



139th Annual Meeting of the

FLORIDA STATE HORTICULTURAL SOCIETY



**June 7-9, 2026
Jacksonville, Florida**

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Cover Page Pictures: Horticultural Commodities in Duval County. Photo Credits: Persimmon (Muhammad Shahid), Blueberry (Stephanie Means), Oak tree (Tonya Ashworth) and Potted ornamentals (Tonya Ashworth).

Program Overview

Registration Desk Hours — Third Floor Sky Bridge

Sunday June 7	2:00 PM — 6:00 PM
Monday June 8	7:30 AM — 5:00 PM
Tuesday June 9	8:00 AM — 12:00 PM

Sunday Afternoon — June 7

1:00 — 3:00 PM	Pre-Meeting Farm Tour: 5Points Farm (registration required)	Jacksonville
3:30 — 4:30 PM	Poster Set up Marguerite Beckford, poster coordinator	Third Floor Sky Bridge
4:30 — 5:30 PM	FSHS Board Meeting	Board Room 2
6:00 — 6:15 PM	Opening Ceremony Prissy Fletcher, FSHS Chairman of the Board	River Terrace 1
6:15 — 6:45 PM	Speaker: Rhonda Gracie Horticulturist and Landscape Designer, University of North Florida "The UNF Botanical Garden: Fostering Wellness, Sustainability, and Communi- ty Engagement."	River Terrace 1
6:45 — 7:00 PM	Awards Ceremony, Prissy Fletcher, FSHS Chairman of the Board	River Terrace 1
7:00 — 8:00 PM	Welcome Reception Included in conference registration	River Deck 1 / River Terrace 1 (outdoor / indoor)

Monday Morning — June 8

8:00 — 8:30	Coffee & Tea	Third Floor Sky Bridge
8:30 — 9:45	General Session	River Terrace 1
8:30	Welcome & Presidential Address: Manjul Dutt, FSHS President	River Terrace 1
9:00	Keynote Speaker: Dr. Tim Motis Global Research And Publications Director "ECHO: A Florida Agricultural Nonprofit with Global and Regional Impact"	River Terrace 1
9:50 — 11:45	Agroecology & Natural Resources	City Terrace 5
9:50 — 12:00	Ornamental, Garden, & Landscaping	City Terrace 6
9:50 — 12:00	Handling & Processing	City Terrace 8
9:50 — 12:00	Krome Memorial Institute	City Terrace 10
9:50 — 12:00	Citrus	River Terrace 1
9:50 — 12:00	Vegetables	City Terrace 12
12:00 — 1:00	LUNCH Students only: Lunch Buffet (Tickets at registration desk) Others: on your own	River Terrace 1

Monday Afternoon — June 8

1:20 — 4:00	Agroecology & Natural Resources	City Terrace 5
1:20 — 3:45	Ornamental, Garden, & Landscaping	City Terrace 6
1:20 — 2:15	Handling & Processing	City Terrace 8
2:35 — 4:15	Agritourism	City Terrace 8
1:20 — 5:00	Citrus Concurrent Session 1	River Terrace 1
1:20 — 3:15	Krome Memorial Institute	City Terrace 10
3:20 — 5:30	Citrus Concurrent Session 2	City Terrace 10
1:20 — 5:30	Vegetables	City Terrace 12

Monday Evening — June 8

5:45 — 6:45	Reception and Poster Session (Finger food & cash bar) Included in conference registration	Third Floor Sky-Bridge
7:30 — 9:00	St. Johns River Taxi Tour, Jacksonville Registration required	Riverfront

Tuesday Morning — June 9

8:30 — 9:15	Horticultural Crops Breakfast (Event ticket required)	River Terrace 1
	Speaker: Erin Alvarez , MS Business Development Manager SkyFrog Landscape "The poinsettia show and sale: Extracurricular student engagement in horticulture"	River Terrace 1
9:15 — 10:00	FSHS Annual Business Meeting. Manjul Dutt, FSHS President	River Terrace 1
	Student Oral Competition and Poster Awards. David Austin, Marguerite Beckford	River Terrace 1
10:00	Coffee Break	Third Floor Sky Bridge
10:20 — 12:00	Agroecology & Natural Resources	City Terrace 5
10:20 — 11:30	Ornamental, Garden, & Landscaping	City Terrace 6
10:20 — 12:00	Handing & Processing	City Terrace 8
10:20 — 12:00	Citrus	River Terrace 1
10:20 — 12:00	Vegetables	City Terrace 10

Tuesday Lunch

12:00 — 1:00	Extension Luncheon (Event ticket required) Speakers:	River Terrace 1
12:10	Dr. Saqib Mukhtar , University of Florida, IFAS, Associate Dean for Extension "UF IFAS Extension Leadership, Program Impacts, and Future Directions Across FL"	
12:30	Dr. Vonda H. Richardson , Florida A&M University, Director/Associate Administrator "Strengthening Agriculture Through Extension: Progress and Priorities"	

Tuesday Afternoon

1:20 — 4:30	In-Service Training Registration required on UF/IFAS PDEC . "Cover Crops, Compost, and Biochar in Sustainable Agriculture: Challenges and Opportunities" Coffee provided	City Terrace 10
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Florida State Horticultural Society 2025-2026 Board of Directors and Ex-Officio Members

Chair of the Board: Evelyn "Prissy" Fletcher

President: Dr. Manjul Dutt

President-Elect: Dr. Carlene Chase

***Sectional Vice Presidents:**

*Agritourism: Brittany Council-Morton

*Agroecology & Natural Resources: Dr. Zack Brym

*Citrus: Dr. Flavia Zambon

*Handling & Processing: Dr. Jiuxu Zhang

*Krome Memorial Institute: Lisa Strange

*Ornamental, Garden and Landscape: Julio Perez

*Vegetable: Donna Arnold

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Program Coordinator: Anna Mészáros

2026 Meeting Facilitators and Sponsors

Program Coordinator: Anna Mészáros

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None

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Bronze Level Sponsor (under \$500)

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Please see the full list of sponsors on our [website](#) & at the annual conference.

2026 FSHS Patron Members

Helen Arnold
Gene McAvoy
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Publication Submission Guidelines

The senior author must be a member of the Society, and the presenting author of the paper must be registered for the annual meeting (except for invited papers) for papers to be accepted for publication in the Proceedings. Papers not presented at the meeting will not be published.

Email your completed **paper, scientific note, or revised abstract** to the Editor, Edgardo Etxeberria (etxeber@ufl.edu) and copied to editors@fshs.org the sectional vice president of your section and the poster coordinator if applicable. Their contact information is available here: [Officers & Sectional VPs](#).

Use a filename that corresponds to your presentation number in the meeting program book (Section-paper #) plus last name of the first author (e.g. V-35 Smith if your last name is Smith and your oral presentation number is 35 in the Vegetable section).

Submit manuscripts in Word.

Use Times New Roman 12 pt, with double or 1.5 spacing between lines
Do not use line numbering, multiple columns or page numbers
Consult: [FSHS Paper with examples](#) for papers or [FSHS Scientific Notes Instructions](#) for Scientific Notes.

Place all tables and figures at the very end of the document or in one or more separate files with the same filename as your paper (V-35 Smith Tables; V-35 Smith Fig 1; V-35 Smith Fig 2, etc.). Make sure words, numbers, etc. in figures are large enough to read easily.

For all submissions, see the complete Manuscript Preparation Guide (<https://www.fshs.org/instructions-for-authors>), on the Florida State Horticultural Society Website.

2026 FSHS

Poster Presentation Guidelines

- All posters must be set up Sunday, June 7th, between 3:30 to 4:30 PM at the Third Floor Sky-Bridge.
- Student poster competition participants will be asked to share a pdf version of their poster with the poster coordinator, Marguerite Beckford prior to the meeting to facilitate judging process.
- Student poster competition participants **DO NOT** need to prepare an oral presentation supporting their poster display. Only the poster pdf / display will be judged.
- Judging scoring criteria will be provided to poster presenters and judges via email in advance.
- Poster presenters are encouraged to be at their displays during the Monday Evening Reception / Poster Session (5:45 PM-6:45 PM) to interact with meeting participants.
- The winners for best student poster(s) will be announced at the business meeting Tuesday morning.
- Posters must be taken down on Tuesday, June 9th, by noon.

Poster dimension requirements and set-up:

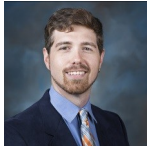
- A 40" wide x 28" tall poster board and paper clips will be provided for participants to display their posters.
- The poster **must not** exceed the 40" x 28" size limit (landscape), otherwise it can not be displayed.
- Two posters will be displayed per table.
- For more information visit www.fshs.org and contact poster coordinator: Marguerite Beckford, mbeckford@ufl.edu.



Welcome 2026 FSHS Sectional Vice-Presidents!



Agritourism: **Brittany Council-Morton**
UF/IFAS Extension
Volusia County
bcouncil1@ufl.edu



Agroecology & Natural Resources: **Dr. Zack Brym**,
UF/IFAS Tropical Research and
Education Center
brymz@ufl.edu



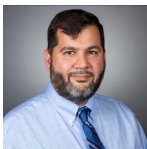
Citrus: **Dr. Flavia Zambon**
UF/IFAS Indian River Research
and Education Center
fzambon@ufl.edu



Handling & Processing: **Dr. Jiuxu Zhang**
UF/IFAS Indian River Research
and Education Center
jiuxuzhang@ufl.edu



Krome Memorial Institute: **Lisa Strange**
UF/IFAS Extension
Taylor County
lstrange@ufl.edu



Ornamental, Garden, & Landscape: **Julio Perez**
UF/IFAS Extension
Putnam County
pjulio@ufl.edu



Vegetables: **Donna Arnold**
FAMU / UF/IFAS Extension
Gadsden County
darnold1@ufl.edu

Poster Session

Third Floor Sky-Bridge

June 8, 2026

5:45 PM – 6:45 PM

Marguerite Beckford

Coordinator

mbeckford@ufl.edu

“S” Indicates Student Poster Presentation, “*” Indicates Competition Entry

Agroecology & Natural Resources:

