

130th Annual Meeting of the
FLORIDA STATE
HORTICULTURAL SOCIETY

2017



2017 Program Contents

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2017 FSHS Annual Meeting Facts

Oral Invited Presentations	4
Poster Presentations	10
Oral Contributed Presentations	123
Citrus	22
Handling and Processing	24
Krome Memorial institute	16
Natural Resources	11
Ornamental, Garden & Landscape	25
Vegetables	26
In-service Training Presentations	5
Total Meeting Presentations	143

Program Overview

Registration Desk Hours—Plantation Foyer

Sunday June 4 1:00 PM – 6:00 PM

Monday June 5 7:00 AM – 6:00 PM

Tuesday June 6 8:00 AM – 11:00 AM

Sunday Afternoon

10:00-2:00	ASHS Certified Horticulture Exam	Vincente M. Ybor Room
1:00-3:00	FSHS Board of Directors Meeting	Fred E Fletcher Room
1:00-3:00	Posters Setup, Erin Harlow	Ballroom Foyer
4:00-5:00	Opening Ceremony, Chris Oswalt	Ballroom 1
4:15-4:45	Speaker: Vernon Bryant , Executive Director of the Florida Botanical Gardens Foundation “Public Gardens - An Educational Doorway to the Public”	
4:45-5:00	Awards Ceremony	Ballroom 1
5:00-6:00	Welcome Reception <i>(Included in paid conference registration)</i>	Terrace

Monday Morning

7:30-8:30	Continental Breakfast <i>(Included in paid conference registration)</i> Poster Session, Erin Harlow <i>(See list of posters on p. 12)</i>	Ballroom Foyer
8:30-9:45	General Session	Ballroom 1
8:30	Welcome & Presidential Address: Mark Ritenour , FSHS President	
9:00	General Session Keynote Speaker: Dr. Jose Chaparro , Associate Professor of Fruit Breeding, UF/IFAS Horticultural Sciences Department “Crop Selection in a Time of Change”	
9:45	End of General Session	

Concurrent Morning Sessions:

9:50-12:00	Citrus (p.33)	Augustus Steele
9:50-12:00	Krome Memorial Institute (p.25)	Fred E. Fletcher
9:50-12:00	Natural Resources (p.18)	Garrison's Room
9:50-12:00	Ornamental, Garden & Landscape (p.14)	Joseph B. Lancaster
9:50-12:15	Handling & Processing (p.28)	John Jackson
9:50-12:00	Vegetable (p.20)	Ballroom 1

Monday Lunch

12:00-1:20	Lunch (On your own)
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Monday Afternoon

Concurrent Afternoon Sessions:

1:20-3:30	Citrus	Augustus Steele
1:20-4:00	Krome Memorial Institute	Fred E Fletcher
1:20-4:00	Natural Resources	Garrison's Room
1:20-4:30	Ornamental, Garden & Landscape	Joseph B. Lancaster
1:20-4:30	Handling & Processing	John Jackson
1:20-4:15	Vegetable	Ballroom 1

Monday Evening

5:15-6:15	Industry Reception <i>(Included in paid conference registration)</i>	Terrace (or Ballroom 1)
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Tuesday Morning

7:00-8:15	Horticultural Crops Breakfast <i>(Event ticket required)</i> Invited Speaker: Dr. Anne Plotto , Research Plant Physiologist and Sensory Scientist, USDA-ARS, Horticultural Research Laboratory “What’s on Your Plate?”	Ballroom 2
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8:30-9:45 FSHS Annual Business Meeting: Ballroom 1
Mark Ritenour, FSHS President
Student Competition Awards, **Kelly Morgan**

Concurrent Morning Sessions:

9:50-12:00 Citrus Augustus Steele
Krome Memorial Institute
Natural Resources

9:50-12:00 Ornamental, Garden & Landscape Joseph B. Lancaster

9:50-12:00 Handling & Processing John Jackson

9:50-12:00 Vegetable Ballroom 1

12:00 All posters are taken down Ballroom Foyer

Tuesday Lunch

12:00-1:15 Extension Luncheon Ballroom 2
(Event ticket required)
Invited speaker:
Dr. Nick Place, Dean of Extension, University of Florida,
Gainesville, FL
“Utilizing Technology to Advance UF/IFAS Extension”

Tuesday Afternoon

1:30-5:30 In-Service Training and Producer Workshop: Joseph B. Lancaster
“Application of New Technologies for Improved Management Strategies for Horticultural and Agronomic Crops”
Co-sponsored by:
FSHS and UF/IFAS Cooperative Extension Service

**Thank you for attending the 2017 annual meeting.
Have a safe trip home, and see you next year!!!!**

Florida State Horticultural Society 2016-2017 Board of Directors

Chairman of the Board: Chris Oswalt

President: Mark Ritenour

President-Elect: Eric Simonne

Sectional Vice-Presidents:

Citrus—	Tripti Vashisth
Krome Memorial Institute—	Noris Ledesma
Natural Resources—	Lisa Hickey
Ornamental, Garden and Landscape—	Matt Orwat
Handling & Processing—	Amy Simonne
Vegetable—	Matt Lollar

Secretary and Treasurer: Lynn Barber

Proceedings Editors: Mary Lamberts & George Fitzpatrick

**Marketing Coordinator/
Webmaster:** Steve Rogers

Members At-Large: Ed Stover
Gene McAvoy

Program Coordinator: Cami Esmel McAvoy

2017 Meeting Facilitators

Local Arrangements Coordinators: Nicole Pinson
Shawn Steed

Sponsorship Coordinator: Gene McAvoy

**Student Competitions
Coordinator:** Kelly Morgan

CEU Coordinator: Cami Esmel McAvoy

Poster Session Coordinator: Erin Harlow

FSHS Newsletter Team: Tatiana Sanchez
Mark Ritenour

2017 Meeting Sponsors

Platinum Level Sponsor (above \$2,000)

Citrus Research and Development Foundation
Plant Food Systems
Valent BioSciences Corporation

Gold Level Sponsor (\$1,000 - 1,999)

Bronze Level Sponsor (under \$500)

Helena Chemicals
Florida Tomato Committee

Please see the full list of sponsors on the FSHS Website, poster section, and meeting rooms.

2017 FSHS Patron Members

Ed Etxeberria
Arnold Schumann

Volunteers Needed!

FSHS is a volunteer-run organization. Make a difference, and volunteer your time, leadership, service and talents!

Visit fshs.org and help today!

Welcome 2017 FSHS Sectional Vice-Presidents!

Citrus: **Tripti Vashisth**, UF/IFAS Citrus Research & Education Center, Lake Alfred, FL
(tvashisth@ufl.edu)

Handling & Processing: **Amy Simonne**, UF/IFAS Family, Youth and Community Sciences Department, Gainesville, FL (asim@ufl.edu)

Krome Memorial Institute: **Noris Ledesmai**, Fairchild Botanical Garden, Coral Gables, FL
(nledesma@fairchildgarden.org)

Ornamental, Garden, & Landscape: **Matthew Orwat**, UF/IFAS Extension Washington County, Chipley, FL
(mjorwat@ufl.edu)

Natural Resources: **Lisa Hickey**, UF/IFAS Extension Manatee County, Palmetto FL
(lisa.hickey@ufl.edu)

Vegetables: **Matt Lollar**, UF/IFAS Extension Jackson County, Marianna, FL
(mlollar@ufl.edu)

Attention FSHS Authors!

- FSHS welcomes and encourages color pictures and color figures in Proceedings articles.
- Did you know that videos can also be linked to Proceedings articles?
- Color pictures and figures, and videos are included FREE of CHARGE in the online Proceedings.
- Take advantage of this possibility and pass the word around!

Presentation, Publication and Submission Guidelines

- Full payment of page charges from past years is required before presentations and submissions can be accepted in current year.
- The SENIOR AUTHOR must be a member of the Society, and the PRESENTING AUTHOR of the paper must be registered at the annual meeting (except for invited papers) for papers to be accepted for the Proceedings. Papers not presented at the meeting will not be published.
- Electronic submissions prior to the meeting are highly encouraged and preferred. Manuscripts should be delivered in FINAL electronic form **at the time of meeting** to the FSHS editors (editors@fshs.org) and copy their appropriate section VP.
- Manuscripts may also publish their manuscript in any of the ASHS journals including *HortTechnology*, *HortScience*, or the *Journal of ASHS*.
- For all submissions, see complete Manuscript Preparation Guide (<http://fshs.org/author-instructions/>) for the *Proceedings of the Florida State Horticultural Society*.

Paper Submissions:

Please remember to e-mail full-length manuscripts to **editors@fshs.org** and copy (CC) the appropriate sectional VP:

Citrus: Tripti Vashisth,
tvashisth@ufl.edu

Handling and Processing: Amy Simonne,
asim@ufl.edu

Krome Memorial Institute: Nris Ledesma,
nledesma@fairchildgarden.org

Natural Resources: Lisa Hickey,
lisa.hickey@ufl.edu

Ornamental, Garden, and Landscape: Matthew Orwat,
mjorwat@ufl.edu

Vegetable: Matt Lollar,
mlollar@ufl.edu

Become a Member of FSHS!

