bed geometry configurations for growers to improve plasticulture crop production efficiency. In addition to the news release, ICS created a video promoting the benefits of the project via YouTube: [https://www.youtube.com/watch?v=QA3V\\_fx4Qsc&feature=youtu.be](https://www.youtube.com/watch?v=QA3V_fx4Qsc&feature=youtu.be)

- ◆ Post-doc associate Dr. Rajendra Sishodia placed third in the 2016 Boyd-Scott Graduate Research Award competition at the annual international meeting of the American Society of Agricultural and Biological Engineers in Orlando in July. His presentation was “Effects and Management of Future Irrigation Withdrawals in a Semi-Arid South Indian Watershed.” His committee chair is Dr. Shukla.
- ◆ SWFREC Ph.D. student Xulin Chen completed an internship with

Bayer CropScience in Morrisville, North Carolina. Among the



work she did this summer: developing *in-vivo* and *in-vitro* bioassays of GMO plants to determine their effectiveness on interested pests and working in pest control research and development as part of the traits development team. Her committee chair is SWFREC entomologist Dr. Phil Stansly.

- ◆ New publication: Di Gioia, F., Ozores-Hampton, M., et al. 2016. The Effects of Anaerobic Soil Disinfestation on Weed and Nematode Control, Fruit Yield and Quality of Florida Fresh-market Tomato. HortScience, 51 (6): 703-711.

# Spotlight On . . . Poster Symposium

Twenty-four students participated in the 5th Annual South Florida Graduate Research Symposium, which was hosted last month by the SWFREC.

The day-long event included an opening ceremony, two judged poster presentation sessions, lunch, and a closing awards ceremony.

The top three posters were: First Place (\$300 award): Kira Hansen, Agricultural and Biological Engineering (ABE), UF/IFAS SWFREC (advisor Dr. Sanjay Shukla); Second Place (\$200 award): Angelica Engel, ABE, SWFREC (Advisor Dr. Shukla); Third Place (\$100

award): Michiko Squires, Wildlife Ecology and Conservation, UF/IFAS Fort Lauderdale Research and Education Center (FLREC) (advisor Dr. Frank Mazzotti).

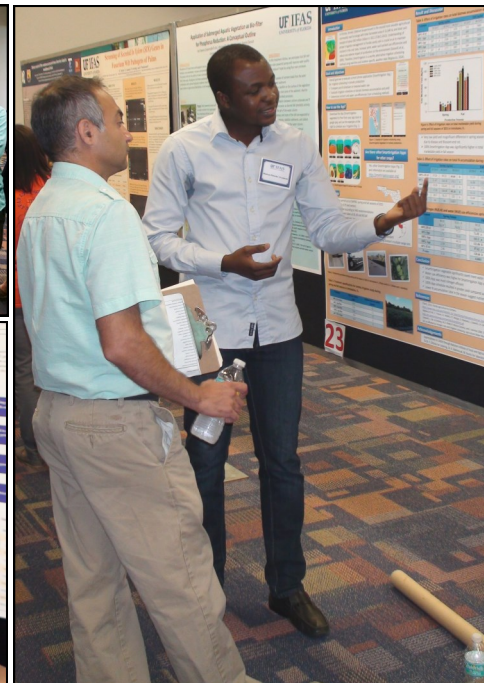
Honorable Mention posters (\$75 award): Santosh Sanjel, Plant Pathology, UF/IFAS Everglades Research and Education Center (advisor Dr. Philippe Rott); Mohsen Tootoonchi, Agronomy, FLREC (advisor Dr. Lyn Gettys).

Undergraduate students and students who recently graduated with their B.S. degrees also were recognized: Modeline Celestin (advisors Dr. Christina

Romagosa and Dr. Rena Borkhataria); Colleen Closius (advisor Dr. Mazzotti); Hanna Innocent (advisors Dr. Michael Moulton, Dr. Romagosa, Dr. Raymond Carthy, and Dr. Borkhataria); Ebony Taylor, Jessie Gonzalez, and Melonie Sterling (advisor Dr. Monica Elliott); and Jay Capasso (advisor Dr. Jehangir Bhadha).