- [P-1-ANR]-S* **Expanding knowledge of *Spigelia gentianoides* through germination trials.** [Savannah Atwell*](#), Leynar Leyton, and Carolina Baruzz, North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL. (SavannahAtwell@ufl.edu)
- [P-2-ANR]-S* **Plant hormone treatments modulate rhizosphere community structure and function.** [Marie Isabelle Dubois*](#), Conor Wolfe, Holly Velligan, Krish Jayachandran, and Kateel G. Shetty. Agroecology Program, Department of Earth and Environment, Florida International University, Miami, FL. (Mdubo020@fiu.edu)
- [P-3-ANR]-S* **A meta-analysis of preferences for forest fuel reduction and restoration in the United States.** [Abdul Khalig¹*](#) and [Sawssan Boufous²](#). ¹Department of Agricultural Economics and Agricultural Business, New Mexico State University, ²Department of Extension Economics, New Mexico State University. (akb@nmsu.edu)
- [P-4-ANR]-S* **Identifying the cyanobacterial community associated with the cycad *Zamia integrifolia*.** [Isabel Lane*](#) and Dale Casamatta. Department of Biology, University of North Florida, Jacksonville, FL. (N01593551@unf.edu)
- [P-5-ANR]-S* **Effects of compost on nutrient leaching in Florida sandy soils.** [Hope Morris*](#) and Flavia Tabay Zambon. Indian River Research and Education Center, University of Florida, IFAS, Fort Pierce, FL. ([hopemorris@ufl.edu](mailto:hopenorris@ufl.edu))
- [P-6-ANR] **Translating cover crop biomass quality into practical soil management decisions.** [Dilip Nandwani*](#), Sai Prakash Naroju, and Shahidullah Chowdhury. Department of

Agricultural Sciences and Engineering, College of Agriculture, Tennessee State University, Nashville, TN 37209. (dnandwan@tnstate.edu)

- [P-7-ANR] **Initiating a long-term evaluation of soil-test-based fertilizer rates on pine growth and straw production.** Emily Beach*. Lafayette County Extension, University of Florida, IFAS, Gainesville, FL. (elbeach@ufl.edu)
- [P-8-ANR] **Refining Florida soil testing: fine-particulate P identified as a contributor to inflated Mehlich-3 values.** Maciej G. Sliwinski*, Rebekah E. Warrick, and Franta Majs. Soil, Water, and Ecosystem Sciences Department, University of Florida, IFAS, Gainesville, FL. (msliwinski@ufl.edu)

Citrus Section:

- [P-9-C]-S* **Assessment of finger lime-derived interstocks for managing Huanglongbing progression in citrus.** Selin Boga¹, Ana Redondo¹, Lamiaa M. Mahmoud², Manjul Dutt², and Ozgur Batuman^{1*}. ¹Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL, ²Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (obatuman@ufl.edu)
- [P-10-C]-S* **Growth and yield responses of HLB-affected citrus to kaolin shade and oxytetracycline injection.** Rashmi Kumari and Christopher Vincent*. Citrus Research and Education Centre, University of Florida, IFAS, Lake Alfred, FL. (civince@ufl.edu)
- [P-11-C]-S* **Evaluation of Cu-cellulose-induced phytotoxicity and Brassinosteroid mitigation in citrus (*Citrus sinensis*) under field conditions.** Pablo Orozco and Fernando Alferez*. University of Florida, IFAS, Southwest Florida Research and Education Center, Immokalee, FL. (alferez@ufl.edu)
- [P-12-C]-S* **Plant growth regulator programs enhance tree productivity and vascular function in HLB-affected Valencia sweet orange.** Prudhvi Vulchi and Tripti Vashishth*. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (tvashishth@ufl.edu)
- [P-13-C] **Impact of rootstock selection and oxytetracycline trunk injection on the quality of fruit and juice in**

'OLL-20' sweet orange. Rejoice Blessing Muruge* and John M. Chater. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (rmuruge@ufl.edu)

Krome Institution Section

- [P-14-K]-S* **Evaluating host preference of the Sri Lankan weevil (*Myloccerus undecimpustulatus undatus*).** Jacob Pope*, Daniel A. Mancero-Castillo, and Jose X. Chaparro. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. (jacob.pope@ufl.edu)
- [P-15-K]-S* **Utility of germplasm collections to harness novel trait variation: a case study in mango.** Ansari Shaik, Pooja, and Jugpreet Singh*. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. (jugpreetsingh@ufl.edu)

Ornamental, Garden and Landscape Section:

- [P-16-OGL]-S* **Algae application frequency on marigold growth, flowering, and overall plant health.** Shoshana Over* and Jeb S Fields. Horticulture Sciences Department, University of Florida, IFAS, Gainesville, FL. (Sover@ufl.edu)
- [P-17-OGL]-S* **Biomechanical evaluation of manual weeding postures in nursery and landscaping tasks.** Yuetong Wu¹, Kim Dunleavy², and Boyi Hu^{1*}. ¹Department of Industrial and Systems Engineering, University of Florida, Gainesville, FL, ²Department of Physical Therapy, University of Florida, Gainesville, FL. (boyihu@ise.ufl.edu)
- [P-18-OGL]-S **High nutrient loss in lawn using compost instead of synthetic fertilizer.** Jaspal Singh*, Victor Abarca, Natasha Restuccia, and A.J. Lindsey. Department of Environmental Horticulture, University of Florida, Gainesville, FL. (jaspalsingh@ufl.edu)
- [P-19-OGL] **Growth model and nutrient absorption of *Zamioculcas zamiifolia* (Zanzibar Gem).** Glory N. Chimezie^{1,2}, Niger T. Houston², Jose E. Villalobos², Humberto LeBlanc², Davie M. Kadyampakeni^{1*}. ¹Citrus Research Education Center, University of Florida, IFAS, Lake Alfred, FL, ²EARTH University, Guacimo, Limon, Costa Rica. (dkadyampakeni@ufl.edu)

Vegetable Section

- [P-20-V]-S* **Out-of-season cover crops as living mulch for weed suppression in organic tropical pumpkin production.** Duane Hardy¹, Carlene Chase^{1*}, and Geoffrey Meru².
¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL, ²Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL.
cachase@ufl.edu
- [P-21-V]-S* **Planting date and varietal effect on vegetable soybean (*Glycine max* (L.) Merrill) productivity in a subtropical region.** You's Kertye Myrtil, Vander Rocha Lacerda, and Xiaoying Li*. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL.
xiaoying.li@ufl.edu
- [P-22-V]-S* **Rapid host adaptation of *Phytophthora nicotianae* to lettuce: an evolutionary perspective for vegetable systems.** Holly Velligan*, Krishnaswamy Jayachandran, and Kateel Shetty. Department of Earth and Environment, Florida International University, Miami, FL.
hvell002@fiu.edu
- [P-23-V]-S* **Alpha-glucosidase inhibitors in extracts of purple sweet potato.** Emily Puckett*, McKenna Kupcha, Ariana Rollins, and Bala Rathinasabapathi. Horticultural Sciences Department, University of Florida, Gainesville, FL.
e.puckett@ufl.edu
- [P-24-V]-S **No yield penalty associated with bs5 introgression in tomato across multiple seasons.** Mahbuba Fatema* and Jessica Chitwood-Brown. Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL.
m.fatema@ufl.edu
- [P-25-V] **Introducing the radish and onion crops into the DSSAT-cropping system model.** Mariely Lopes dos Santos^{1*}, Hyejin Lee², Bizuwork Tades Desta³, Kenneth Boote¹, Seunghwan Wi², Matteo Longo³, Francesco Morari³, Nicola Dal Ferro³, and Gerrit Hoogenboom^{1,4}.
¹Agricultural and Biological Engineering Department, University of Florida, IFAS, Gainesville, FL, ²Rural Development Administration, National Institute of Horticultural and Herbal Science, Wanju, Jeollabuk-do, Republic of Korea. ³Department of Agronomy, Food, Natural Resources, Animals and Environment, University of Padova,

- Legnaro, Italy. ⁴Global Food Systems Institute, University of Florida, Gainesville, FL. (marielylsantos@gmail.com)
- [P-26-V] **Validation and introgression of the novel gene *CmoAP2/ERF* for powdery mildew resistance in pumpkin (*Cucurbita moschata*).** Yuqing Fu, Yuchan Her, Perna Sabharwal, Sudeep Adhikari, Simranjot Kaur, Shalu Tuakur, and Geoffrey Meru*. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. (gmeru@ufl.edu)
- [P-27-V] **Simulation of tomato and snap bean growth and yield responses to phosphorus fertilization using the CSM-CROPGRO models.** Jasia Jannat^{1*}, Cleverson Henrique de Freitas¹, Henrique Boriolo Dias¹, Girma Worku Awoke², Haimanote Bayabil², Yuncong Li², Kenneth J. Boote¹, and Gerrit Hoogenboom^{1,3}. ¹Department of Agricultural and Biological Engineering, University of Florida, IFAS, Gainesville, FL, ²Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL, ³Global Food Systems Institute, University of Florida, IFAS, Gainesville, FL. (jasia.jannat@ufl.edu)
- [P-28-V] **Integrating biochar and cover crops to improve purple bell pepper production in South Florida.** Vander Rocha Lacerda, Yuncong Li, and Xiaoying Li*. Tropical Research and Education Center, Horticultural Sciences Department, University of Florida, Homestead, FL. (xiaoying.li@ufl.edu)
- [P-29-V] **Old soilborne diseases, new problems in vegetable production of South Florida.** Maria A. Lugo-Duque, Osama Abdalla, and Shouan Zhang*. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. (szhang0007@ufl.edu)
- [P-30-V] **PlantGard™ – a microbial metabolite-based approach to crop stress management.** Bangya Ma^{1*}, Mike Bledsoe², and Karin Tiff³. ¹ActiveCross Corporation, Duluth, GA, ²Village Farm International, Lake Mary, FL, ³Greenhouse Pest and Disease Management Strategies, LLC, Oak Ridge, TN. (bangyam@activecrossus.com)
- [P-31-V] **Development and evaluation of a canal in raised beds (CIRB) system for improving water and nutrient use efficiency in tomato production.** Sotirios Tasioulas*, Jessie Watson, Fernando Alferez, Pavlos Tsouvaltzis.

Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL.
tasioulas.s@ufl.edu

[P-32-V] **Effects of fertilizer rate and biostimulant application on tomato yield across growing seasons in Southwest Florida.** Sotirios Tasioulas*, Madeleine Tenny, Jessie Watson, Pavlos Tsouvaltzis, and Fernando Alferez. Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL, tasioulas.s@ufl.edu

[P-33-V] **Shading as a strategy to extend broccoli and basil production seasons in Southwest Florida.** Sotirios Tasioulas*, Madeleine Tenny, Jessie Watson, Pavlos Tsouvaltzis, and Fernando Alferez. Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL. tasioulas.s@ufl.edu

[P-34-V] **Phosphorus retention and release dynamics in South Florida soils and the role of soil amendments.** Zapata Barrientos, Krista S¹ Getachew A. Kefelegn¹, Dereje A. Birhan¹, Haimanote K. Bayabil², and Niguss Solomon Hailegnaw^{*1}. ¹Everglades Research and Education Center, University of Florida, Belle Glade, FL, Tropical Research and Education Center, IFAS, University of Florida, Homestead, FL. nhailegnaw@ufl.edu

[P-35-V] **Evaluation of chemical and biological tactics for managing *Listronotus sparsus* in Florida celery.** Anna Mészáros¹, J. Declan Sullivan², and Julien Beuzelin^{2*}. ¹Palm Beach County Extension, University of Florida, IFAS, West Palm Beach, FL, ²Everglades Research and Education Center, University of Florida, IFAS, Belle Glade, FL. jbeuzelin@ufl.edu

Handling and Processing Section

[P-36-HP] **Delaying postharvest senescence of broccoli by using CRISPR knockout coupling with gRNAs design.** Prem-sak Chaiwiwattrakul, Utsab Ghimire, and Tie Liu* Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. tieliu@ufl.edu



Agritourism Section

Brittany A. Council-Morton
 Presiding
bcouncil1@ufl.edu

Monday Afternoon Session

City Terrace 8

2:35 **Welcome and Introductions**, Brittany A. Council-Morton

A – Agritourism

- 2:45 **Developing agritourism in Gadsden County: strategic framework, benefits, and legal considerations.** Angel S Forde* Florida A&M University Extension, Gadsden County. (angel.forde@famuc.edu) [AGR-01]
- 3:00 **Considerations for agritourism + farm tours.** Alissa Hevesh*. University of Florida IFAS Extension, Highlands County. (ahevesh@ufl.edu) [AGR-02]
- 3:15 **Behind agritourism: navigating zoning, regulations, and compliance in Florida.** Lisa Amara*. University of Florida IFAS Extension, Palm Beach County. (lamara@pbc.gov) [AGR-03]
- 3:30 **Positioning muscadine wine as an authentic Florida cultural heritage tourism experience.** Robin M. Back*. University of Central Florida. (robin.back@ucf.edu) [AGR-04]
- 3:45 **From crops to connections: engaging visitors through agritourism at Kingsley Plantation.** Tonya Ashworth*. University of Florida IFAS Extension, Duval County. (t.ashworth@ufl.edu) [AGR-05]
- 4:00 **Agritourism section business meeting.** Presiding Brittany A. Council-Morton
- 4:15 **End of session.** See you next year for the 140th FSHS annual meeting! **Hutchinson Island, FL**



Agroecology & Natural Resources Section

Zachary Brym
Presiding
brymz@ufl.edu

Monday Morning Session

City Terrace 5

9:50 **Welcome and Introductions**, Zachary Brym.

A – Student Presentations

- 10:00 **Bamboo growth response to varying rates of potassium fertilization and irrigation under greenhouse conditions.** Labake Agunbiade¹, Marcio R. Nunes², and Davie M. Kadyampakeni^{1*}.
¹Citrus Research and Education Center, University of Florida IFAS, Lake Alfred, FL. ²Soil, Water and Ecosystem Sciences Department, University of Florida IFAS, Gainesville, FL
(dkadyampakeni@ufl.edu) [ANR-1] **Student Competition Entry**
- 10:15 **Excess nitrogen reduces root growth and nitrogen use efficiency in young macadamia under acidic conditions.** Lopes Bonda, Jonas Junior, Ahmad Omar, and Davie Kadyampakeni*. Citrus Research and Education Center, University of Florida IFAS, Lake Alfred, FL. (dkadyampakeni@ufl.edu) [ANR-2] **Student Competition Entry**
- 10:30 **Industrial hemp response to nitrogen in diverse Florida agroecosystems.** Muhammad Alamgeer^{1*}, Ajit Williams¹, Tamara Ser-rano¹, Zachary Brym¹, Karamvir Kaur², Lakesh Sharma², Nkem Nwosu³, Hardeep Singh³, Moriah Williams⁴, and Carlene Chase⁴.
¹Tropical Research and Education Center, University of Florida IFAS, Homestead, FL, ²Soil, Water, and Ecosystem Sciences Department, University of Florida IFAS, Gainesville, FL, ³West Florida Research and Education Center, University of Florida IFAS, Jay, FL, ⁴Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL. (alamgeer.m@ufl.edu) [ANR-3] **Student Competition Entry**

- 10:45 **Applied phosphorus behavior in northern Florida soils.** Elena Máximo, Guodong Liu*, Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL. (guodong@ufl.edu) [ANR-4] **Student Competition Entry**
- 11:00 **Influence of PGPB-inoculated biochar on soil properties and growth of young citrus under reclaimed water irrigation.** Tunde S. Oluwatuyi¹, Davie M. Kadyampakeni^{1*}, and Mary G. Lusk². ¹Citrus Research and Education Center, University of Florida IFAS, Lake Alfred, FL, ²Gulf Coast Research and Education Center, University of Florida IFAS, Wimauma, FL. (dkadyampakeni@ufl.edu) [ANR-5] **Student Competition Entry**
- 11:15 **Cultural practices for managing weeds in industrial hemp.** Moriah Williams and Carlene A. Chase*. Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL. (cachase@ufl.edu) [ANR-6] **Student Competition Entry**
- 11:30 **Economic viability of agrivoltaics for Florida specialty crops: a field-informed optimization analysis.** Ajit Williams*, Zachary Brym, A. Malek Hammami. Tropical Research and Education Center, University of Florida IFAS, Homestead, FL. (agatorwilliams@ufl.edu) [ANR-7] **Student Competition Entry**

B – General Session

- 11:45 **In vitro establishment of a salt tolerant selection of *Panicum amarum*.** Reed Gilmore, John L. Griffis, Jr.*, Jeannine Richards. Department of Ecology and Environmental Studies, Florida Gulf Coast University, Fort Myers, FL. (jgriffis@fgcu.edu) [ANR-8]
- 12:00 **LUNCH BREAK**

Monday Afternoon Session

City Terrace 5

1:20 **Welcome and Introductions**, Zachary Brym

B – General Session Continued

- 1:30 **Vegetative propagation of *Murraya koenigii* and the application of commercial growth enhancers.** [Raquel Ruggeberg*](#). Dundee Biological Control Laboratory, Florida Department of Agriculture and Consumer Services, Dundee, FL. (raquel.ruggeberg@fdacs.gov) [ANR-9]
- 1:45 **Determining the diversity and quality of saw palmetto berries for a booming market in Florida.** [Thiago Souza Campos](#), Christopher Khan, Satya Swathi Nadakuduti*. Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL. (s.nadakuduti@ufl.edu) [ANR-10]
- 2:00 **IoT-based smart irrigation system development for strawberry cultivation.** [Susanta Das](#)¹, Carlene Chase², and Vivek Sharma^{1*}. ¹Department of Agricultural and Biological Engineering, University of Florida IFAS, Gainesville, FL, ²Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL. (vsharma1@ufl.edu) [ANR-11]
- 2:15 **Decision-support tool for Florida strawberry growers.** [Hope Nelson](#)¹, Venkata Satya Dinesh Cha², Clyde Fraisse², Suzanne Thornsby^{1*}. ¹Food and Resource Economics Department, University of Florida IFAS, Gainesville FL. ²Agricultural and Biological Engineering Department, University of Florida IFAS, Gainesville, FL. (thornsbs@ufl.edu) [ANR-12]
- 2:30 **Facilitating irrigation and nutrient management extension demonstrations in the Suwannee valley.** [Jay Capasso](#)^{1*}, Tyler Pittman², Mark Warren³, James DeValerio⁴, Bob Hochmuth¹, Luke Harlow⁵, Tatiana Sanchez-Jones⁶, Emily Beach⁷, Raymond Balaguer⁸, Vivek Sharma⁹. ¹North Florida Research and Education Center - Suwannee Valley, University of Florida IFAS, Live Oak, FL. ²Gilchrist County Extension, University of Florida IFAS, FL, ³Levy County Extension, University of Florida IFAS, FL, ⁴Union County Extension, University of Florida IFAS, FL, ⁵Bradford County Extension, University of Florida IFAS, FL, ⁶Alachua County Extension, University of Florida IFAS, FL, ⁷Lafayette County Extension, Univer-

- sity of Florida IFAS, FL, ⁸Suwannee County Extension, University of Florida IFAS, FL, ⁹Agricultural and Biological Engineering Department, University of Florida IFAS, FL. (jcapasso@ufl.edu) [ANR-13]
- 2:45 **Performance of cover crops for biomass production, weed suppression, and plant growth in south Florida.** Vander Rocha Lacerda¹, Qingren Wang², Yuncong Li¹, and Xiaoying Li^{1*}. ¹Tropical Research and Education Center, University of Florida IFAS, Homestead, FL, ²Miami-Dade County Extension, University of Florida IFAS, Homestead, FL. (xiaoying.li@ufl.edu) [ANR-14]
- 3:00 **Agroecosystem composition across UF / IFAS research centers.** Zachary Brym^{1*}, Jerry Fankhauser², Alison Short², John Davis². ¹Tropical Research and Education Center, University of Florida IFAS, Homestead, FL, ²Office of the Dean for Research, University of Florida IFAS, Gainesville, FL. (brymz@ufl.edu) [ANR-15]
- 3:15 **Economics of saffron production and its potential for New Mexico small-scale farmers.** Sawssan Boufous^{1*}, Saeid Zehtab Salmasi². ¹Extension Economics Department, New Mexico State University, Las Cruces, NM, ²Sustainable Agriculture Science Center at Alcalde, New Mexico State University, Alcalde, NM. (sawssanb@nmsu.edu) [ANR-16]
- 3:30 **Agroecology & Natural Resources section business meeting.** Presiding Zachary Brym, VP and Lourdes Perez Cordero, VP-elect.
- 4:00 **Adjourn**

Tuesday Morning Session

City Terrace 5

10:20 **Welcome and Introductions,** Zachary Brym.