Are you a member of the Florida State Horticultural Society? *If not, join today!*

FSHS is the nation's oldest horticultural society, established in 1888, and continues to provide multiple benefits for its members.

Discover our history while shaping our future.

Benefits of Membership:

- Access to most recent three years of the FSHS Proceedings
- Copy of current year's proceedings on CD
- Newsletter
- Reduced meeting registration and publication fees
- Special student rates
- Networking opportunities for students, scientists, and industry personnel from diverse horticultural backgrounds and crops.

Yearly membership runs from January 1st - December 31st each calendar year, with international and student rates available.

Access the membership page at:

<http://fshs.org/join-now/>.



Extension Luncheon Speakers

- Dr. Nick Place, 2017
- Dr. David Clark, 2016
- Dr. Norm Leppla, 2015
- Dr. Kelly Morgan, 2014
- Dr. Eva Worden, 2013
- Dr. Daniel Cantliffe, 2012
- Mr. Ted Campbell, 2011
- Mr. Kevin Morgan, 2010
- Dr. Jim Horne, 2009
- Mr. Armando Campos, 2008
- Mr. Ted Winsberg, 2007
- Mr. Chuck Obern, 2006
- Dr. Larry Arrington, 2005

FSHS Student Scholarships

Attention, Students:

Did you know that FSHS awards fifteen (15), \$200 scholarships to students attending the Annual Meeting?

To apply, please submit a statement (100 words or less) describing the importance of attending the FSHS Annual Meeting to the achievement of your personal and professional goals and aspirations at fshs@fshs.org.

The FSHS Board of Directors judges submissions and verifies that the awardees are eligible registered students who have registered for the Annual Meeting. Scholarship checks will be awarded during the annual business meeting; awardees must be registered and present to receive their scholarship check.

FSHS Student Competitions

FSHS offers two competitions for students: Student Best Oral Presentation (SBOPC) and Student Best Paper (SBPC). Awards for the SBOPC will be presented during the Annual Business Meeting at the 2016 FSHS annual meeting in Stuart, FL. The SBPC awards will be announced at the 2017 FSHS annual meeting. Awardees will receive cash prizes and will be recognized in the Proceedings of FSHS. Students may participate in either or both competitions.

Student Best Oral Presentation Competition (SBOPC):

The number of entries in the SBOPC is limited to 15 and must be submitted to the sectional VP. Acceptance in the competition is on a first-come, first-serve basis. Participants are judged on importance of the subject to Florida horticulture, scientific merit, organization, awareness of current literature, fluency, clarity of presentation, effective use of figures and tables, report of conclusions, completeness, timing, and response to questions. For more information on the SBOPC competition, contact Kelly Morgan at conserv@ufl.edu.

Student Best Paper Competition (SBPC):

To participate in the SBPC, students must submit a manuscript (use author guidelines for the Proceedings of the FSHS) by email with the subject "Student Best Paper Competition" to fshsproc@ashs.org by May 31, 2017 for the current year's competition. Student papers will be published in the Proceedings of FSHS. Entries will be judged on relevance to Florida horticulture, scientific merit, experimental design rigor, literature review, completeness, and clarity. For more information on the SBPC competition, Kelly Morgan at: conserv@ufl.edu.

Technical Program Schedule

Poster Session: Erin Harlow,
Coordinator
(erine@coj.net)

Monday Morning Session

(Authors present posters from 7:30 AM - 8:30 AM during Breakfast)

- [P-1] **Water When It Counts: Helping farmers in the Suwanee River Basin save water through the use of Soil Moisture Sensors (SMS).** Patrick Troy and Joel Love. UF/IFAS, Suwannee Valley Agricultural Education Center, Live Oak, FL. (ptroy@ufl.edu)
- [P-2] **Set It and Forget It Hydroponics.** H. Wooten, UF /IFAS Extension Seminole County, Sanford, FL. (hwooten@ufl.edu)
- [P-3] **Improving Nutrition Education for Florida's SNAP-eligible Residents by Enacting and Measuring Policy, Systems, and Environmental Changes.** D. Campbell¹, J. Dampier¹, T. Torres¹, M. Fosterr¹, A. Becraft¹, T. Mitchell¹, B. Owens¹, C. Walmerr¹, C. Glattinger¹, L. Headrick¹, K. Shelnuttr¹, and D. Treadwell². ¹UF/IFAS Department of Family, Youth, and Community Sciences, Gainesville, FL, ²UF/IFAS Department of Horticultural Sciences, Gainesville, FL. (campbell@ufl.edu)
- [P-4] **Fostering Healthy Relationships and Behaviors through Gardening and Cooking with At-risk Youth.** W. Hobbs and A. Sheldon, UF/IFAS Extension, Clay County, Green Cove Springs, FL. (aasheldon@ufl.edu)
- [P-5] **Stemphylium leaf spot of spinach: A re-emerging problem in Florida spring mix production.** C. F. Miller¹, G Sandoya², D. Hartman², J. Vital² and R. N., Raid², ¹UF/IFAS Extension Palm Beach County, West Palm Beach, FL, UF/IFAS, ²UF/IFAS Everglades Research and Education Center. (cfmiller@ufl.edu)
- [P-6] **Aquatic Weed Short Course**
L. Gettys, UF/IFAS Ft. Lauderdale Research and Education Center, Davie, FL. (lgettys@ufl.edu)

[P-7] Turning Putnam County Youth into Blueberry Growers through Applications of Horticultural Sciences. E. Fletcher, UF/IFAS Extension Putnam County, E. Palatka, FL, (pfletcher@ufl.edu)

[P-8] Beginning to Solve a Decade-Long Problem of Galls on Ornamentals. E. Harlow¹ and A. Dale². ¹UF/IFAS Extension Duval County, Jacksonville, FL. ²UF/IFAS Entomology and Nematology, Gainesville, FL. (eeeck@ufl.edu)

[P-9] Making the Invisible Visible: A Hands-on CORE Program
L. Harlow, UF/IFAS Extension, Clay County, Green Cove Springs, FL, (harlow1231@ufl.edu)

[P-10] Youth Leaders Create Sustainable Pollinator Garden
L. Barber, and N. Pinson, UF/IFAS Extension Hillsborough County, Seffner, FL (nicolepinson@ufl.edu)

Ornamental, Garden & Landscape Section:

Matthew Orwat
Presiding
(mjournal@ufl.edu)

Monday Morning Session

(9:50 AM – Noon) Joseph B. Lancaster

9:50 Welcome and Introductions, Matthew Orwat

A – Student Competition

10:00 Induction and characterization of Gerbera Polyploids.
Krishna Bhattarai¹, Zhanao Deng¹, and Abdul Kareem², ¹UF/
IFAS Gulf Coast Research and Education Center, Wimauma, FL,
²Institute of Horticultural Sciences, University of Agriculture, Faisalabad
(krishnabhattarai@ufl.edu) [OGL-1]

**10:15 Growth Response of Viburnum and Loropetalum to Capillary
Mat and Sprinkler Irrigation.** **Allison Bechtloff¹, Tom Yeager¹, and
Shawn Steed².** ¹UF/IFAS Department of Environmental Horticulture,
Gainesville, FL, ²UF/IFAS Extension Hillsborough County, Seffner, FL
(abechtloff@ufl.edu) [OGL-2]

B – Plant Breeding/Cultivar Development

**10:30 Development and Releasing of Infertile, Non-invasive Lantana
camara Cultivars.** **Z. Deng¹, S.B. Wilson², Gary Knox³, and R. Freyre².** ¹UF/
IFAS Gulf Coast Research and Education Center, ²UF/IFAS Department of
Environmental Horticulture, ³UF/IFAS North Florida Research and Education
Center. (zdeng@ufl.edu) [OGL-3]

C – Plant Propagation

10:45 Increasing the vase life of Rosa hybrida cv. Cardinal.
M.F.H. Ferdosi¹, I. Zahid¹, Quaid e Azam², and M. Saleem³. ¹Institute of
Agricultural Sciences University of the Punjab Campus, Lahore, ³Directorate
of Floriculture, Lahore. [OGL-4]

11:00 In vitro methods to propagate tea (Camellia sinensis) accessions.
Yang Yue¹, Thiago D. Campbell¹, Brantlee Richter², Bala Rathinasabapathi¹.
¹UF/IFAS Horticultural Sciences Department, Gainesville, FL, ²UF/IFAS Plant
Pathology Department, Gainesville, FL (thiagobell5@gmail.com)[OGL-5]

**11:15 Controlled-Release Fertilizer Demonstration on Container
Production of Ligustrum japonicum in West Central Florida.**
S.T. Steed¹, M. Glenn², C. E. McAvoy, and A. Koeser³. ¹UF/IFAS Extension
Hillsborough County, Seffner, FL, ²UF/IFAS Manatee County, Palmetto,
FL, ³UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL.
(ststed@ufl.edu) [OGL-6]

11:30 Response of Ligustrum japonicum to Plastic Mulch Applied over Non-spaced Containers. **S.T. Steed**¹, **A. Bechtloff**², **T. Yeager**², and **A. Koester**³. ¹UF/IFAS Extension Hillsborough County, Seffner, FL, ²UF/IFAS Environmental Horticulture Department, Gainesville, FL, ³UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL. (ststeed@ufl.edu) [OGL-7]

11:45 Biostimulant Effect on Woody Nursery Plants.
Juanita Popenoe. UF/IFAS Extension Lake County, Tavares, FL (jpopeno@ufl.edu) [OGL-8]

12:00 Lunch (on your own)

Monday Afternoon Session

(1:20 – 5:00 PM)

1:20 Welcome, Matthew Orwat
Consider Being a Candidate for VP Elect!