Dr. Shukla served as event chair. Special guests included Dr. Elaine Turner, Dean of the UF/IFAS College of Agricultural and Life Sciences; Dr. Sherry Larkin, UF/IFAS Associate Dean for Research; and Dr. Calvin Arnold, SWFREC director.

The 5th Annual South Florida Graduate Research Symposium at SWFREC featured posters created by twenty-four students, who presented their research not only to judges on a one-to-one basis but also to other students.





**Congratulations to the 5th Annual South Florida Graduate Research Symposium top three award winners, who posed with the event's special guests (from left to right): Dr. Calvin Arnold, Michiko Squires, Kira Hansen, Angelica Engel, Dr. Elaine Turner, Dr. Sherry Larkin, and Dr. Sanjay Shukla.**

## Soil Microbiologist Joins SWFREC

Dr. Sarah Strauss became the newest faculty member to join the SWFREC staff when she started at the center in May.

Dr. Strauss received a B.A. degree from Washington University in Saint Louis in biology and environmental science and her Ph.D. from Arizona State University in plant biology. Prior to her appointment at the SWFREC, Dr. Strauss worked at the USDA-ARS Crops Pathology and Genetics Research Unit in Davis, California, and the USDA-ARS Tree Fruit Research Laboratory in Wenatchee, Washington, where she gained experience in tree crops.

Dr. Strauss' interest in soil microbiology stems from a love of the outdoors that began during her childhood in Dallas, Texas. During research trips to Yellowstone National Park while an undergraduate and then to Antarctica for her dissertation research, she became fascinated with the diversity of microorganisms in soils.

Dr. Strauss' research program at SWFREC will focus on characterizing and managing plant and soil microbial community interactions to improve citrus and vegetable crop health and productivity.

She is very excited to be

in Florida to start the SWFREC soil microbiology research program and have the opportunity to collaborate closely with growers and others in both the citrus and vegetable industries.



# Coming Events

**September 5:** *Labor Day holiday.* SWFREC will be closed.

**September 7:** *UF/IFAS Tomato Institute.* 9am-4pm. Ritz-Carlton Beach Hotel, Naples. SWFREC speakers will include vegetable horticulturist Dr. Monica Ozores-Hampton (institute organizer), entomologist Dr. Phil Stansly, and agricultural economist Dr. Fritz Roka. For more information: <http://swfrec.ifas.ufl.edu/> and scroll down to "Events."

**September 14:** *Compost in Citrus Production Workshop.* 8:30am-1pm. SWFREC. CEUs for Certified Crop Advisors will

be available. For more information: <http://swfrec.ifas.ufl.edu/> and scroll down to "Events."

**October 12:** Certified Crop Advisor Training. 7:45am-6:30pm. SWFREC (via videoconference). Training for those with a CCA license only. Information will be sent to those who qualify.

**October 14:** SWFREC closed in observance of UF Homecoming holiday.

**October 18:** *Tomato Scouting and Management Workshop.* More information to come.

**October 20:** *Soil Microbes for Citrus in Relation to Citrus Greening (HLB) and Beneficial Nematodes for Diaprepes Control.* 10am-1pm. SWFREC. For more information: <http://swfrec.ifas.ufl.edu/> and scroll down to "Events."



**A new UF Graduate Student Organization (GSO) has been created at the SWFREC! Pictured are (left to right): Ali Atta, Angelica Engel, Timothy Ayankojo, Kira Hansen, and Gilma Castillo. An official UF GSO must meet certain requirements, and its members can enjoy perks from the university, such as regular use of facilities, the ability to request funds for educational events and speakers, and opportunities for leadership training.**