C – Agroecology Innovations and Insights

- 10:30 **Effects of glycine betaine and proline application on productivity and nut quality in pistachio (*Pistacia vera* L.).** Ana Isabel Escudero^{*}, Alba Agenjos-Moreno, Marcos Moreno, Rubén Simeón, Alberto San Bautista. Centro de Investigación del Regadío y Agrosistemas Mediterráneos, Universitat Politècnica de València, València, Spain (anesiz@etsiamn.upv.es) [ANR-17]

- 10:45 **The potential for multi-species systems to improve citrus productivity and production system resilience.** Christopher Vincent*, Waqar Shafqat, Maryam Khalilzadeh, Anirban Guha, and Davie M. Kadyampakeni. Citrus Research and Education Center, University of Florida IFAS, Lake Alfred, FL. (civince@ufl.edu) [ANR-18]
- 11:00 **A method to the madness: biological control edition.** Lourdes Pérez Cordero. Dundee Biological Control Laboratory, Florida Department of Agriculture and Consumer Services, Dundee, FL. (lourdes.perezcordero@fdacs.gov) [ANR-19]
- 11:15 **Designing for resilience: a post-freeze assessment of diverse plant palettes in a Florida-friendly garden.** Leslie Nicole Munroe*. Indian River County Extension, University of Florida IFAS, Vero Beach, FL. (lnmunroe@ufl.edu) [ANR-20]
- 11:30 **Agroecology & Natural Resources section discussion and wrap-up.** Zachary Brym and Lourdes Perez Cordero
- 11:45 **End of sessions.** See you next year for the 140th FSHS annual meeting! **Hutchinson Island, FL**



Citrus Section

Flavia Zambon
 Presiding
f.zambon@ufl.edu

Monday Morning Session

River Terrace 1

9:50 **Welcome and Introduction**, Flavia Zambon

A – Student Presentations

- 10:00 **Effects of irradiance and temperature on whole-canopy carbon assimilation in citrus.** [Rashmi Kumari](#) and Christopher Vincent*. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (civince@ufl.edu) [C-1] **Student Competition Entry**
- 10:15 **Seasonal nutrient dynamics of HLB-affected sweet orange trees under variable nitrogen rates: impacts on growth, yield, and fruit quality.** [Noor Ul Basar](#)¹, Muhammad Adnan Shahid², and Davie M. Kadyampakeni^{1*}. Citrus Research and Education Center, University of Florida, Lake Alfred, FL, ²North Florida Research and Education Center, University of Florida IFAS, Quincy, FL. (dkadyampakeni@ufl.edu) [C-2] **Student Competition Entry**
- 10:30 **Rebuilding soil function in Florida citrus: compost-driven gains in water retention and tree growth in ‘Valencia’ sweet orange.** [Mark N. Mumpande](#), Jonas Pereira de Souza Júnior, Josue St Fort and Davie M. Kadyampakeni*. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (dkadyampakeni@ufl.edu) [C-3] **Student Competition Entry**
- 10:45 **Can optimizing the nitrogen–phosphorus ratio enhance growth of HLB-affected citrus trees?** [Monika Peddapuli](#)¹, Mark A. Ritenour² and Davie Kadyampakeni^{1*}. ¹Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL, ²Indian River Research and Education Center, University of Florida, IFAS,

- Fort Pierce, FL. (dkadyampakeni@ufl.edu) [C-4] **Student Competition Entry**
- 11:00 **Effect of homobrassinolide on growth and physiological responses of young citrus trees under Huanglongbing conditions.** Divya Aryal¹ and Fernando Alferez. Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL. (alferez@ufl.edu) [C-5] **Student Competition Entry**
- 11:15 **Oxytetracycline injection impacts citrus leaf photosynthetic function around the canopy over time.** Muna Aryal, Waqar Shafqat and Christopher Vincent*. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (civince@ufl.edu) [C-6] **Student Competition Entry**
- 11:30 **Evaluation of ascorbic acid as a stabilizer for oxytetracycline in Huanglongbing management in Florida citrus.** Lauren Fessler Mathews¹, Ana Redondo¹, Sanju Kunwar², and Ozgur Batuman^{1*}. ¹Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL, ²North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL. (obatuman@ufl.edu) [C-7] **Student Competition Entry**
- 11:45 **Comparing acidified and neutral oxytetracycline solutions for citrus trunk injection.** Igor Rodrigues da Silva¹, Swadeshmukul Santra^{2,3,4}, Jorge Pereira³, Ute Albrecht^{1*}. ¹Horticultural Sciences Department, University of Florida, IFAS, Southwest Florida Research and Education Center, Immokalee, FL, ²Department of Chemistry, ³NanoScience Technology Center, and ⁴Burnett School of Biomedical Sciences, University of Central Florida, Orlando, FL. (ualbrecht@ufl.edu) [C-8] **Student Competition Entry**
- 12:00 **LUNCH BREAK**

Monday Afternoon

Citrus Conc. Session 1

River Terrace 1

1:20 **Welcome and Introductions**, Flavia Tabay Zambon

B – Cultural Practices and Grower Tools

- 1:30 **Effects of propagation method and rootstock genotype on growth, yield, and fruit quality of 'Valencia' orange in HLB-endemic Florida.** Deived Uilian de Carvalho^{1*}, Caroline Tardivo¹, Kim D. Bowman², and Ute Albrecht¹. ¹Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL, ²U.S. Horticultural Research Laboratory, Agricultural Research Service, United States Department of Agriculture, Ft. Pierce, FL. (ddecarvalho@ufl.edu) [C-9]
- 1:45 **Fruit thinning strategies to improve fruit quality in heavy-cropping mandarin cultivars.** Heinrich Geldenhuys^{1,2*}, Nanje Naude¹, and Pieter Raath^{1,2}. ¹Department of Horticultural Science, University of Stellenbosch, South Africa, ²Citrus Research International, Department of Horticultural Science, University of Stellenbosch, South Africa. (hg@sun.ac.za) [C-10]
- 2:00 **Propagation capacity and variety availability in Southwest Florida: citrus and other fruit tree crops.** Edwin Antonio Gutiérrez-Rodríguez^{1*}, Jonael Bosques². ¹ De Soto, Hardee, and Manatee County Extension, University of Florida, IFAS, FL, ²Hardee County Extension, University of Florida, IFAS, FL. (edwingr@ufl.edu) [C-11]
- 2:15 **Recovery of a declining 'Sanguinelli' citrus orchard affected by *Colletotrichum* spp. through glycine betaine and proline applications monitored by sentinel-2 vegetation indices.** Marcos Moreno^{*}, Rubén Simeón, Ana Isabel Escudero, Javier Coronado, Alba Agenjos-Moreno, Enric Cruzado, Ana Martínez, Alberto San Bautista. Centro de Investigación del Regadío y Agrosistemas Mediterráneos, Universitat Politècnica de València, València, Spain. (marmolea@upv.es) [C-12]

- 2:30 **Beyond fertilizers: how biostimulants shape organic citrus performance in challenging sandy soils.** Shankar Shrestha^{1*}, Muhammad Adnan Shahid², Davie Kadyampakeni¹. ¹Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL, ²North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL. (ishankshrestha@gmail.com) [C-13]
- 2:45 **Compositional nutrient diagnosis identifies yield-limiting nutrients in HLB citrus.** Edilaine Istéfani Franklin Traspadini^{1*}, Davie Mayeso Kadyampakeni¹, Jonas Pereira Souza Junior¹, Alisheikh Adem Atta¹, Shankar Shrestha¹, Renato de Mello Prado². ¹Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL, ²Universidade Estadual Paulista, Jaboticabal, SP, Brazil. (e.franklintraspa@ufl.edu) [C-14]
- 3:00 **Comparative impact of organic nitrogen sources and microbial inoculants on ‘Shiranui’ mandarin performance and freeze susceptibility.** Oluwafemi A. Adesina¹, Carlos E. Aucique-Perez¹, Herbert S. Young², Davie M. Kadyampakeni³ and Muhammad A. Shahid^{1*}. ¹North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL, ²Squeeze Citrus LLC, US-319, Coolidge, GA, ³Citrus Research and Education Center, University of Florida IFAS, Lake Alfred, FL. (mshahid@ufl.edu) [C-15]
- 3:15 **BREAK**

B – Cultural Practices and Grower Tools (continued)

- 3:30 **Silicon enhances freezing tolerance in Valencia orange by modulating antioxidant defense and carbohydrate metabolism.** Alaiha Asif¹, Shahid Iqbal¹, KeAndre Leaks¹, Matt Mattia² and Muhammad A. Shahid^{1*}. ¹North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL, ²United States Horticultural Research Laboratory, United States Department of Agriculture, Agricultural Research Service, Ft. Pierce, FL. (mshahid@ufl.edu) [C-16]
- 3:45 **Compost amendment and rootstock selection modulate fibrous root physiology and endorhizosphere bacterial community composition in young citrus trees under endemic HLB.** Gabriel Pugina, Caroline Tardivo, Ute Albrecht*. Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL. (ualbrecht@ufl.edu) [C-17].

- 4:00 **Biostimulants-mediated mitigation of HLB-associated stress in citrus production systems.** Duplicate Sambani* and Davie Kadyampakeni. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (d.sambani@ufl.edu) [C-18].
- 4:15 **Enhancing nitrogen cycling and availability using sorghum sudangrass (*Sorghum drummondii*) as a cover crop.** Giuliana Caprotti, Jonas Pereira de Souza, and Davie Kadyampakeni*. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (kadyampakeni@ufl.edu) [C-19].
- 4:30 **Citrus growers' preferences for a cost-support program.** Kelvin Amon¹, Tara Wade^{2*}, Shourish Chakravarty³. ¹Regional Dairy Business and Economic Development, University of Wisconsin-Platteville, WI, ² Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL, ³ Department of Agricultural and Applied Economics, Virginia Tech University, VA. (tara.wade@ufl.edu) [C-20]
- 4:45 **Can a global image database of citrus disease symptoms be used for biosecurity alerts?** Arnold W Schumann*, Perseveranca Mungofa, Laura Waldo, and Chris Oswalt. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (schumaw@ufl.edu) [C-21]
- 5:00 **End of sessions.**

Monday Afternoon Citrus Conc. Session 2

City Terrace 10

3:40 **Welcome and Introduction**, Caroline Tardivo

C – HLB Management

- 3:45 **Sweet orange quality in CUPS compared to the endemic HLB environment in Florida's groves.** John M. Chater*. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (jchater@ufl.edu) [C-22]
- 4:00 **Does ascorbic acid improve the efficacy of systemically delivered oxytetracycline to manage HLB in citrus.** Ute Albrecht*, Igor da Silva, Gerardo Moreno, Caroline Tardivo. Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL. (ualbrecht@ufl.edu) [C-23]
- 4:15 **Field evaluation of antibiotic-iron trunk injection therapies for citrus greening disease in 'Minneola' tangelo.** Lukas M. Hallman*, John-Paul Fox, Terri Price-Baker, Darren Cole, Frank Albano, Joanne M. Hodge, Audrey H. Beany, and Mark A. Ritenour. Indian River Research and Education Center, University of Florida, IFAS, Fort Pierce, FL. (lukas.hallman@ufl.edu) [C-24]
- 4:30 **Integrating individual protective covers and systemic oxytetracycline for sustainable HLB management: year 3 results.** Caroline Tardivo, Ute Albrecht*, Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL. (ualbrecht@ufl.edu) [C-25]
- 4:45 **Oxytetracycline trunk injections positively affect fruit quality of Sugar Belle® mandarin.** Emily S. Worbington* and John M. Chater. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (emilyworbington@ufl.edu) [C-26]
- 5:00 **Optimizing oxytetracycline trunk injection strategy to improve tree performance of HLB-affected 'Valencia' sweet orange.** Larissa Nunes^{1*}, Brandon Page², Ute Albrecht¹. ¹Southwest

Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL, ²Citrus Research and Development Foundation, Lake Alfred, FL. (nunesdasilva.la@ufl.edu) [C-27]

5:15 **Citrus section business meeting.** Presiding Flavia Zambon, VP and Caroline Tardivo, VP-elect

5:30 **End of sessions**

Tuesday Morning Session

River Terrace 1

10:20 **Welcome and Introduction,** Flavia Tabay Zambon

D – Plant Physiology and Breeding

10:30 **Photosynthetic alterations in new citrus scion selections exposed to freezing stress.** Carlos Eduardo Aucique-Perez¹, Nazneen Qureshi¹, John Chater², Jude Grosser², Fred Gmitter², and Muhammad Adnan Shahid^{1*}. ¹North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL, ²Citrus Research and Education Center, University of Florida IFAS, Lake Alfred, FL. (mshahid@ufl.edu) [C-28]

10:45 **Chlorophyll fluorescence kinetics as a tool for screening cold-resilient citrus rootstock.** Nazneen Qureshi, Carlos Eduardo Aucique-Perez, KeAndre Leaks, Ioannis Karapanos, and Muhammad A. Shahid*. North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL. (mshahid@ufl.edu) [C-29]

11:00 **Foliar nanosilica enhances water-use efficiency in young citrus trees by reducing sap flow.** Jonas Pereira de Souza Junior*, Edilaine Istéfani Franklin Traspadini, and Davie M. Kadyampakeni. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (jpereiradesouza@ufl.edu) [C-30]

11:15 **Characterization of field-derived HLB-tolerant sweet orange selections.** Sheetal Ramekar^{1*}, Jaideep Kaur Deol¹, Gary England², and Manjul Dutt¹. ¹Citrus Research and Education Center, University of Florida, Lake Alfred, FL, ²University of Florida, IFAS, Extension (Emeritus), DeLand, FL. (sheetalramekar@ufl.edu) [C-31]

- 11:30 **'Early Pride' mandarin shows strong agronomic performance and productivity under mediterranean agrosystems.** Rubén Simeón, Javier Coronado, Alba Agenjos-Moreno, Enric Cruzado, Ana Martínez, Marcos Moreno, Ana Isabel Escudero, Alberto San Bautista. Centro de Investigación del Regadío y Agrosistemas Mediterráneos, Universitat Politècnica de València, València, Spain. (rusibro@etsiamn.upv.es) [C-32]
- 11:45 **Differential physiological responses of grapefruit and sweet orange to nanocarrier micronutrient treatments.** Flavia Tabay Zambon^{1*}, Paulo Eduardo Branco Paiva^{1,3}, Hope Morris¹, Silvio Milanez Neto^{1,4}, Jorge Pereira², and Swadesh Santra². ¹ Indian River Research and Education Center, University of Florida, IFAS, Fort Pierce, FL, ²NanoScience Technology Center, University of Central Florida, Orlando, FL, ³Instituto Federal do Triangulo Mineiro, Uberaba, Minas Gerais, Brazil, ⁴"Luiz de Queiroz" College of Agriculture, University of Sao Paulo, Piracicaba, Sao Paulo, Brazil. (fzambon@ufl.edu) [C-33]
- 12:00 **End of sessions.** See you next year for the 140th FSHS annual meeting! **Hutchinson Island, FL**



Handling & Processing Section

Jiuxu Zhang
Presiding
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Monday Morning Session

City Terrace 8

9:50 **Welcome and Introductions**, Jiuxu Zhang

A – Postharvest Quality, Storage and Shelf Life

- 10:00 **Tree nutrition effects on postharvest fruit quality and shelf life of 'Valencia' sweet orange.** Mark A. Ritenour^{1*}, Alisheikh A. Atta², Cuifeng Hu¹, Audrey Beany¹, and Davie M. Kadyampakeni². ¹Indian River Research and Education Center, University of Florida, IFAS, Fort Pierce, FL. ²University of Florida, IFAS Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (ritenour@ufl.edu) [HP-1]
- 10:15 **Characterizing discoloration susceptibility and shelf-life performance in Florida lettuce germplasm.** Brianna Haynes¹, Steven Sargent^{1*}, Adrian Berry¹, Germán Sandoya-Miranda². ¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ²Everglades Research and Education Center, University of Florida, IFAS, Belle Glade, FL. (sasa@ufl.edu) [HP-2]
- 10:30 **Determination of Harvest Maturity Indices in Finger Lime.** Jonathan Lainez^{1*}, Jeffrey K. Brecht¹, Manjul Dutt², and Tie Liu¹. ¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ²Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (jlainezorellana@ufl.edu) [HP-3]

B – Cultivar Evaluation, Quality and Bio-chemical Composition

- 10:45 **Nutritional metabolite profiles of HLB-tolerant mandarin hybrids reveal key bioactive compounds linked to consumer preference.** Jinhe Bai^{*}, Thais P. Freitas, Matthew Mattia, Anne Plotto, Kristen A. Jeffries, and Erin Roskopf. Horticultural Research Laboratory, USDA-ARS, Fort Pierce, FL. (jinhe.bai@usda.gov) [HP-4]
- 11:00 **Integrating volatile aroma profiles, sugar-acid balance, and key fruit traits to identify superior HLB-tolerant mandarin hybrids.** Thais P. Freitas, Matthew Mattia, Anne Plotto, Kristen A. Jeffries, Erin Roskopf, and Jinhe Bai^{*}. U.S. Horticultural Research Laboratory, USDA-ARS, Fort Pierce, FL. (jinhe.bai@usda.gov) [HP-5]
- 11:15 **Lipidomics reveals peel lipid changes driving flavor and shelf life in finger lime.** Tie Liu^{1*}, Jonathan Lainez¹, Manjul Dutt², and Jeffrey Brecht¹. ¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ²Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (tieliu@ufl.edu) [HP-6]
- 11:30 **Postharvest quality of the new muscadine cultivar ‘Gold Delight’ in comparison with commercial bronze cultivars.** Fariborz Habibi^{1*}, Xinwei Liu¹, Patrick J. Conner², and Ali Sarkhosh¹. ¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ²Department of Horticulture, University of Georgia, Tifton, GA. (fhabibi@ufl.edu) [HP-7]
- 11:45 **USDA hybrids with tolerance to citrus greening as a source of high-value and health promoting bioactive compounds.** John A. Manthey¹, Kim D. Bowman², Christina Dorado^{1*}. ¹Citrus and Other Subtropical Products Research Unit, U.S. Horticultural Research Laboratory, Ft. Pierce, FL. ²Subtropical Insects and Horticulture Research Unit, U.S. Horticultural Research Laboratory, Ft. Pierce, FL. (christina.dorado@usda.gov) [HP-8]
- 12:00 **LUNCH BREAK**

Monday Afternoon Session

City Terrace 8

1:20 **Welcome and Introductions**, Jiuxu Zhang

C – Student Presentations

- 1:30 **Reducing oxidative discoloration in lettuce through natural compound treatments.** [Brianna Haynes](mailto:briannahaynes@ufl.edu)^{1*}, Steven Sargent¹, Tie Liu¹, Jeongim Kim¹, and Germán Sandoya-Miranda^{2,1}. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ²Everglades Research and Education Center, University of Florida, IFAS, Belle Glade, FL. (briannahaynes@ufl.edu) [HP-9] **Student Competition Entry**
- 1:45 **Chilling-storage responses of *Persea americana* ‘Oro Negro’ and ‘Harvest’ avocados under 6°C vs 8°C.** [Michaela Vanderburg](mailto:mvanderburg@ufl.edu)^{*}, Moshe Doron, Steven Sargent, and Tie Liu. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. (mvanderburg@ufl.edu) [HP-10] **Student Competition Entry**
- 2:00 **Handling and Processing section business meeting.** Presiding Jiuxu Zhang, VP and Uzman K. Chaudhry, VP-elect
- 2:15 **Field trip for Handling & Processing section participants**

Tuesday Morning Session

City Terrace 8

10:20 **Welcome and Introductions**, Jiuxu Zhang

D – Food Safety, Equipment Technology and Pathology

- 10:30 **A data-focused analysis of leafy green harvest equipment cleaning & sanitation practices.** [LaTaunya Tillman](mailto:LaTaunya.Tillman@ufl.edu)¹, Clara Diekman¹, Dalton Zingali⁴, Trevor V. Suslow², Justin Kerr³, Channah M. Rock⁴, and Michelle D. Danyluk^{1*}. ¹Citrus Research Education Center, University of Florida, IFAS, Lake Alfred, FL. ²University of California, Davis, CA. ³Factor IV Solutions, Atascadero, CA. ⁴University of Arizona, Maricopa, AZ. (mddanyluk@ufl.edu) [HP-11]

- 10:45 **Accuracy of the Compac Invision 9000 system for evaluating citrus fruit size and count.** Cuifeng Hu, Andres Gonzalez Neira, and Mark A. Ritenour*. Indian River Research and Education Center, University of Florida, IFAS, Fort Pierce, FL. (ritenour@ufl.edu) [HP-12]
- 11:00 **Impact of animal grazing practices on the microbial quality of harvested in-shell pecan nuts in Florida.** Claudia Pegueros-Valencia, Marcelo O. Wallau, Michelle Danyluk*. Department of Food Science and Human Nutrition, Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (mddanyluk@ufl.edu) [HP-13]
- 11:15 **Effects of ClO₂ gas-release treatments on the reduction of surface *Escherichia coli* on fresh strawberries during cold storage.** Mark A. Ritenour*, Jiuxu Zhang, and Nini Herrera Ruiz. Indian River Research and Education Center, University of Florida, IFAS, Fort Pierce, FL. (ritenour@ufl.edu) [HP-14]
- 11:30 **Microbial risk of ground water under the influence of surface water use in Florida specialty crop production.** Rory Wang, Claudia Pegueros-Valencia, and Michelle Danyluk*. Department of Food Science, Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (mddanyluk@ufl.edu) [HP-15]
- 11:45 **Effectiveness of chlorine dioxide and sulfur dioxide gas-releasing products at reducing postharvest decay of strawberries.** Jiuxu Zhang, Nini Herrera Ruiz, Andres Gonzalez Neira, and Mark A. Ritenour*. University of Florida, IFAS, Indian River Research and Education Center, Fort Pierce, FL. (ritenour@ufl.edu) [HP-16]
- 12:00 **End of sessions.** See you next year for the 140th annual FSHS meeting! **Hutchinson Island, FL**