D – Irrigation and Landscape Management

1:30 Quantitative Effect of Verticutting and Core Aerification on Golf Green Organic Matter Content and Root Zone Permeability in South Florida. **G. H. Snyder.** UF/IFAS Everglades Research and Education Center, Belle Glade, FL. (ghsnyder@ufl.edu) [OGL-9]

1:45 Application of bacterial inoculated compost tea for improving turf quality and soil health. **Qurrat ul Ain Farooq, Irshad Ahmad Khan and Muhammad Naveed.** Institute of Agricultural Sciences, University of the Punjab, Lahore. (anniepk_elegant@yahoo.com). [OGL-10]

E – Plant Pathology

2:00 A Historical Review of Foliage Plant Diseases in Florida.
A. R. Chase¹, and **A. J. Palmateer**². ¹UF/IFAS Mid-Florida Research and Education Center, Apopka, FL, ²Bayer Environmental Science, Homestead, FL (mtaukum@aol.com) [OGL-11]

2:15 The Two Most Serious Pathogens Cercospora and Colletotrichum on Tropical Flowering Trees.
Robert T. McMillan, Jr. UF/IFAS Tropical Research and Education Center, Homestead, FL. (rtmjr@ufl.edu) [OGL-12]

2:30 Catching a Moving Target: The Re-emergence of Impatiens Downy Mildew. **S. N. Suarez**¹, **A. R. Chase**², and **A. J. Palmateer**³. ¹UF/IFAS Tropical Research and Education Center, Homestead, FL, ²Chase Agricultural Consulting, Cottonwood, AZ, ³Bayer Environmental Science, Homestead, FL. (mtaukum@aol.com) [OGL-13]

2:45 BREAK

F- Green Industry/Pest Management

- 3:00 **Dealing With Mosquitoes in the Landscape.**
A. G. Hunsberger. UF/IFAS Extension Miami-Dade County, Homestead, FL.
(aghu@ufl.edu) [OGL-14]
- 3:15 **What's Bugging South Florida? A Partnership between UF/IFAS Extension Miami-Dade County and the Pest Control Industry.**
H. Mayer¹, F. Hernandez², V. Gonzalez³, Helena Beckers³ and M. Beckers³,
¹UF/IFAS Extension Miami-Dade County, ²NaturePest Control, ³CPCO.
(hmayer@ufl.edu) [OGL-15]

G- Florida-Friendly Landscaping

- 3:30 **Landscape Site Visits: The Good, the Bad and the Ugly.**
S.R. Haddock. UF/IFAS Extension Hillsborough County, Seffner, FL
(szcrmchz@ufl.edu) [OGL-16]
- 3:45 **Learning Landscapes: A Valuable Tool for Developing Skill Sets and Adopting Florida-Friendly Landscaping™ Practices in Baker County.** **A. Lamborn.** UF/IFAS Extension Baker County, Macclenny, FL
(alamborn@ufl.edu) [OGL-17]
- 4:00 **Developing a Florida-Friendly Landscaping™ Certification Program for Code Enforcement.** **W. Elmore¹, L. Barber² and E. Momol³.**
¹UF/IFAS Extension Pasco County, Dade City, FL, ²UF/IFAS Extension Hillsborough County, Seffner, FL, ³UF/IFAS Environmental Horticulture Department, Gainesville, FL. (wcelmore@ufl.edu) [OGL-18]
- 4:15 **Ornamental, Garden and Landscape Section Business Meeting:**
Matthew Orwat
- 4:30 **Afternoon Session Adjourned**
- 5:15 **Industry Reception** (Ticket included in paid conference registration)

Tuesday Morning Session

(9:50 AM – 11:45 AM) *Joseph B. Lancaster*

9:50 **Welcome and Introductions,** Terra Freeman

H- Volunteer Management

- 10:00 **Master Gardener Coastal Connection: Bridging Horticultural Enthusiasts with the Forgotten Coast.** **Ray Bodrey.** UF/IFAS Extension Gulf County, Wewahitchka, FL. [OGL-19]

- 10:15 Palm School for Master Gardeners: Two-Year Post-Program Follow-up.** **C. A. Kelly-Begazo** and **N. Munroe**. UF/IFAS Extension Indian River County, Vero Beach, FL. (ckellybe@ufl.edu) [OGL-20]
- 10:30 3G Helps Youth Become Productive Members of the Agriculture Workplace.** **Martha Glenn**, and **Michelle Atkinson**, UF/IFAS Extension Manatee County, Palmetto, FL (mglen7@ufl.edu) [OGL-21]
- 10:45 Utilizing Student Volunteers To Expand Their Experience, Agricultural Literacy and Citizenship in Professional and Educational Workplaces.** **N.D. Pinson**, N.D. UF/IFAS Extension Hillsborough County, Seffner, FL(PinsonN@hillsboroughcounty.org) [OGL-22]

I- Extension Programs

- 11:00 Growing Totally Tomatoes.**
E. Anderson, and **D. Leonard**. UF/IFAS Extension, Walton County, DeFuniak Springs, FL (eanderson350@ufl.edu) [OGL-23]
- 11:15 Manatee County Food Deserts Harvest Away.**
L. Hickey. UF/IFAS Extension Manatee County, Palmetto, FL (lisa.hickey@ufl.edu) [OGL-24]
- 11:30 Tri-County Community Water Wise Award Program.**
L. Barber¹, **J. Moll**², **B. Niemann**³. ¹UF/IFAS Extension Hillsborough County, Seffner, FL. ²UF/IFAS Extension Pasco County, Dade City, FL, ³UF/IFAS Extension Pinellas County, Largo, FL. (labarber@ufl.edu) [OGL-25]
- 12:00 End of Section**
See you next year!
- 12:00 Extension Luncheon** (Ticket Required)

Natural Resources Section: Lisa Hickey
Presiding
(lisa.hickey@ufl.edu)

Monday Morning Session

(9:50 AM – Noon) Garrison's

9:50 Welcome and Introductions, Lisa Hickey

A- Natural Resources Impacts

- 10:00 Preparation for Small Farm Sugarcane in North Florida.**
Z. Wiggins. Gadsden County Extension, FAMU. (zadwiggins@ufl.edu) [NR-1].
- 10:15 Can Aquaponics Be Mainstreamed Through Decoupling?**
R. Tyson. UF/IFAS Extension Orange County, Orlando, FL. (rvt@ufl.edu) [NR-2]
- 10:30 Air Potato Biological Control Program: A Success Story.**
K. Gioeli¹, C. Minter², M. Rayamajhi³, and C. Kerr⁴. ¹UF/IFAS Extension St. Lucie County, ²UF/IFAS Indian River Research and Education Center, Fort Pierce, FL, ³USDA-ARS Invasive Plant Laboratory, ⁴FACDACS Division of Plant Industry. (ktgioeli@ufl.edu) [NR-3]
- 10:45 New Host Records for Plant Parasitic Algae in South Florida.**
G. Sanahuja¹, P. Lopez¹, and A. J. Palmateer². ¹UF/IFAS Tropical Research and Education Center, ²Bayer Environmental Science, Homestead, FL. (g.sanahuja@ufl.edu) [NR-4]
- 11:00 Greenhouse Culture and Production of Showy Native Wetland Plants.** **L. Gettys and K. Moore.** UF/IFAS Fort Lauderdale Research and Education Center. (lgettys@ufl.edu) [NR-5]
- 11:15 Natural Resources Business Meeting, Lisa Hickey**
Consider Being a Candidate for VP Elect!
- 11:30 Discussion**
- 12:00 Lunch (on your own)**

Monday Afternoon Session

(1:20 – 5:00 PM) Garrison's

1:20 Welcome and Introductions, Lisa Hickey

B- Natural Resource Awareness

1:30 **A New Approach to Teaching Right Plant, Right Place.**
J. Morse. UF/IFAS Extension Pinellas County, St. Petersburg, FL. (jmorse@ufl.edu) [NR-6]

1:45 **Introducing New Residents to Florida's Natural Resources through Interpretative Nature Hikes.** **J. E. Davis.** UF/IFAS Extension Sumter County, Bushnell, FL. (dvisshdn@ufl.edu) [NR-7]

2:00 **Butterfly Education and Awareness in the Florida Panhandle.**
M. Derrick. UF/IFAS Extension Santa Rosa County, Milton, FL. (maryd@santarosa.fl.gov) [NR-8]

2:15 BREAK

B- Natural Resource Volunteerism

2:30 **Beyond Hours Served and Dollar Value Of Those Hours: Measuring New Outcomes Of Volunteer Programs.**
N. Pinson. UF/IFAS Extension Hillsborough County, Seffner, FL. (PinsonN@hillsboroughcounty.org) [NR-9]

2:45 **Using the "FLoWS" Survey to Determine Behavioral Change in Water Conservation Efforts of Master Gardener Trainees.**
W. Elmore, and J. Moll. UF/IFAS Extension Pasco County, Dade City, FL. (welmore@pascocountyfl.net) [NR-10]

3:00 **Florida Bat Population Studies** [NR-11]

4:00 **Afternoon Session Adjourned**

5:15 **Industry Reception** (Ticket included in paid conference registration)

Tuesday Morning Session

(9:50 AM – 12:00 PM)

9:50 **END OF SECTION**
See you next year!

