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Research and
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Center Director's Corner

It's an exciting time here at the SWFREC!

Thursday, May 21, we hosted a groundbreaking ceremony for the expanded laboratory and office space that is being added to the south end of our main building. About 100 folks came out to help our faculty and staff celebrate, including growers, elected officials, and UF/IFAS representatives from the main campus in Gainesville.

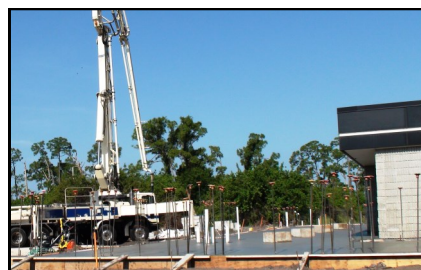
For more information about the event, see pages 2-3 of this issue of the SWFREC Update newsletter.

Speaking of the construction project itself, progress is really coming along since we officially broke ground in March (see photos). The new addition, as well as some renovations to offices and labs in our original main building, is expected to be completed early next year.

We appreciate the support of our growers leading the way to secure the \$2 million for this project via funds earmarked by the 2014 state legislature. We equally appreciate their efforts to encourage the 2015 legislature to appropriate recurring funds to create new faculty positions.

Calvin Arnold

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SWFREC Celebrates Groundbreaking

Nearly 100 growers, industry representatives, and other supporters participated in a SWFREC groundbreaking ceremony in May to celebrate the center's expansion of office and laboratory space.

A 7,000-square-foot addition to SWFREC's main building eventually will be able to house up to six new faculty members and their lab personnel. The \$2 million project, which also will

include renovations and updating of existing labs and offices, got underway in March and is expected to be complete in early 2016.

Speakers during the groundbreaking ceremony included: Collier County Commissioner Tim Nance, Senator Garrett Richter, Representative Kathleen Passidomo, UF/IFAS Senior Vice-President Dr. Jack Payne, South Florida Ag Council Chairman Aaron

Troyer, SWFREC Director Dr. Calvin Arnold, and SWFREC student representative and PhD candidate Angelica Engel.

Funding for the construction project was earmarked for the SWFREC by the Florida Legislature during the 2014 session.

The expansion project will increase the center's main building from 21,000 square feet to 28,000 square feet.



From left to right: Collier County Commissioner Tim Nance, University of Florida Board of Trustees Member Charles Edwards, Chairman of the South Florida Ag Council Aaron Troyer of Troyer Brothers Farm, Senator Garrett Richter, UF/IFAS Senior Vice-President Dr. Jack Payne, State Representative Kathleen Passidomo, SWFREC Director Dr. Calvin Arnold, and SWFREC student representative Angelica Engel don hardhats for a ceremonial photograph.



About 100 people attended the SWFREC ground-breaking ceremony, from growers and elected officials to several UF/IFAS deans and other long-time supporters of the center.

Amy Stuart—UF/IFAS



Latest SWFREC Research

Citrus Production Costs Raise Dramatically

Dr. Fritz Roka, Agricultural Economist

HLB has had a clear and significant impact on the cost of producing citrus. A 2014 grower survey indicated that production costs for juice oranges in south-west Florida had risen to nearly \$2,500 per acre, more than a three-fold increase of what Ron Muraro (agricultural economist at the UF/IFAS Citrus Research and Education Center in Lake Alfred) had estimated for the 2003-04 season.

The survey included professional caretakers, who provided information on grove operations, and growers,

who provided extensive information on their individual strategies to manage against HLB.

Retail price lists of product vendors were used to value the cost of materials. The value of materials and grove services during 2013-14 were totaled and averaged across all the growers.