Krome Memorial Institute Section

Lisa S. Strange
Presiding
lstrange@ufl.edu

Monday Morning Session

City Terrace 10

9:50 **Welcome and Introductions**, Lisa S. Strange

A – Grapes

- 10:00 **'A22-16-12' ; a promising breeding selection for table muscadine grapes.** Zhongbo Ren*, Violeta Tsoleva, and Islam El-Sharkawy. Center for Viticulture & Small Fruit Research, College of Agriculture and Food Sciences, Florida A&M University, Tallahassee. (zhongbo.ren@famu.edu) [KRO-1]
- 10:15 **Evaluation of Pierce's disease-resistant wine grape cultivars (*Vitis vinifera*).** Uzman Khalil*, Fariborz Habibi and Ali Sarkhosh. Horticultural Sciences Department, University of Florida, IFAS, Gainesville. (ukhyalil.chaudhry@ufl.edu) [KRO-2]

B – Tropical/Subtropical Fruits

- 10:30 **The 'Ruby Supreme' mango.** Jonathan H. Crane*, Jugpreet Singh¹, and Ray Melcon¹. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. (jhcrane75@gmail.com) [KRO-3]
- 10:45 **Flowering dynamics and fruit retention in diverse mango (*Mangifera indica* L.).** Sumit Jangra^{1*}, Pooja¹, and Jugpreet Singh^{1,2,3}, ¹Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL, ² Horticultural Sciences Department, University of Florida, Gainesville, FL, ³Plant Breeding Graduate Program, University of Florida, Gainesville, FL. (Jangra.sumit@ufl.edu) [KRO-4]

- 11:00 **Supply response of Florida green-skin avocados to weather, disease and trade pressures.** Fredy Ballen^{1*} and A. Malek Hammami^{1,2}, ¹Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. (Fredy.ballen@ufl.edu) [KRO-5]
- 11:15 **Unraveling peel color variation in avocado using transcriptomics and biochemical analysis.** Sheetal Ramekar^{1*}, Jaideep Kaur Deol¹, Madhugiri Nageswara-Rao³, Sukhwinder Singh³ and Manjul Dutt^{1,2}, ¹Horticultural Sciences Department, Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL, ² Plant Breeding Graduate Program, University of Florida, Gainesville, FL, ³ Subtropical Horticultural Research Station, USDA-ARS, Coral Gables, FL. (sheetalramekar@ufl.edu) [KRO-6]
- 11:30 **Evaluation of non-astringent persimmon cultivars in North Central Florida.** [Ali Sarkhosh*](mailto:sarkhosh@ufl.edu), and Fariborz Habibi. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. (sarkhosh@ufl.edu) [KRO-7]

C– Blackberry and Blueberry

- 11:45 **Effects of reclaimed water irrigation and biochar-amended substrates on growth, nutrient status, and root-zone chemistry of the southern highbush blueberry seedlings.** Yasmeen Saleem^{1*}, Davie Kadyampakeni¹, and Shinsuke Agehara². ¹Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL., ² Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL. (saleemyasmeen@ufl.edu) [KRO-8]
- 12:00 **LUNCH BREAK**

Monday Afternoon Session

City Terrace 10

- 1:20 **Welcome and Introductions**, Lisa S. Strange
- 1:30 **Modeling fruit dry matter accumulation for southern highbush blueberry.** Md Zohurul Kadir Roni¹, Patricio R. Munoz¹, and Gerardo H. Nunez^{1*}. ¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. (g.nunez@ufl.edu) [KRO-9]
- 1:45 **From breeding to deployment: a statewide effort to develop, trial, and deliver Florida-adapted blackberry cultivars.** Zhanao Deng^{1*}, Guodong David Liu², Muhammad A. Shahid³, Shinsuke

Agehara¹, and Wael Elwaki⁴. ¹ Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL, ²Horticultural Sciences Department, University of Florida, IFAS, Gainesville, Florida 32611, ³North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL, ⁴University of Florida, IFAS Extension, Hillsborough County, Seffner, FL (zdeng@ufl.edu) [KRO-10]

D – Student Presentations

- 2:00 **Cold tolerance of select avocado genotypes grown in central Florida.** Anne Plotto^{1*}, Rachel Noma², Mark A. Ritenour², James Salvatore¹ and Erin Roskopf¹. ¹USDA-ARS, U.S. Horticultural Research Laboratory, Fort Pierce, FL, ²Indian River Research and Education Center, University of Florida, IFAS, Fort Pierce, FL. (anne.plotto@usda.gov) [KRO-11] **Student Competition**
- 2:15 **Non-destructive discrimination of avocado leaves and fruit using near-infrared spectroscopy.** Angela Osorio-Barahona*, Jose X. Chaparro and Daniel Mancero-Castillo. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. (aosoriobarahona@ufl.edu) [KRO-12] **Student Competition Entry**
- 2:30 **Entry Performance of diverse papaya (*Carica papaya* L.) genotypes under subtropical Florida climates.** Mst. Salina Akter^{1,2}, Sumit Jangra¹, and Jugpreet Singh^{1,2,3}. ¹Tropical Research and Education Centre, University of Florida, IFAS, Homestead, FL, ²Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL, ³Plant Breeding Graduate Program, University of Florida, IFAS, Gainesville, FL. (mst.akter@ufl.edu) [KRO-13] **Student Competition**
- 2:45 **Evaluation of three passion fruit cultivars grown in Florida for their fruit quality.** Xinwei Liu*, Tie Liu, Ali Sarkhosh. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. (xinwei.liu@ufl.edu) [KRO-14] **Student Competition Entry**
- 3:00 **Krome Memorial Institute business meeting.** Presiding Lisa S. Strange, VP and Jugpreet Singh, VP-Elect
- 3:15 **End of sessions.** See you next year for the 140th FSHS Annual Meeting. **Hutchinson Island, FL**



Ornamental Garden and Landscape

Julio Perez
Presiding
pjulio@ufl.edu

Monday Morning Session

City Terrace 6

9:50 **Welcome and Introductions**, Julio Perez

A – Sustainable Landscapes, Urban Horticulture, and Water

10:00 **Establishing maintenance protocols for Florida native plants in urban landscapes.** [Leynar Leyton](mailto:L.LeytonNaranjo@ufl.edu)^{1*}, Ashley R. Jackson², Sandra B. Wilson², and Gail M. Hansen². ¹North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL. ²Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. L.LeytonNaranjo@ufl.edu [OGL-1]

10:15 **Selection criteria and five-year performance of foodscape plants in zone 9a and 9b.** [A. Marek](mailto:man-dab@ufl.edu)^{*} and M. Bailey. Marion County Extension, University of Florida, IFAS, Ocala, FL. man-dab@ufl.edu [OGL-2]

B – Sustainable Production Systems and Resource Efficiency

10:30 **Substrate stratification: reimagining the container system to improve plant productivity and resource efficiency in nursery and greenhouse production.** [Jeb S. Fields](mailto:jsfields@ufl.edu)^{*}. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. jsfields@ufl.edu [OGL-3]

10:45 **Compost use and substrate stratification on the growth of container plants.** [Qingchun Liu](mailto:Qingchun.Liu@ufl.edu)^{1*} and Shawn T. Steed^{2,1}. ¹Miami-Dade County Extension, University of Florida, IFAS, Homestead,

FL. ²Multi-County Extension, University of Florida, IFAS, Plant City, FL. q.liu1@ufl.edu [OGL-4]

- 11:00 **Green giant growth in a nursery using plastic and fabric containers.** Tom Yeager^{1*} and Ted Gardner². ¹Nursery Plant Production, Gainesville, FL. ²Hibernia Nursery, Webster, FL. yeager_t@yahoo.com [OGL-5]

C – Plant Science, Production, and Human Dimensions

- 11:15 **Induction, identification, and characterization of tetraploids in caladium for morphological changes and potential herbicide tolerance.** Mase Merkel and Zhanao Deng^{*}. Gulf Coast Research and Education Center, Horticultural Sciences Department, University of Florida, IFAS, Wimauma, FL. zdeng@ufl.edu [OGL-6]
- 11:30 **Three new caladium cultivars for use in containers and landscapes.** Zhanao Deng^{*}, Natalia A. Peres, and Johan Desaegeer. Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL. zdeng@ufl.edu [OGL-7]
- 11:45 **From landscape to feed: ornamental species in intensive browse production systems.** Neus Alcon-Bou^{*}, Kathleen Sullivan, Shannon Livingston, Alyxandra Swanhall, Parker Jones, and Heidi Bissell, Disney's Animal Kingdom®, Animals, Science and Environment, Bay Lake, FL. neus.alcon.bou@disney.com [OGL-8]
- 12:00 **LUNCH BREAK**

Monday Afternoon Session

City Terrace 6

- 1:20 **Welcome and introductions,** Julio Perez

D – Student Presentations - Sustainable Landscapes and Production Systems

- 1:30 **Black soldier fly frass as a substrate amendment to reduce peat use in soilless culture of geranium (*Pelargonium interspecific*).** Tanner Girton¹, Lauren Seltsam¹, Maria Chavez², Jennifer Boldt³, and Jeb S. Fields^{1*}. ¹Horticultural Sciences Department,

- University of Florida, IFAS, Gainesville, FL. ² Plant and Environmental Sciences, Agricultural Science Center at Farmington, New Mexico State University, Farmington, NM. ³Application Technology Research Unit, Agricultural Research Service, United States Department of Agriculture, Toledo, OH. jsfields@ufl.edu [OGL-9]
- 1:45 **Evaluating standard rates of incorporation of two different grades of woodchip biochar in production of sweet viburnum (*Viburnum odoratissimum*).** [Megan Gibb](mailto:megangibb@ufl.edu)* and Jeb S. Fields. Department of Environmental Horticulture, University of Florida, IFAS, Gainesville, FL. megangibb@ufl.edu [OGL-10]
- 2:00 **Landscape irrigation retrofits and water savings in Miami-Dade County.** [Laura Vasquez](mailto:lvasquez@ufl.edu)^{1*}, Jesus Lomeli¹, Dalton Goolsby¹ and Patrick Martin^{2,1} Miami-Dade County Extension, University of Florida, IFAS, FL. ²Miami-Dade County Water and Sewer Department, FL. lvasquez@ufl.edu [OGL-11]
- 2:15 **Hammermilled sugarcane bagasse fibers can be used to reduce peat and phosphorus applications in greenhouse flower production.** [Martha Vilchez](mailto:mvilchez@ufl.edu) and [Jeb S. Fields](mailto:jsfields@ufl.edu)*. ¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. mvilchez@ufl.edu [OGL-12]
- 2:30 **Establishment of an agrobacterium-based CRISPR/Cas9 gene editing system in bahiagrass using phytoene desaturase as a visual reporter.** [Mohammed Kyum](mailto:mkyum@ufl.edu)^{1*}, Kevin Kenworthy¹, Heqiang Huo², Satya Swathi Nadakuduti², Fredy Altpeter¹, and Bryan Unruh¹. ¹Agronomy Department, University of Florida, IFAS, Gainesville, FL. ²Horticultural Sciences, University of Florida, IFAS, Gainesville, FL. mkyum@ufl.edu [OGL-13] **Student Competition Entry**