12:00 **Extension Lunch** (Ticket Required)

Vegetable Section: Matt Lollar
Presiding
(mlollar@ufl.edu)

Monday Morning Session

(9:50 AM – Noon) Ballroom 1

9:50 Welcome and Introductions, Matt Lollar

A – Vegetable Trials

- 10:00 Development of Artichoke Production Strategies in Florida: Cultivar Selection and Vernalization by Gibberellic Acid.** Shinsuke Agehara. Gulf Coast Research and Education Center, Wimauma, FL. (sagehara@ufl.edu) [V-1]
- 10:15 Asian Vegetables Rapidly Expanding in Florida.** Muhammad A. Shahid¹, Guodong Liu¹, Bonnie Wells², David Dinkins³, Qingren Wang⁴, Christian Miller⁵, Kshitij Khatri¹, John Sykes⁶. ¹UF/IFAS Horticultural Sciences, Gainesville, FL; ²UF/IFAS Extension St. John's County, St. Augustine, FL; ³UF/IFAS Extension Putnam County, Palatka, FL; ⁴UF/IFAS Extension Miami-Dade County, Homestead, FL; ⁵UF/IFAS Extension Palm Beach County, West Palm Beach, FL; ⁶Sykes-Cooper Farms, Elkton, FL. (guodong@ufl.edu) [V-2]
- 10:30 Year-round Production of Scotch Bonnet Hot Pepper in North Florida.** A. Bolques¹, G. Queeley¹, F. Ospina¹, and V. Richardson². ¹FAMU Quincy Research and Extension Center, Quincy, FL; ²FAMU Cooperative Extension Program, Tallahassee, FL. (abol@ufl.edu) [V-3]
- 10:45 Yield, Market Quality, and Bitterness of Lettuce (*Lactuca sativa*) Cultivars Grown Hydroponically in a North Florida Greenhouse During the Summer.** R. C. Hochmuth¹, W. L. Laughlin¹, E. A. Martin¹, R. Naccour¹, A.H. Simonne², and J. Gou³. ¹UF/IFAS Suwannee Valley Agricultural Extension Center, Live Oak, FL; ²UF/IFAS Family, Youth and Community Sciences Department, Gainesville, FL; ³UF/IFAS Food Science and Human Nutrition Department, Gainesville, FL. (bobhoch@ufl.edu) [V-4]

B – Nutrient Management

- 11:00 Comparison between Petiole Sap Nitrate-N and Leaf N Concentrations as Predictor of Watermelon [*Citrullus lanatus* (Thunb.) Matsum. & Nakai]] Yield with Variable Nitrogen Rates.** Tanumoy Bera, Muhammad Adnan Shahid, Guodong Liu. UF/IFAS Horticultural Sciences Department, Gainesville, FL. (tbera@ufl.edu) [V-5]
- 11:15 Implementing Crop Rotation with Controlled Release Fertilizer to Improve Vegetable Production.** Qingren Wang. UF/IFAS Extension

Miami-Dade, Homestead, FL. (qrwang@ufl.edu) [V-6]

11:30 Effects of Grafting, Organic Fertilization, and Plant Growth Promoting Rhizobacteria on Specialty Melon Production.

X. Zhao¹, Y. Tang², Z. Black¹. ¹UF/IFAS Horticultural Sciences Department, Gainesville, FL; ²College of Horticulture, Shenyang Agricultural University, Shenyang, China. (zxin@ufl.edu) [V-7]

11:45 A Preliminary Study on Biostimulants and Surfactant for Tomato Production in North Florida. **Muhammad Shahid, Guodong Liu.** UF/

IFAS Horticultural Sciences Department, Gainesville, FL. (mshahid@ufl.edu) [V-8]

12:00 Lunch (on your own)

Monday Afternoon Session

(1:20PM – 5:00PM) Ballroom 1

1:20 Welcome and Introductions, Matt Lollar

C – Student Presentations

1:30 Determination of Methodology and Temperature Regime for the Estimation of Tomato (*Lycopersicon esculentum*) Growth and Maturity Using Heat Unit Accumulation in Florida Warm Climate. **I. T. Ayankojo and K. T. Morgan,** UF/IFAS Southwest Florida

Research and Education Center, Immokalee, FL. (iayankojo@ufl.edu) [V-9]

1:45 Optimization of Microenvironments by Multi-Colored Plastic Mulch Improves Earliness and Total Yield of Strawberry.

S. Deschamps, K. Folta, S. Lee, V. Whitaker, S. Agehara. UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL. (sdeschamps@ufl.edu) [V-10]

2:00 A Comparison Of High Tunnel And Open Field Production Systems For Organic Spinach Production In Florida. **C. Frey, X.**

Zhao, and J. K. Brecht. UF/IFAS Horticultural Sciences, Gainesville, FL. (cf1193@ufl.edu) [V-11]

2:15 Exploring the Feasibility of Using Fertigation for Florida's Commercial Potato Production. **Xiangju Fu¹, Guodong Liu¹, Lincoln Zotarelli¹, Steve Sargent¹, Crystal Snodgrass², Alan Jones³.**

¹UF/IFAS Horticultural Sciences Department, Gainesville, FL; ²UF/IFAS Extension Manatee County, Palmetto, FL; ³Jones Potato Farm, Parrish, FL. (xiangjufu@ufl.edu) [V-12]

2:30 Using Surfactants To Increase The Efficacy Of Commonly Used Insecticides In Controlling Melon Thrips On Tomatoes.

R. A. Khan¹, D.R. Seal¹, S. Zhang¹, E. Evans¹, O. Liburd², R. Srinivasan³. ¹UF/IFAS Tropical Research and Education Center, Homestead, FL; ²UF/IFAS Department of Entomology and Nematology, Gainesville, FL; ³University of

Vegetable Section

Georgia Entomology, Tifton, GA. (rkhan@ufl.edu) [V-13]

- 2:45 Influence of Capsicum baccatum ‘Barra do Ribeiro’ Rootstock on Bell Pepper (Capsicum annuum ‘Hunter’) Growth, Flowering, Yield, and Fruit Quality.** Dylan Kovach, X. Zhao, B. Rathinasabapathi. UF/IFAS Horticultural Sciences Department, Gainesville, FL. (dckovach@ufl.edu) [V-14]
- 3:00 Enhancing P-use Efficiency for Potato Production in Northeast Florida.** D. Racano¹, Y. Cui¹, S. Sargent¹, L. Zotarelli¹, Guodong Liu¹, D. Dinkins², D. Johns³. ¹UF/IFAS Horticultural Sciences Department, Gainesville, FL; ²UF/IFAS Extension Putnam County, E. Palatka, FL. ³Blue Sky Farms, Elkton, FL. (racanod@ufl.edu) [V-15]
- 3:15 Effects of Plastic Mulches on the Abundance of Thrips palmi and on the Growth and Yield of ‘Jalapeno’ Pepper, Capsicum annuum, in Southern Florida.** M. A. Razzak, D. Seal, and C. Sabines. UF/IFAS Tropical Research and Education Center, Homestead, FL. (rafi321@ufl.edu) [V-16]
- 3:30 Using a Scanner-based Rhizotron System to Characterize Root Morphological Responses of Bare-root Strawberry Transplants to Nitrogen Fertilization Rates** Bhagatveer Sangha¹, Shinsuke Agehara¹, Vance Whittaker¹, Guodong Liu², Diane Rowland³. ¹UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL; ²UF/IFAS Horticultural Sciences Department, Gainesville, FL; ³UF/IFAS Department of Agronomy, Gainesville, FL. (bssangha21@ufl.edu) [V-17].
- 3:45 Effect of Phosphorus Rates on Tomato Growth and Yield in Calcareous Soils.** Qiang Zhu¹, Monica Ozoires-Hampton¹, Yuncong Li², Kelly Morgan¹. ¹UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL; ²UF/IFAS Tropical Research and Education Center, Homestead, FL. (qiangzhu@ufl.edu) [V-18].
- 4:00 Vegetable Section Business Meeting:** Matt Lollar
- 4:15 Afternoon Session Adjourned**
- 5:15 Industry Reception** (Ticket included in paid conference registration)

Tuesday Morning Session

(9:50 AM – 12:00 PM) Ballroom 1

9:50 Welcome and Introductions, Qingren Wang

D – Plant Breeding

10:00 Optimization of Heat Stress Mitigation Measures for Strawberry Plug Transplant Establishment. P. K. Dash¹, C. A. Chase¹, L. Zotarelli¹, S.