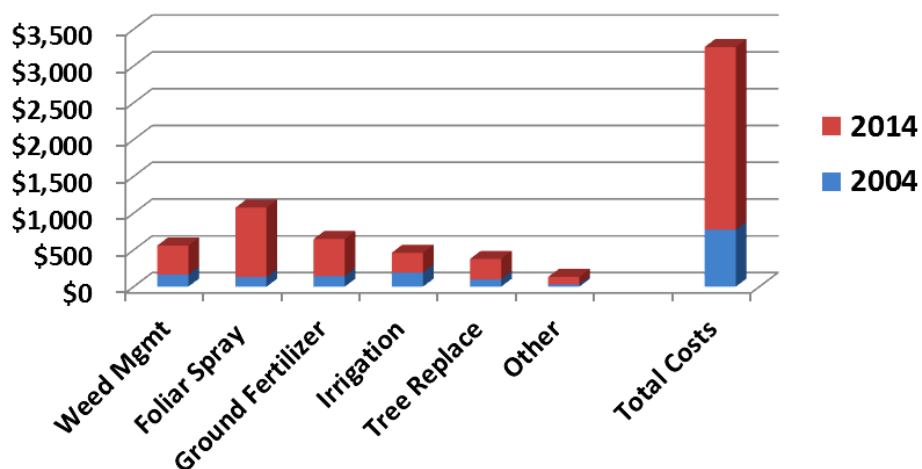
The chart below separates the survey results into six cost categories: 1) Weed Management (herbicides and mowing); 2) Foliar Sprays (fungicides, insecticides, and foliar nutritionals); 3) Ground Fertilizer (dry and liquid materials); 4) Irrigation (fuel, repairs, and water treatment materials); 5) Tree Replacement (reset planting at 5 trees

per year); and 6) Other (pruning, scouting, and canker decontamination).

The growers' spray program was the biggest source of cost increase. In 2003-04 most juice orange growers sprayed only two summer oils. In 2013-14, the same growers were spraying between 10 and 18 times a year in their efforts to control psyllid populations and to apply foliar nutritionals.

As growers experiment with new materials and management strategies to reduce psyllid populations and improve an infected tree's overall health, overall cost-effectiveness should improve.

Juice Oranges (SWFla)



Staff News

- ◆ Nathan Holt, who just completed his master's work in Agricultural



and Biological Engineering at UF, was awarded "Best

Thesis" from Dean for Research Dr. Jackie Burns at the recent UF/IFAS Graduate Research Awards Program on campus in Gainesville. His thesis is titled: "Optimizing Plasticulture Bed Geometries for Enhancing the Sustainability of Vegetable Production." Nathan's committee was chaired by Dr. Sanjay Shukla, SWFREC water resources engineer.

- ◆ Also at the research awards, Dr. Shukla and senior biological scientist Greg Hendricks were awarded "Best High-Impact Research Publication on Crop Management" for their article, "Measurement and Modeling of Phosphorus Transport in Shallow Groundwater Environments." The

article was co-authored by T.A. Obreza and W.G. Harris and was published in the Journal of Contaminant Hydrology, issue #164, in 2014.

- ◆ SWFREC vegetable horticulturist Dr. Monica Ozores-Hampton was invited to write an article about her toma-



to research program for Heartland in the Field magazine. The February 2015 issue of the publication featured a special section devoted to Florida's tomato industry, and Dr. Ozores-Hampton's article was a highlight.

- ◆ Dr. Ozores-Hampton also was awarded the Florida State Horticultural Society Tomato Research Award at the society's annual meeting in St. Augustine in May. This year's award was presented to "the person having contributed work with the

most potential to further the fresh market tomato industry in Florida through advances reported in any single publication in any scientific or technical form published during the two previous calendar years."

- ◆ The SWFREC had a 20-member team in the American Cancer Society Relay for Life event in Immokalee May 1-2. Staff members set up a "Gators Chomp Cancer" booth, and at least two



team members were on the track at all times between 5pm Friday and 6am Saturday. SWFREC raised \$805.



Field Day Draws Growers

SWFREC's Spring Vegetable Field Day attracted 70-plus growers, managers, and other industry representatives in April.