E – Education, Extension, and Community Engagement

- 2:45 **Cultivating health: a seasonal gardening and nutrition education model in public library settings.** [Lisa Sutphin Strange](mailto:lstrange@ufl.edu)* and Lori Wiggins. Taylor County Extension, University of Florida, IFAS, Perry, FL. lstrange@ufl.edu [OGL-14]
- 3:00 **Cultivating muscadine confidence.** [Julio Perez](mailto:pjulio@ufl.edu)^{1*}, Judy Jean², and Terra Freeman³. ¹Putnam County Extension, University of Florida, IFAS, Palatka, FL, ²Central District, University of Florida, IFAS, Gainesville, FL, ³Saint Johns County Extension, University of Florida, IFAS, Saint Augustine, FL. pjulio@ufl.edu [OGL-15]

- 3:15 **Scaling citizen science through volunteer networks: 2025 expansion of the great southeast pollinator census in Florida.** Jeremy Rhoden^{1*}, Tia Saracino², Lisa Strange³, Tonya Ashworth⁴, Cynthia Nazario-Leary⁵, Beth Bolles⁶, Mark Tancig⁷, Julie McConnell⁸. ¹Extension Marion County, University of Florida, IFAS, Ocala, FL; ²Hillsborough County Extension, University of Florida, IFAS, Seffner, FL; ³Taylor County Extension, University of Florida, IFAS, Perry, FL; ⁴Duval County Extension, University of Florida, IFAS, Jacksonville, FL; ⁵Alachua County Extension, University of Florida, IFAS, Newberry, FL; ⁶Escambia County Extension, University of Florida, IFAS, Cantonment, FL; ⁷Leon County Extension, University of Florida, IFAS, Tallahassee, FL; ⁸ Washington County Extension, University of Florida, IFAS, Chipley FL. jeremy.k.rhoden@ufl.edu [OGL-16]
- 3:30 **Well adapted plants and innovative teaching methods lower barriers to growing sustainable gardens.** Mark Bailey^{*}, Amanda Marek, Rebecca Mendes, Jeremy Rhoden, and Ondine Wells. Marion County Extension, University of Florida, IFAS, Ocala, FL. ironhill@ufl.edu [OGL-17]
- 3:45 **End of sessions**

Tuesday Morning Session

City Terrace 6

10:20 **Welcome and Introductions**, Julio Perez

F – Education, Extension, and Community Engagement

- 10:30 **FFL application integration.** Keighly Graves^{*}, Carol Kavalan, CJ Bain, Claire Lewis, and Tom Wichman. Florida-Friendly Landscaping™ Program, University of Florida, IFAS Extension, Gainesville, FL. k.graves@ufl.edu [OGL-18]
- 10:45 **BGCI Accreditation Application: Discovery Gardens, Tavares, Florida.** Maria E. Quirico Bautista^{*1}, Clayton Yuen^{2 1} Lake County Extension, University of Florida, IFAS, Tavares, FL., ² Lake County Agriculture Center, Tavares, FL., ³Botanic Garden Conservation International (BGCI). mquiricobautista@ufl.edu [OGL-19]

G – Propagation and Nursery Production Techniques

- 11:00 **Summer cutting propagation of Japanese blueberry.** Shawn T. Steed*, Extension Hillsborough County, University of Florida, IFAS, Seffner, FL. ststed@ufl.edu [OGL-20]

H – Specialized Plant Physiology and Biostimulants

- 11:15 **Biostimulants affect morpho-physiological and yield attributes of selected specialty cut flowers.** Iftikhar Ahmad^{1*}, Tazkia Hussain¹ and J.M. Dole². ¹Institute of Horticultural Sciences, University of Agriculture, Faisalabad, Pakistan. ²Department of Horticultural Science, North Carolina State University, Raleigh, NC. iahmad@uaf.edu.pk [OGL-21] – *cancelled*
- 11:30 **Ornamental & Garden, and Landscaping business meeting.** Presiding, Julio Perez, VP and Jeremy Rhoden, VP-elect
- 11:45 **End of sessions.** See you next year for the 140th FSHS annual meeting! **Hutchinson Island, FL**



Vegetable Section

Donna Arnold
 Presiding
donna1.arnold@famu.edu
darnold1@ufl.edu

Monday Morning Session

City Terrace 12

9:50 **Welcome and Introductions**, Donna Arnold

A – Nutrient Management

- 10:00 **Yield response of snap bean (*Phaseolus vulgaris* L.) to liquid phosphorus fertigation in subtropical spodosols of North-Central Florida.** M. J. I. Shohag¹ and Guodong Liu (David)^{1*}. ¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. (guodong@ufl.edu) [V-1]
- 10:15 **Optimizing nitrogen application for vegetable soybean [*Glycine max* (L.) Merrill] production in calcareous soil.** You's Kertye Myrtil, Vander Rocha Lacerda, Yuncong Li, and Xiaoying Li*. Tropical Research and Education Center, University of Florida, Homestead, FL. (xiaoying.li@ufl.edu) [V-2]
- 10:30 **Why rhizosphere processes matter for phosphorus use in snap bean in Northeast Florida.** Guodong Liu (David)^{1*} and Elena Máximo. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. (guodong@ufl.edu) [V-3]
- 10:45 **Assessing potato response to phosphorus and nitrogen fertilization in sandy soils with contrasting soil phosphorus status.** Gustavo F. de Castro^{1,2}, Judyson de M. Oliveira^{1*}, Bernardo A. da Silva^{1,2}, Ester C. Ricken¹, Simon S. Riley³, Mark W. Clark⁴, Gerardo H. Nunez¹, Sandra Guzman⁵, Lincoln Zotarelli¹. ¹Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL. ²Universidade Federal de Viçosa, Brazil. ³Aarhus University, Denmark. ⁴Soil, Water, and Ecosystem Sciences Department, University of Florida, IFAS, Gainesville, FL. ⁵Agricultural and Biological Engineering Department, University of Florida, IFAS, Gainesville, FL. (judyson.dematoso@ufl.edu) [V-4]

- 11:00 **Comparison of conventional and controlled-release nitrogen fertilizers on potato yield, quality, biomass accumulation, and nitrogen uptake under contrasting irrigation regimes.** [Shiva Bhambota](#)^{*}, Varshitha Prasanna, Vivek Sharma. Agricultural and Biological Engineering, University of Florida, IFAS, Gainesville, FL. (sbhambota@ufl.edu) [V-5]
- 11:15 **Overestimating soil phosphorus for potatoes in Northeast Florida: Mehlich-3 test.** [Guodong Liu \(David\)](#)^{1*} and M. J. I. Shohag. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. (guodong@ufl.edu) [V-6]
- 11:30 **Improving potato (*Solanum tuberosum* L.) yield and nitrogen use efficiency with hydrogel in spodosol of Northeast Florida.** [M. J. I. Shohag](#)¹ and [Guodong Liu \(David\)](#)¹. ¹Horticultural Sciences Department, University of Florida, IFAS Gainesville, FL (guodong@ufl.edu) [V-7]
- 11:45 **Optimizing phosphorus rate for sweet corn in muck soils of the Everglades Agricultural Area.** [Dereje A. Birhan](#)^{1*}, Getachew A. Kefelegn¹, Zapata Barrientos, Krista Susseth.¹, Anna Mészáros², and Niguss Solomon Hailegnaw¹. ¹Department of Agronomy, Everglades Research and Education Center, University of Florida, Belle Glade, FL.²Palm Beach County Extension, University of Florida, IFAS, West Palm Beach, FL. (birhan.da@ufl.edu) [V-8]
- 12:00 **LUNCH BREAK**

Monday Afternoon Session

City Terrace 12

- 1:20 **Welcome back and introductions.**
Donna Arnold & Meghan Foos

A – Nutrient Management (continued)

- 1:30 **Interpreting soil tests and fertilizer recommendations for Krome soil: why soil properties matter.** [Haimanote Bayabil](#)^{*}, A.T. M. Sakiur Rahman, Girma Worku Awoke, Saddam Hussain, and Yuncong Li. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. (hbayabil@ufl.edu) [V-9]

- 1:45 **Alternate substrate selection under varying fertigation methods for highwire cucumber and tomato propagation.** Uttara C. Samarakoon^{1*}, Manisha Hamal², Milon Chowdhury³, Alexandra Espinoza-Ayala⁴, James E. Altland⁵. ¹Mid- Florida Research and Education Center, University of Florida, IFAS, Apopka, FL, ²Agricultural Technical Institute, The Ohio State University, Wooster, OH, ³College of Business Engineering, and Technology, Kentucky State University, Frankfort, KY, ⁴Department of Horticulture and Crop Science, The Ohio State University, Wooster, OH. ⁵USDA Agricultural Research Service, Wooster, OH. (u.samarakoon@ufl.edu) [V-10]

B – Production and Market

- 2:00 **Sustainable pumpkins: optimizing the value chain for reduced food loss and food waste.** [Geoffrey Meru](mailto:gmeru@ufl.edu)^{*}. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. (gmeru@ufl.edu) [V-11]
- 2:15 **Understanding consumer behavior in fresh vegetable markets: the roles of origin, promotion, and Florida-related awareness.** [Younghyeon Jeon](mailto:lahouse@ufl.edu)¹, Lisa House^{1*}, and Sungeun Yoon¹. ¹Food and Resource Economics Department, University of Florida, IFAS, Gainesville, FL. (lahouse@ufl.edu) [V-12]
- 2:30 **Economic analysis of grafted vs non-grafted watermelon trials in North Central Florida.** [Kevin Athearn](mailto:athearn@ufl.edu)^{1*}, Bikash Adhikari², Isaac Vincent², [Tatiana Sanchez-Jones](mailto:tatsan@ufl.edu)³, Robert Hochmuth¹, Mark Warren⁴, Xin Zhao². ¹North Florida Research and Education Center – Suwannee Valley, University of Florida, IFAS, Live Oak, FL, ²Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL, ³Alachua County Extension, University of Florida, IFAS, Newberry, FL, ⁴Levy County Extension, University of Florida, IFAS, Bronson, FL. (athearn@ufl.edu) [V-13]