Agehara², Z. Guan². ¹UF/IFAS Horticultural Sciences, Gainesville, FL; UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL. (prosanta05@ufl.edu) [V-19]

10:15 Developing Superior Strawberry Cultivars with Advanced DNA Technologies. **S. Lee¹, Y-H, Noh¹, A. Anciro¹, S. Verma¹, C-M, Yoo¹, V. M. Whitaker¹, C. R. Barbey², K. M. Folta².** ¹UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL; ²UF/IFAS Horticultural Sciences Department, Gainesville, FL. (seongheel05@ufl.edu) [V-20]

10:30 Breeding and Genetics of Tropical Vegetables at TREC.
Geoffrey Meru. UF/IFAS Tropical Research and Education Center, Homestead, FL. (gmeru@ufl.edu) [V-21]

D – Plant Breeding

10:45 Management Programs for Stemphylium Leaf Spot on Baby Leaf Spinach. **C. F. Miller¹, G. Sandoya², D. Hartman², J. Vital² and R. N., Raid²** . ¹UF/IFAS Extension Palm Beach County, West Palm Beach, FL, ²UF/IFAS Everglades Research and Education Center, Belle Glade, FL [V-22].

11:00 The Treatment Window Approach for Managing Diamondback Moth (Lepidoptera: Plutellidae) in Brassica Crops in Florida.
B.C. Wells, DPM¹, H.A. Smith², G.K. English³, M.W. Warren⁴. ¹UF/IFAS St. Johns County Extension, St. Augustine, FL; ²UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL; ³Hastings Agricultural Extension Center, Hastings, FL; ⁴UF/IFAS Extension Flagler County, Bunnell, FL. (bcwells@ufl.edu) [V-23]

11:15 What is the role of melon thrips in the Tomato Chlorotic Spot Virus (TCSV) infected tomato fields? **D.R. Seal, R. A. Khan, M. Razzak, C.M. Sabines.** UF/IFAS Tropical Research and Education Center, Homestead, FL. (dseal3@ufl.edu) [V-24]

11:30 Purple Nutsedge (Cyperus rotundus L.) Control in Tomato with Preemergence Halosulfuron Applications. **Nathan S. Boyd, Jialin Yu.** UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL. (nsboyd@ufl.edu) [V-25]

11:45 Identification of Nutsedge Weeds in Vegetable Plasticulture Using Machine Vision.
Arnold Schumann¹, Nathan Boyd², Matshwene Moshia³, Laura Waldo¹. ¹UF/IFAS Citrus Research and Education Center; ²UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL; ³Department of Crop Science, Tshwane University of Technology, Pretoria, South Africa. (shumaw@ufl.edu) [V-26]

12:00 End of Section
See you next year!

12:00 Extension Luncheon (Ticket Required)



Krome Memorial Institute: **Noris Ledesma**

Presiding
(nledesma@fairchildgarden.org)

Monday Morning Session

(9:50 AM – Noon) *Fred E. Fletcher*

9:50 Welcome and Introductions, **Noris Ledesma**

A – The Mango (*Mangifera indica*) and its Relative Species

- 10:00 Monitoring Reaction and Growth due Selective Pruning Applied to Five Distinct Mango Cultivars.** **Jeff Wasielewski** and **Jonathan H. Crane**². ¹UF/IFAS Extension Miami-Dade County, Homestead FL, ²UF/IFAS Tropical Research and Education Center, Homestead, FL (jwasielewski@ufl.edu) [K-1]
- 10:15 An Evaluation of *Mangifera indica* ‘Rosigold’ and its Potential in the South Florida Market,** **Thiago Campbell** and **Richard J. Campbell.** Ciruli Brothers, LLC (brath@ufl.edu) [K-2]
- 10:30 Distribution and use of *Mangifera caesia* Jack in Bali, Indonesia,** **Noris Ledesma.** Fairchild Tropical Botanic Garden, Miami, FL (nledesma@fairchildgarden.org) [K-3]
- 10:45 Mango Nursery Tree Sales Point to Trends in the Florida Mango Industry.** **Gary Zill**¹, and **Noris Ledesma**². ¹Zill High Performance Plants, ²Fairchild Tropical Botanic Garden, Miami, FL. (nledesma@fairchildgarden.org) [K-4]
- 11:00 Improving Harvest and Post-Harvest Practices on ‘Mallika’ Mango for the Local Industry.** **Noris Ledesma.** Fairchild Tropical Botanic Garden, Miami Florida. (nledesma@fairchildgarden.org) [K-5]

B – Student Presentations

- 11:15 Foliar Spray of Gibberellin Acid Improves the Onset of Bud Break and Fruit Set of Blackberries in Florida.** **Syuan-You Lin**¹, and **Shinsuke Agehara**². ¹UF/IFAS Department of Horticultural Sciences, ²UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL (syuanyou.lin@ufl.edu) [K-6]
- 11:30 Impact of Different Nitrogen Rates on Peach Postharvest Attributes.** **Zilfina Rubio Ames**¹, **J.K. Brecht**¹, and **M. Olmstead**². ¹UF/IFAS Horticultural Science Department, Gainesville, FL, ²California Strawberry Commission. (zrubioames@ufl.edu) [K-7]

11:30 A Primary Study on the Abnormal Fruiting of Seedless Muscadine Grapes, Z. Ren, Viticulture Center Florida A&M University, Tallahassee, FL (zhongbo.ren@famu.edu) [K-8]

11:45 Krome Memorial Business Meeting, Noris Ledesma

12:00 Lunch

Monday Afternoon Session

(1:20 – 4:00 PM) Fred E. Fletcher

1:20 Welcome and Introductions, Noris Ledesma
Consider Being a Candidate for VP Elect!

C– Avocado (*Persea americana*)

1:30 Disease, Dogs and Drones: Early Detection in the Fight against Laurel Wilt in Avocados. DeEtta Mills. Director, Forensic DNA Profiling Facility, Department of Biological Sciences, Florida International University. (millsd@fiu.edu) [K-9]

1:45 Suppressing Laurel Wilt Through Collaboration and Education. Jeff Wasielewski¹ and Jonathan H. Crane². ¹UF/IFAS Extension Miami-Dade County, Homestead FL, ²UF/IFAS Tropical Research and Education Center, Homestead, FL(jwasielewski@ufl.edu) [K-10]

D – Extension Education in Fruit Production

2:00 Helping tropical fruit growers to comply with the new food safety regulations. Jeff Wasielewski¹ and Jonathan H. Crane². ¹UF/IFAS Extension Miami-Dade County, Homestead FL, ²UF/IFAS Tropical Research and Education Center, Homestead, FL. (jwasielewski@ufl.edu) [K-11]

2:15 Mediterranean Horticulture Applications for Florida. J. Popenoe. UF/IFAS Extension Lake County, Tavares, FL. (jpopenoe@ufl.edu) [K-12]

2:30 Break

E– Other Tropical Fruit

3:00 Effect of ratooning X17-2 x T5 Papaya (*Carica papaya* L.) Plants on Crop Yield and Survival, Wanda Montás, Pam Moon, and Jonathan Crane. UF/IFAS Tropical Research and Education Center, Homestead, FL (jhcr@ufl.edu) [K-13]

- 3:15 Irrigation Frequency Requirements of Banana Plantlets cv 'Williams' Grown in Sphagnum Peat and Sugarcane Filter Press Mud Based Substrates.** **N. Larsen¹ and K. Moore².** ¹NK Lago Farms, Canal Point, FL, ²UF/IFAS Fort Lauderdale Research and Education Center, Davie, FL. (nklagofarms@aol.com) [K-14]
- 3:30 Overcoming Limitations to Tropical Fruit Breeding in Southern Florida,** **Alan H. Chambers.** UF/IFAS Tropical Research and Education Center, Homestead, FL. (ac@ufl.edu) [K-15]
- 3:45 Tea (*Camellia sinensis*) as a novel crop for Florida: Field establishment of eight accessions.** **James Orrock¹, Brantlee Spakes Richter¹, Bala Rathinasabapathi².** ¹University of Florida, Department of Plant Pathology, Gainesville, FL, ²University of Florida, Horticultural Sciences Department, Gainesville, FL. (jorrock90@ufl.edu) [K-16]
- 4:00 End of Session**
- 5:15 Industry Reception** (Ticket included in paid conference registration)

Tuesday Morning Session

(9:50 – 11:30) Fred E. Fletcher

9:50 END OF SECTION
See you next year!