Field trial presentations included: Dr. Kelly Morgan ("Demonstration of the



smart phone drip irrigation scheduling app" and "Effect of irrigation amount on tomato and pepper growth"); Dr. Monica

Ozores-Hampton ("Anaerobic soil disinfection on tomato production" and "Late blight tomato variety evaluation"); Dr. Pam Roberts ("Cucurbit decision support system" and "Powdery mildew on squash"); Dr. Phil Stansly, Dr. Jawwad Qureshi, and Barry Kostyk ("Biocontrol of whitefly on tomato with *Nesidiocorus tenuis*," "Silverleaf whitefly control with insecticides on tomato," "Experimental and labeled insecticides for control of rindworms on cantaloupe," "Insecticidal control of diamondback moth on broccoli," "Sivanto for control of silverleaf whitefly on zucchini," and "Insecticidal control of pepper weevil on

jalapeno peppers"); and Dr. Sanjay Shukla ("Benefits of compact bed geometry for plasticulture").

Hendry County Extension Director and vegetable specialist Gene McAvoy conducted an unmanned aerial vehicle demonstration.

Indoors, Dr. Fritz Roka presented "Costs of employing foreign agricultural guest workers (H-2A)."

The event was generously sponsored by Environmental Turnkey Solutions, LLC-Old Florida Compost.

A complete set of field day handout materials can be found here: <http://swfrec.ifas.ufl.edu/news.php> (click on "Field Days").

Field day participants get up-close views of a late blight tomato variety trial.

Safety Day Expands to Two Days

Nearly 160 farm workers from sixteen farms participated in the 25th Annual UF/IFAS Farm Safety Day

over the course of two days at the SWFREC in May.

The event used to be offered one day only but filled up so quickly with registrations that the organizing committee decided to offer the same program on a back-to-back Friday and

Saturday.

The four training topics were: First Aid Response, Ladder Safety: Citrus Production, Worker Protection Standards for Handlers, and Working around Agricultural Equipment.

In addition, participants were given information about medical services offered in the area and the opportunity to have their blood pressure checked.



Blood pressure screenings and medical information were provided by the Florida Department of Health.

Spotlight On . . . HLB Lab Turns Eight

The UF/IFAS HLB Diagnostic Laboratory operated at the SWFREC has turned eight years old and has processed and analyzed more than 75,000 citrus samples to date.

Initially established in early 2008 through efforts of the Gulf Citrus Growers Association and area elected officials, the lab is critical in identifying HLB (Huanglongbing, also known as “citrus greening disease”) in citrus groves not only in south-west Florida but throughout the state.

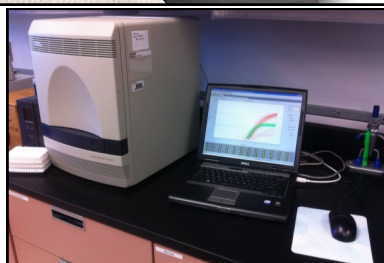
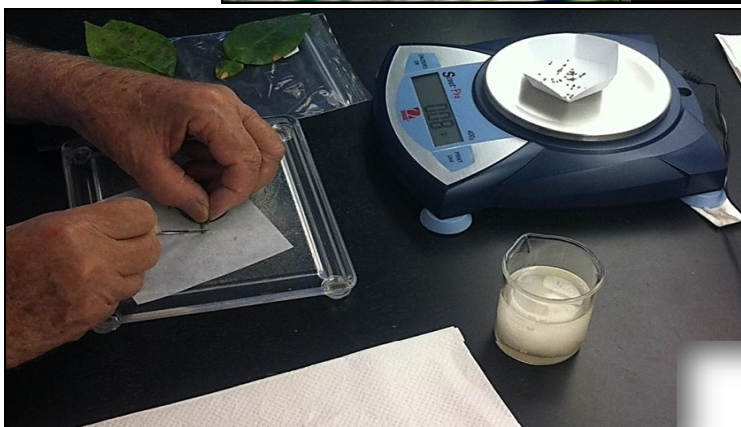
“The lab provides a diagnostic testing service using real-time PCR, or Polymerase Chain Reaction, to detect the causative agent of HLB, *Candidatus Liberibacter asiaticus* bacteria,” explains Dr. Pam Roberts, SWFREC’s plant pathologist who oversees the HLB lab. “The service is provided free of charge to citrus growers, homeowners, and UF/IFAS Extension personnel. We are glad to be able to assist the citrus community.”