C – Student Presentations

- 2:45 **Uncovering the genetic basis of powdery mildew resistance in *Cucurbita pepo*.** [Prerna Sabharwal](mailto:prernasabharwal@ufl.edu)^{1*}, Chris Smart², Libby Indermaur², Charles Thomas Day², Michael Mazourek², Gregory Inzina², Mary Hausbeck³, Carmen Medina-Mora³, and [Geoffrey Meru](mailto:gmeru@ufl.edu)¹. ¹University of Florida, Tropical Research and Education Center. ²Cornell University³. Michigan State University. (prernasabharwal@ufl.edu) [V-14]

- 3:00 **Engineering PTR1-mediated resistance to bacterial spot in domesticated tomato.** Abdullah Jamil^{1*} and Anuj Sharma¹. ¹Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL. (abdullah.jamil@ufl.edu) [V-15] **Student Competition Entry**
- 3:15 **Biology, distribution, and management of *Amrasca biguttula* (two-spot cotton leafhopper) on okra in Florida.** Monalisa Seaton^{*} and Dakshina Seal. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. (mseaton@ufl.edu) [V-16] **Student Competition Entry**
- 3:30 **Improving phosphorus use efficiency in sweet corn production using slow-release fertilizers and soil additives.** Getachew Amare¹, Dereje A Birhan¹, Zapata Barrientos¹, Krista Susseth¹, Haimanote K. Bayabil² and Niguss Solomon Hailegnaw¹. ¹Everglades Research and Education Center, University of Florida, Belle Glade, FL, ²Tropical Research and Education Center, University of Florida, Belle Glade, FL. (g.kefelegn@ufl.edu) [V-17]

D – Extension Programs

- 3:45 **Small Farm Start-up School Florida Cooperative Extension.** Jeet Ramjattan^{1*}, Donna Arnold², Cheryl Danley³, Stacy Strickland⁴, David Outerbridge⁵, Yvette Goodiel⁶, Madelyn Greathouse⁷, Laura Bennett⁷, Luis Rodriguez⁸, Jim DeValerio⁹, Ashley Stonecipher¹⁰, Amanda Masholie¹¹, Jessica Ryals¹², Derek Farnsworth¹³, Anne Miller¹⁴, Danielle Treadwell¹⁵, and David Campbell¹⁶. ¹St. Johns County Extension, University of Florida, IFAS, Gainesville, FL, ²Gadsden County Extension, Florida A&M University, Tallahassee, FL, ³FAMU - Brooksville Extension, Florida A&M University, Tallahassee, FL, ⁴Hernando County Extension, University of Florida, IFAS, Gainesville FL, ⁵Lee County Extension, University of Florida, IFAS, Gainesville, FL, ⁶Martin County Extension, University of Florida, IFAS, Gainesville, FL, ⁷Pasco Sumter County Extension, University of Florida, IFAS, Gainesville, FL, ⁸Polk County Extension, University of Florida IFAS, Gainesville, FL, ⁹Union County Extension, University of Florida, IFAS, Gainesville, FL, ¹⁰Volusia County Extension, University of Florida, IFAS, Gainesville, FL, ¹¹Walton County Extension, University of Florida, IFAS, Gainesville, FL, ¹²Collier County Extension, University of Florida IFAS, Gainesville, FL, ¹³Food and Resource Economics Department, University of Florida, IFAS, Gainesville, FL, ¹⁴Salty Feathers Farm, Arcadia, FL, ¹⁵Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL, ¹⁶State Small Farms and Alternative Enterprises, University of Florida, IFAS, Gainesville, FL. (jramjattan@ufl.edu) [V-18]

- 4:00 **Field demonstration of cover cropping for organic growers.** Qingren Wang^{1*} and ²Xiaoying Li, ¹Miami-Dade County Extension, University of Florida, IFAS, ²Tropical Research and Education Center, University of Florida, IFAS (qrwang@ufl.edu) [V-19]
- 4:15 **Research and Extension efforts to improve insecticide spray efficacy for corn silk fly management in sweet corn.** Julien Beuzelin^{*}, Anna Mészáros², and J. Declan Sullivan¹ Everglades Research and Education Center, University of Florida, IFAS, Belle Glade, FL. ²Palm Beach County Extension, University of Florida, IFAS, Belle Glade, FL. (jbeuzelin@ufl.edu) [V-20]
- 4:30 **Extension-assisted smart weed management in South Florida: from weed identification to precision sprayer adoption.** Anna Mészáros^{1*}, Matthew T. VanWeelden¹, and Calvin Odero². ¹Palm Beach County Extension, University of Florida, IFAS, Belle Glade, FL, ²Everglades Research and Education Center, University of Florida, IFAS, Belle Glade, FL. (ameszaros@ufl.edu) [V-21]
- 4:45 **Extension programs prepare produce growers for produce safety rule inspection.** Billy Mitchell^{1*}, Emmy Collins², Renee Goodrich¹, Taylor O'Bannon², Chelsea Peebles³, Kirby Quam³, Keith Schneider¹, and Michelle Danyluk². ¹Food Science and Human Nutrition Department, University of Florida, IFAS, Gainesville, FL, ²Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL, ³Department of Agriculture and Consumer Services, Bartow, FL (w.mitchell1@ufl.edu) [V-22]
- 5:00 **Strengthening food production education through agricultural extension.** David Herbert^{*} and S. Samiei, Nassau County Extension, University of Florida, IFAS. (david.hebert@ufl.edu) [V-23]
- 5:15 **Vegetable Section business meeting.** Presiding Donna Arnold, VP and Meghan Foss for Craig Frey, VP-elect
- 5:30 **End of sessions.**

Tuesday Morning Session

City Terrace 10

10:20 **Welcome and Introductions**, Donna Arnold

F – Pest Management and Breeding

10:30 **Seasonal population trends of corn silk flies on sweet corn farms in the Everglades Agricultural Area.** J. Declan Sullivan, Julien Beuzelin^{*}, Donna Larsen, Hayden Mickleby, and Noemi Fonseca. Everglades Research and Education Center, University of Florida, IFAS, Belle Glade, FL. (jbeuzelin@ufl.edu) [V-24]

- 10:45 **Breeding disease resistant peppers: the use of molecular markers to identify resistance to bacterial spot, phytophthora blight and root-knot nematodes.** Dominick Padilla, Jingwei Fu, Shah R. Khan, Angelina Troshyna, Jeffrey Jones, Brantlee Spakes-Richter and Bala Rathinasabapathi*. ¹Horticultural Sciences Department, Plant Pathology Department, University of Florida, IFAS, Gainesville, FL. (brath@ufl.edu) [V-25]
- 11:00 **The importance of root-knot nematodes for globe artichoke (*Cynara cardunculus* var. *scolymus* L.) production in Central Florida.** Hung X. Bui*, Avninder Kaur, Shinsuke Agehara, Weining Wang, Justin Carter, and Johan A. Desaegeer*. Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL. (jad@ufl.edu) [V-26]
- 11:15 **Comparative effects of oxidative and fumigant soil disinfection on soil functionality and watermelon performance and productivity.** Alba Agenjos-Moreno, Ana Martínez, Rubén Simeón, Miguel Ángel Naranjo, Marcos Caballero, Alberto San Bautista. Centro de Investigación del Regadío y Agrosistemas Mediterráneos, Universitat Politècnica de València, València, Spain. (alagmo@etsiamn.upv.es) [V-27]

G – Water Management

- 11:30 **Automated water table control for precision subirrigation: effects on irrigation water productivity, root growth, and crop yield.** Judyson de M. Oliveira^{1*}, Gustavo F. de Castro^{1,2}, Mark W. Clark³, Gerardo H. Nunez¹, Sandra Guzman⁴, Lincoln Zotarelli¹. ¹Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL. ²Universidade Federal de Viçosa, Brazil. ³Soil, Water, and Ecosystem Sciences Department, University of Florida, IFAS. ⁴Agricultural and Biological Engineering Department, University of Florida, IFAS. (judyson.dematoso@ufl.edu) [V-28]
- 11:45 **Wireless monitoring of soil moisture dynamics and hydrologic properties using the Hydroball sensor system.** Girma Worku Awoke, Saddam Hussain, and Haimanote Bayabil*. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. (hbayabil@ufl.edu) [V-29]
- 12:00 **End of Sessions.** See you next year for the 140th FSHS annual meeting! **Hutchinson Island, FL**



In-Service Training

Tuesday Afternoon Session

City Terrace 10

Cover Crops, Compost, and Biochar in Sustainable Agriculture: Challenges and Opportunities

Organizers:

Xiaoying Li (xiaoying.li@ufl.edu) Stephen Jennewein (sjennewein@ufl.edu)

Agenda

- 1:20 **Welcome and Introduction.** Dr. Xiaoying Li, Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. Stephen Jennewein, Duval County Extension, University of Florida, IFAS, Jacksonville, FL.
- 1:30 **Optimizing row crop production with cover crops and meta-analytic evidence for biochar usage.** Dr. Hardeep Singh, West Florida Research and Education Center, University of Florida, IFAS, Jay, FL.
- 1:55 **Improving potted plant growth with engineered biochar and N-fixing bacteria.** Dr. Jianjun Chen, Mid-Florida Research and Education Center, Apopka, FL.
- 2:20 **On-farm trials assessing the integration of cover crops and biochar in subtropical organic vegetable production.** Dr. Xiaoying Li, Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL.
- 2:45 **When cover crops and compost work and when they don't: what soil microbes tell us.** Dr. Sarah Strauss, Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL.
- 3:10 **Coffee Break**
- 3:20 **Compost and biochar: practical applications and real-world challenges.** Dr. Mica McMillan, Fort Lauderdale Research and Education Center, University of Florida, IFAS, Davie, FL.
- 3:45 **Mitigating freezing damage: enhancing specialty crop resilience through silicon nutrition.** Dr. Muhammad Shahid, North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL.
- 4:10 **Extension agent-led discussion: agent perspective, stakeholder feedback, and future research needs.** Stephen Jennewein, Duval County Extension, University of Florida, IFAS, Jacksonville, FL. Dr. Carlene Chase, Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL.
- 4:30 **Adjourn**

Meet your 2027 FSHS Sectional Vice-Presidents!



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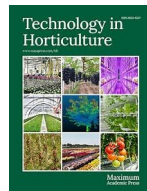


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Hyatt Regency Riverfront

3rd Floor - Meeting Map

FSHS MEETING SPACE

3rd Floor

- General Session/Break Out
- Poster Sessions, Coffee Breaks & Registration
- Board Meeting
- Office/Storage
- Welcome Reception
- Break Outs