12:00 Extension Lunch (Ticket Required)

Monday Morning Session

(9:50 AM – 12:15PM) John Jackson Room

9:50 Welcome and Introductions, Amy Simonne

A - Postharvest Handling

- 10:00 Postharvest storage quality of grapefruit placed in polyethylene bags with or without micro-perforation.** Zhilei Zhao¹, Jian Li², Jiqi Yanb³, Cuifeng Hu⁴, Mark A. Ritenour⁴ and Jinhe Bai⁵. ¹University of Hebei, China, ²Beijing Technology and Business University, China, ³China Agricultural University, China, ⁴UF/ IFAS Indian River Research and Education Center, Fort Pierce, FL, ⁵USDA-ARS, US Horticultural Research Laboratory, Ft. Pierce, FL. (ritenour@ufl.edu) [HP-1].
- 10:15 Sensory quality of fresh-cut mango at the consumer level sampled through the year.** Jeffrey K. Brecht¹, Anne Plotto², Elizabeth A. Baldwin², Jinhe Bai², Carlos Crisosto³ and Gayle Crisosto³. ¹UF/IFAS, Horticultural Sciences Department, Gainesville, FL, ²USDA-ARS, US Horticultural Research Laboratory, Fort Pierce, FL, ³University of California, Davis (jbk@ufl.edu) [HP-2]
- 10:30 Use of electronic tongue for differentiation of tomato taste by cultivar, harvest maturity, and chilling or heating exposure.** S. Xu¹, J. Li², E.A., Baldwin³, A. Plotto³, E. Roskopf³, J. C. Hong³, J. Bai³. ¹College of Engineering, South China Agricultural University, Guangdong, China, ²Beijing Technology and Business University, Beijing, China, ³USDA-ARS, US Horticultural Research Laboratory, Ft. Pierce, FL (Jinhe.Bai@ARS.USDA.GOV) [HP-3]
- 10:45 Reduction of Stem End Rind Breakdown on ‘Valencia’ Orange after Wrapping Individual Fruit in Polyethylene Bags.** Cuifeng Hu¹, Mark A. Ritenour¹, Yifen Lin², Suming Dai³, and Zhilei Zhao⁴. ¹UF/IFAS Indian River Research and Education Center, Fort Pierce, FL, ²Fujian Agriculture and Forestry University, China, ³Hunan Agricultural University, China, ⁴University of Hebei, China. (ritenour@ufl.edu) [HP-4]
- 11:00 Potential of Partial Cooling to Expand Handling Options for Fresh-Market Strawberry.** Fernando J. Guamán, Steven A. Sargent, Jeffrey K. Brecht, Adrian D. Berry and Merce Santana. UF/IFAS, Horticultural Sciences Department, Gainesville, FL (sasa@ufl.edu) [HP-5]

B- Processing

- 11:15 Effect of Field Solar Thermotherapy on Mitigation of Huanglongbing (HLB) Induced Orange Juice Off-flavor.** M. Doud, A. Plotto, E. Baldwin, J. Bai, J. Manthey, S. Raithore, W. Zhao, W. Luo, E. Stover, C. Armstrong, YP. Duan. USDA-ARS, US Horticultural Research Laboratory, Fort Pierce, FL. (Anne.Plotto@ARS.USDA.GOV) [HP-6].
- 11:30 Effect of Postharvest Pre-cooling, Degreening Temperature, and LED Light Treatments on ‘Vernia’ Degreening.** Su-ming Dai¹, Cuifeng Hu², and Mark A. Ritenour². ¹National Center for Citrus Improvement, Changsha, Hunan Agricultural University, Changsha, Hunan, China, ²UF/IFAS, Indian River Research and Education Center, Fort Pierce, FL. (ritenour@ufl.edu) [HP-7].

C- Food Safety

- 11:45 Effect of Subsurface Irrigation Systems on Microbial Water Quality of Agricultural Water in South Florida.** Travis K. Chapin and Michelle D. Danyluk. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (tkchapin@ufl.edu) [HP-8].
- 12:00 Reduction of E. coli as a Surrogate for Salmonella spp. on the Surface of Grapefruit during Various Packingline Processes.** Michelle D. Danyluk¹, Loretta M. Friedrich¹, Jiuxu Zhang², and Mark A. Ritenour². ¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; ²UF/IFAS Indian River Research and Education Center, Fort Pierce, FL. (mddanyluk@ufl.edu) [HP-9].

12:15 – 1:20 Lunch (on your own)

Monday Afternoon Session

(1:20 – 4:30 PM) John Jackson Room

1:20 Welcome and Introductions, Amy Simonne
Consider Being a Candidate for VP Elect!

D- Student Presentations

- 1:30 Phenylalanine Ammonia-Lyase Activity and the Impact on Color And Anthocyanin Content Of Strawberries During Cold Storage.** Katrina E. Kelly and Cecilia do Nascimento Nunes. University of South Florida, Food Quality Laboratory, Department of Cell Biology, Microbiology and Molecular Biology, Tampa, FL (takelly@gmail.com) [HP-10]

Handling & Processing Section

- 1:45 A Survey of the Microbiological Quality of Florida Farmers' Market Fresh Produce.** **L. K. Roth¹, S. Ahn¹, A. Simonne², and L. House³.** ¹UF/IFAS Department of Food Science and Human Nutrition, Gainesville, FL, ²UF/IFAS Department of Family, Youth and Community Sciences, Gainesville, FL, ³UF/IFAS Department of Food and Resource Economics, Gainesville, FL. (lroth@ufl.edu) [HP-11]
- 2:00 Assessment of Antioxidant Capacity of Different Orange Juices and Drinks and Their Effect on Blood Antioxidant Activity of Healthy Individuals.** **P. S. Ferreira¹, D. R. Gonçalves¹, M. S. Nery¹, T. B. Cesar¹, K. Zang², and E. A. Baldwin³.** ¹School of Pharmaceutical Sciences, UNESP Univ Estadual Paulista Julio de Mesquita Filho, Araraquara, São Paulo, Brazil, ²Villanova University, Villanova, PA, ³USDA-ARS Horticultural Research Laboratory, Fort Pierce, FL. (paullasf@gmail.com) [HP-12]
- 2:15 Assessing the Effectiveness of Sanitizer Spray and PVC Roller Treatment on Reducing the Population of a Five-Strain Salmonella enterica Cocktail on Mango Surfaces.** **Xinyue Wang and Michelle D. Danyluk.** UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (xwang121@ufl.edu) [HP-13]
- 2:30 Reduction of Salmonella on the Surface of Green Skin Avocados by Antimicrobial Chemicals in a Pilot PVC Wash System.** **Lidia N. Valdes G. and Michelle D. Danyluk.** UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (lidiavaldes@ufl.edu) [HP-14]
- 2:45 Florida Master Gardener Volunteers' Knowledge and Practice of Food Safety.** **Jing Guo¹, Beth Gankofskie¹, Candice Stefanou², Anne Mathews¹, Wendy Wilber³ and Amy Simonne².** ¹UF/IFAS Food Science and Human Nutrition Department, Gainesville, FL, ²UF/IFAS Family, Youth and Community Sciences, Gainesville, FL, ³UF/IFAS, Center for Landscape Conservation and Ecology, Gainesville, FL (asim@ufl.edu or jguo887@ufl.edu) [HP-15]
- 3:00 BREAK**
- 3:15 Harvest Maturity Stage Affects Fruit Quality and Postharvest Behavior of Red-Fleshed Pitaya (Hylocereus costaricensis).** **Nur Azlin Razali, Steven A. Sargent, Adrian D. Berry and Jeffrey K. Brecht.** UF/IFAS, Horticultural Sciences Department, Gainesville, (nurazlinrazali@ufl.edu) [HP-16]
- 3:30 Postharvest Performance of Spinach from High Tunnel and Open Field Production Systems.** **C. Frey, J. K. Brecht and X. Zhao.** UF/IFAS Horticultural Sciences Department, Gainesville, FL (cf1193@ufl.edu) [HP-17]
- 3:45 Flavoromics Analysis of Mandarin Varieties.** **Liying Niu^{1,2}, Shi Feng², and Yu Wang².** ¹Institute of Farm Product Processing, Jiangsu Academy of Agricultural Science, China; ²UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (yu.wang@ufl.edu) [HP-18].