Lab manager Shea Teems leads a team of employees in processing citrus samples so that diagnoses can be reported. Freshly sampled leaves are either dropped off or shipped to the HLB lab. Once a sample arrives, it is logged into a database, chopped and weighed, freeze-dried, and ground down

to a powder. DNA is then extracted and PCR analysis is run to detect any presence of an HLB-specific gene. Test results are then sent to the sample submitter.

More information about the UF/IFAS HLB Diagnostic Lab and details about how to submit citrus samples for testing can be found here:

<http://swfrec.ifas.ufl.edu/programs/plant-path/hlb.php>.



The UF/IFAS HLB Diagnostic Lab at the SWFREC has processed and analyzed more than 75,000 citrus samples from throughout the state since 2008.

Dr. Rouse is presented a UF/IFAS plaque from Dr. Tom Obreza, Sr. Assoc. Dean for Extension and a former SWFREC faculty member; Dr. Rouse with his family at the luncheon.

Dr. Robert Rouse Retires

After twenty-five years with UF/IFAS and the SWFREC, citrus horticulturist Dr. Robert "Bob" Rouse retired this past April.



Bob received his B.S. (1970) and M.S. (1972) in Fruit

Crops and his PhD. (1976) in Horticulture from the University of Florida. He remained with the university in a post-doctoral position in the Fruit Crop Department (1976-1978). Bob taught undergraduate and graduate courses in fruit tree physiology and conducted research in citrus tree cold hardiness. He then served as project leader for citrus rootstock and subtropical fruit research at the Texas A&M University Research and Extension Center at Weslaco (1978-1990). There, he was responsible for conducting

research with the commercial Texas Citrus Industry in the Lower Rio Grande Valley. Bob did research in citrus nursery practices and developed the prototype nursery for the 1,151-acre Texas A&M University research farm.

Faculty and staff at the SWFREC celebrated Bob's retirement with a luncheon that drew growers, industry representatives and other clientele, and former SWFREC employees from throughout southwest Florida and beyond.

Coming Events

June 17: 31st Annual UF/IFAS-Florida Seed Association (FSA) Seed Seminar. 8:30am-4pm, SWFREC, Immokalee. 6 CEUs offered. Advanced registration is required. For more information and to register, call the FSA at 863-698-6879 or e-mail awood92014@aol.com.

June 19: Field Day. 10am-12pm. Old Duda nursery site in Felda, FL (SR 29 between LaBelle and Immokalee). A reflective mulch trial and a rootstock trial, cooperative SWFREC-grower citrus projects, will be highlighted. SWFREC speakers will include

Dr. Phil Stansly and PhD student Scott Croxton. To register, contact Mongi Zekri, Hendry County Extension, at 863-674-4092 or e-mail maz@ufl.edu.

July 3: Independence Day Holiday (observed). SWFREC will be closed,

July 16: Citrus Squeezer: Weed Management in Citrus Groves and Update on Citrus Blight. 10am-12pm. SWFREC, Immokalee. 2 CEUs for Certified Crop Advisors, 2 CEUs for pesticide license renewal. To register, contact Mongi Zekri, Hendry County Extension, at 863-674-

4092 or e-mail maz@ufl.edu.

August 19-20. Citrus Expo. Lee Civic Center, North Fort Myers, FL. For more information and to register, visit <http://citrusexpo.net/>.

September 9. UF/IFAS Tomato Institute. Ritz Carlton, Naples, FL. 9am-3:45pm. Organized by SWFREC's Dr. Monica Ozores-Hampton. SWFREC speakers will include Dr. Ozores-Hampton, Dr. Sanjay Shukla, Dr. Pam Roberts, and Dr. Fritz Roka. For more information, visit the SWFREC web site at <http://swfrec.ifas.ufl.edu/> and scroll down to "Highlights."