- 4:00 Inactivation of Aflatoxins B1 and B2 in Peanuts by Pulsed Light (PL).** **Manal Abuagela, Paul J Sarnoski, and Liwei Gu**, UF/IFAS, Food Science and Human Nutrition Department, Gainesville, (mabuagela@ufl.edu) FL. [HP-19]
- 4:15 Handling and Processing Business Meeting: Amy Simonne**
- 4:30 Afternoon Session Adjourned**
- 5:15 Industry Reception** (Ticket included in paid conference registration)

Tuesday Morning Session

(9:50 am – 12:00 pm) John Jackson Room

Christina Dorado

Presiding, VP-Elect

- 9:50 Welcome and Introductions, Christina Dorado**

E – By-Products

- 10:00 White Tea Scented with Grapefruit Peel: A New Product.** **Yuqiong Guo, Cuifeng Hu¹ and Mark A. Ritenour¹**, ¹Fujian Agriculture and Forestry University, Fuzhou, China, ²UF Indian River Research and Education Center, Fort Pierce, and Jinhe Bai, USDA, ARS, USHRL, Ft. Pierce (ritenour@ufl.edu) [HP-20]
- 10:15 Effect of abscission zone formation and secondary fungal infection on healthy and huanglongbing- affected orange fruit juice quality.** **Elizabeth Baldwin¹, Anne Plotto¹, Jinhe Bai¹, Wei Zhao¹, John Manthey¹, Smita Raithore² and Mike Irey³**. ¹USDA/ARS Horticultural Research Laboratory, Ft. Pierce, FL, ²Symrise Inc., Branchburg, NJ, ³Southern Gardens Citrus, Clewiston, FL (Liz.Baldwin@ARS.USDA.GOV) [HP-21].
- 10:30 Preliminary isolation and evaluation of antimicrobial compound production in vitro by Lasiodiplodia theobromae.** **Jiuxu Zhang¹, Mark A Ritenour¹ and Elizabeth Baldwin²**. ¹UF/IFAS Indian River Research and Education Center, Fort Pierce, FL, ²USDA-ARS, US Horticultural Research Laboratory, Fort Pierce, FL. (ritenour@ufl.edu) [HP-22]
- 10:45 Modified citrus pectin inhibits galactan-3 protein, a protein involved in tumor metastasis.** **Wei Zhao, Randall Cameron and Elizabeth Baldwin**. USDA-ARS, US Horticultural Research Laboratory, Ft. Pierce, FL (Liz.Baldwin@ARS.USDA.GOV) [HP-23].

F – Food Safety

11:00 **Effects of controlled-release chlorine dioxide on the preservation of cherry/grape tomatoes.** X. Sun¹, B. Zhou¹, Y. Luo¹, E.A. Baldwin¹, C.M. Ference¹, J. Bai¹, and K. Harrison². ¹USDA-ARS, US Horticultural Research Laboratory, Fort Pierce, FL, ²Worrell Water Technologies, LLC, Delray Beach, FL (Jinhe.Bai@ARS.USDA.GOV) [HP-24]

11:15 **Session Adjourned**
See you next year!

12:00 **Extension Luncheon** (Ticket Required)

Citrus Section: Tripti Vashisth
Presiding
(tvashisth@ufl.edu)

Monday Morning Session

(9:50 AM – Noon) Augustus Steele Room

9:50 Welcome and Introductions, Tripti Vashisth

A – Varieties and Rootstocks

- 10:00** An Improved Method to Track Changes in CLas Titer of HLB-Affected Citrus Trees Reveals the Extended Persistence of CLas DNA After Cell Death. **Ed Etxeberria**, Pedro Gonzalez, Christopher Vincent, Ariel Singerman, Arnold Schumann. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL (eetxeber@ufl.edu)[C-1]
- 10:15** Influence Of Oscillating Stress On Huanglongbing Development In Graft-Inoculated Citrus. **Ed Stover**¹, Robert G. Shatters¹, Ashley Witkowski², Jude Grosser³, Gloria A. Moore. ¹USDA-ARS Horticultural Research Laboratory, Fort Pierce, FL; ²UF/IFAS Indian River Research and Education Center, Fort Pierce, FL; ³UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (ed.stover@ars.usda.gov)[C-2].
- 10:30** Phospholipase D (PLD) as an Indicator of Root Nutritional Status and Health in Citrus. **Fernando Alferez**¹, James H. Graham². ¹UF/IFAS South West Florida Research and Education Center, Immokalee, FL; ²UF/IFAS Citrus Research and Education Center, Lake Alfred, FL.(alferez@ufl.edu)[C-3]
- 10:45** Strigolactone induced anatomical changes in HLB-infected citrus. **Naveen Kumar**¹, and Ed. Etxeberria². ¹University of Maryland Eastern Shore, Princess Anne, MD; ²UF/IFAS Citrus Research and Education Center, Lake Alfred, FL (dixit2000in@yahoo.com)[C-4]

B – Student Presentations

- 11:00** Dynamics of Endophytic and Pathogenic *Phyllosticta* spp. in Floridian Citrus Leaves Associated with Citrus Black Spot. **K. Zhang**¹, M. M. Dewdney¹, J. A. Rollins². ¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; ²UF/IFAS Department of Plant Pathology, Gainesville, FL [C-5]
- 11:15** Steam-generated Thermotherapy: How does Canopy and Root of HLB-affected Citrus trees respond to it? **Naweena Thapa**, Sara L. Commerford, Reza Ehsani, Evan G. Johnson, Megan Dewdney. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL [C-6]

11:30 Differences in the nutrient uptake of healthy and huanglongbing affected sweet orange plants. **Faisal Shahzad¹, Changpin Chun², Arnold Schumann¹, Tripti Vashisth¹.** ¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; ²Citrus Research Institute Chinese Academy of Agricultural Sciences/ Southwest University, China. [C-7]

11:45 Sensory Evaluation of Four University of Florida-Developed Mandarins and a Commercial California Cultivar. **Matthew R. Mattia and Fred G. Gmitter Jr.** UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (mrmattia@ufl.edu) [C-8]

12:00 – 1:20 Lunch (on your own)

Monday Afternoon Session

(1:20 – 3:30 PM) Augustus Steele Room

1:20 Welcome and Introductions, Tripti Vashisth

C – Citrus Diseases

1:30 Detection of phenopropanoids in citrus leaf tissue exposed to citrus canker. **Chris Ference^{1,2}, John Manthey¹, Jan Narciso¹, Elizabeth Baldwin¹ and Jeff Jones².** ¹U.S. Department of Agriculture, Agricultural Research Service, U.S. Horticultural Laboratory, Fort Pierce, FL; ²University of Florida, Gainesville, FL (chris.ference@ars.usda.gov)[C-9]

1:45 New formulation of Copper and Zinc based Bactericide/ Fungicide for managing citrus canker. **Mikaeel Young^{1,2}, Ali Ozcan^{1,3}, Parthiban Rajasekaran¹, A. Strayer⁵, YY. Liao⁵, Monty E. Myers⁶, Evan Johnson⁷, James H. Graham⁷, J. B. Jones⁵, M. L. Paret⁸ and Swadeshmukul Santra^{1,2,3,4}.** ¹NanoScience Technology Center, ²Burnett School of Biomedical Sciences, ³Department of Chemistry University of Central Florida, Orlando, FL, ⁴Department of Materials Science and Engineering University of Central Florida, Orlando, FL ⁵UF/IFAS Department of Plant Pathology, Gainesville, FL, ⁶UF/IFAS Indian River Research and Education Center, Fort Pierce, FL ⁷UF/IFAS Citrus Research and Education Center, Lake Alfred, FL 33850, USA. ⁸UF/IFAS North Florida Research and Education Center, Quincy, FL [C-10]

D – Citrus Production Techniques

2:00 Chemical Control of Asian Citrus Psyllid Using Foliar Sprays Of Selective And Broad-Spectrum Insecticides. **Jawwad A. Qureshi^{1,2}, Barry C. Kostyk², and Philip A. Stansly².** ¹UF/IFAS Indian River Research and Education Center, Fort Pierce, FL; ²UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL.(jawwadq@ufl.edu) [C-11]

- 2:15 Soil Microbial Product Interactions with HLB in Valencia/ Swingle Trees Over Three Seasons at Three Contrasting Sites in Florida.** **Jim Syvertsen.** Project Manager, Citrus Research and Development Foundation, UF/IFAS Citrus Research and Education Center, Lake Alfred, FL (jmsn@ufl.edu) [C-12]
- 2:30 Response of young citrus to varied nitrogen and irrigation rates and greening infection-preliminary.** **Davie Kadyampakeni¹, Sarah Strauss², Arnold Schumann¹, and Kelly Morgan².** ¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; ²UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. (dkadyampakeni@ufl.edu) [C-13]
- 2:45 Hydroponic citrus: a high performance growing system for fresh Citrus under Protective Screen (CUPS).** **Arnold Schumann, Laura Waldo, Danny Holmes, Tracy Hartzog.** UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (schumaw@ufl.edu) [C-14]
- 3:00 Greening Detection by Smartphone.** **Alireza Pourreza¹, Ed Etxeberria², Christopher Vincent², and Pedro Gonzalez-Blanco².** ¹Kearney Agricultural Research & Extension Center, University of California, Division of Agriculture and Natural Resources, Parlier, CA, ²UF/IFAS Citrus Research and Education Center, Lake Alfred, FL (apourreza@ufl.edu) [C-15]
- 3:15 Citrus Section Business Meeting: Tripti Vashisth**
- 3:30 Afternoon Session Ajourned**
- 6:00 Industry Reception** (Ticket included in paid conference registration)

Tuesday Morning Session

(9:50 AM – Noon) Augustus Steele Room

9:50 Welcome and Introductions, Ute Albrecht

E– Citrus Outreach and Economics

10:00 **Increasing Citrus Industry Awareness of young people- a review of the Successful Highlands County 4-H Youth Citrus Program.**

Laurie A. Hurner. UF/IFAS Extension Highlands County, Sebring, FL.
(lhurner@ufl.edu) [C-16]

10:15 **Competing Perspectives among Employers and Worker Advocates Regarding Citrus Harvesting with H-2A Workers.**

Carlene Thissen and Fritz Roka. UF/IFAS Southwest Research & Education Center, Immokalee, FL (fmroka@ufl.edu) [C-17]

F– Citrus Nursery Production

10:30 **Influence of propagation method on growth of young citrus rootstock plants.** **Ute Albrecht¹, Mireia Bordas², Beth Lamb³, Bo Meyering¹, Kim D. Bowman⁴.**

¹UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL; ²Agromillora Florida, Wildwood, FL; ³Phillip Rucks Nursery, Frostproof, FL; ⁴USDA-ARS Horticultural Research Laboratory, Fort Pierce, FL (ualbrecht@ufl.edu) [C-18]

10:45 **Use of compost in growing media to accelerate germination, growth and development of citrus rootstock.** **Tripti Vashisth¹, Changpin Chun², and Monica Ozores Hampton³.**

¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; ²Citrus Research Institute Chinese Academy of Agricultural Sciences/Southwest University, China; ³UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL.
(tvashisth@ufl.edu) [C-19]

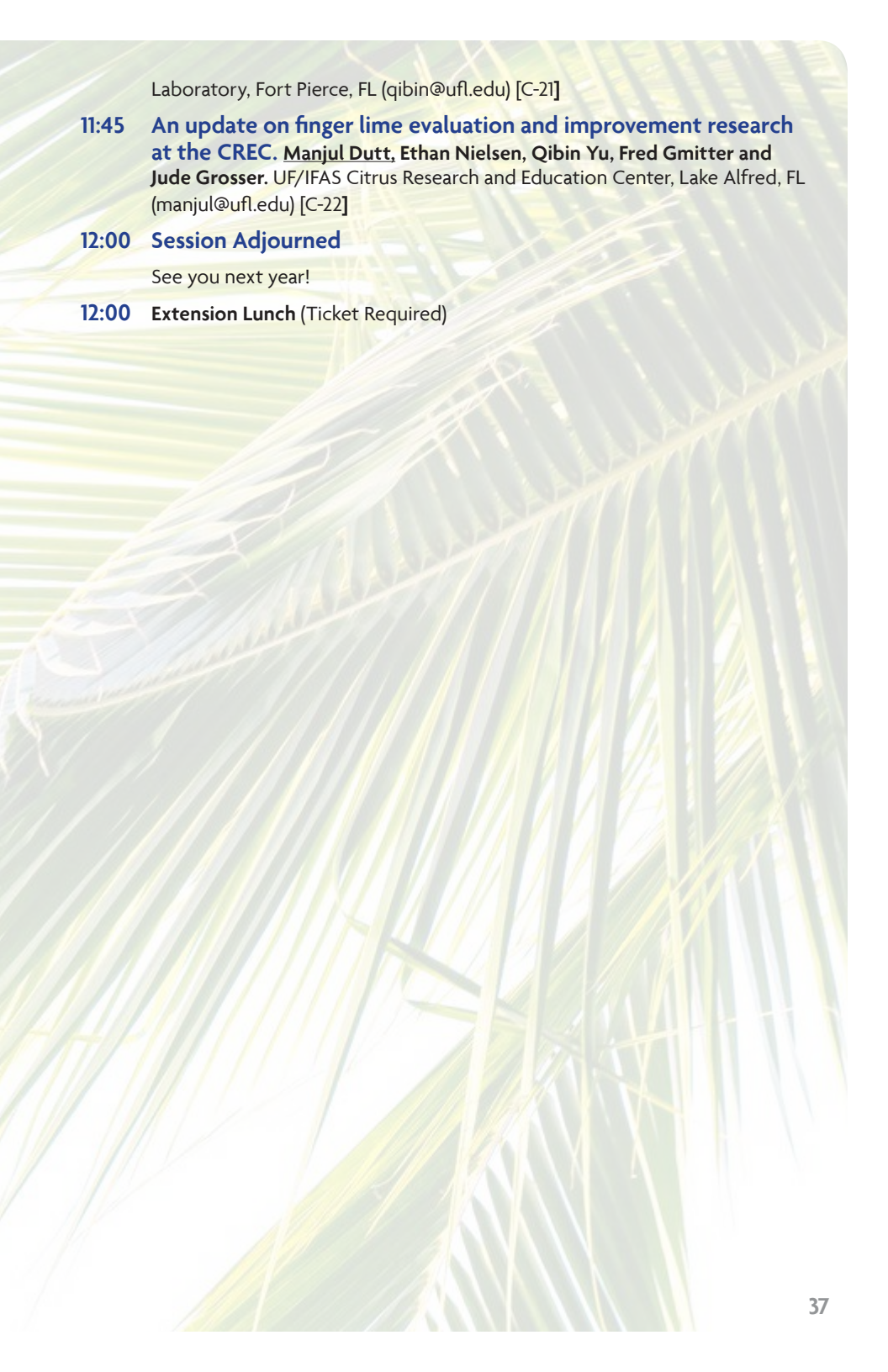
G– Citrus Variety Improvement and Flavor

11:00 **Metabolomics evaluation of newly released HLB-tolerant citrus varieties.** **Nabil Killiny, Manjul Dutt, Ahmad A. Omar, Fred G. Gmitter, Jr., and Jude W. Grosser.**

UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (nabilkilliny@ufl.edu) [C-20]

11:15 **Identification of functional genes and biosynthesis pathways associated with production of volatile and non-volatile flavor components in mandarin fruit.** **Qibin Yu¹, Ming Huang¹, Yuan Yu¹, Matthew Mattia¹, Hongge Jia¹, Nian Wang¹, Frederick G. Gmitter Jr.¹, Anne Plotto², Elizabeth A. Baldwin², and Jinhe Bai².**

¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL, ²USDA-ARS Horticultural Research



Laboratory, Fort Pierce, FL (qibin@ufl.edu) [C-21]

11:45 **An update on finger lime evaluation and improvement research at the CREC.** **Manjul Dutt, Ethan Nielsen, Qibin Yu, Fred Gmitter and Jude Grosser.** UF/IFAS Citrus Research and Education Center, Lake Alfred, FL (manjul@ufl.edu) [C-22]

12:00 **Session Adjourned**

See you next year!

12:00 **Extension Lunch (Ticket Required)**

In-Service Training

Tuesday Afternoon Session

Joseph B. Lancaster Room

“Application of New Technologies for Improved Management for Horticultural and Agronomic Crops”

Organizer: **Michael Mulvaney¹** and **Josh Freeman²**, ¹UF/IFAS West Florida Research and Education Center, ²UF/IFAS, UF/IFAS Horticultural Sciences Department. (m.mulvaney@ufl.edu and joshuafr@ufl.edu)

Agenda

- 1:30 Welcome and Pre-test**
- 1:45 Technology to Improve Irrigation Management**
Wes Porter, Soil and Crop Sciences, University of Georgia, Tifton, GA
(wporter@uga.edu)
- 2:15 Automated Irrigation Scheduling based on EC**
Charles Barrett, UF/IFAS Extension Suwannee County, Regional Specialized Agent - Water Resources, (cebarrett@ufl.edu)
- 3:00 Break**
- 3:15 Using Drones for Row Crop Production- What Can and Can't We Do Yet?**
Christian Brodbeck, Center for Bioenergy and Bioproducts, Auburn University (brodbcj@auburn.edu)
- 4:00 Using Drones for Disease Scouting Vegetables - Where Does th Technology Stand?**
Matthews Paret, UF/IFAS Plant Pathology Department and North Florida Research and Education Center, Quincy, FL
Jnaneshwar Das, GRASP Laboratory, University of Pennsylvania
- 4:45 Sensors and Data Use**
Daniel Lee, Precision Agriculture Laboratory, UF/IFAS Department of Agricultural and Biological Engineering (WSLee@ufl.edu)
- 5:30 Post-test and Conclusion**

Notes

The background of the page is a close-up photograph of palm fronds. The leaves are long and narrow, with a distinct central vein and smaller secondary veins branching off. The color is a mix of light green and yellowish-green, suggesting they might be in a sunny or slightly dry environment. The lighting creates a dappled effect, with some areas being brighter and others in shadow.

Notes

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