



137th Annual Meeting of the

FLORIDA STATE
HORTICULTURAL SOCIETY
2024



2024 Program Contents

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The Genetic Diversity of Caladium Cultivars. Photo Credits: Zhanao Deng, Terri Bates, Sandi Holmes and Keri Druffel.

Program Overview

Registration Desk Hours –Orange Pre-Function

Sunday June 09 2:00PM—6:00 PM
Monday June 10 7:30 AM—5:00 PM
Tuesday June 11 8:00 AM—12:00 PM

Sunday Afternoon—June 09

| | | |
|-----------|---|---------------------|
| 2:00—4:00 | Poster Set up, Anna Mészáros | Orange Pre-Function |
| 4:00—5:00 | Opening Ceremony, George Fitzpatrick | Orange A-B |
| 4:15—4:45 | Speaker: Lena Juarez, Executive Director Florida Agritourism Association "What Agritourism is All About" | Orange A-B |
| 4:45—5:00 | Awards Ceremony, George Fitzpatrick | Orange A-B |
| 5:00—6:00 | Welcome Reception (Included in conference registration) | Pavilion |

Monday Morning—June 10

| | | |
|-----------|---|---------------------|
| 8:00—8:30 | Coffee & Tea | Orange Pre-Function |
| 8:30—9:45 | General Session | Orange A-B |
| 8:30 | Welcome & Presidential Address: Ute Albrecht, FSHS President | Orange A-B |
| 9:00 | Speaker: Bryon White, Co-Founder and CEO -Yaupon Brothers "Cultivating Change with Native Tea" | Orange A-B |
| 9:45 | End of General Session | |

Concurrent Monday Morning Sessions:

| | | |
|------------|---|------------|
| 9:50-12:15 | Agroecology & Natural Resources | Cypress C |
| 9:50-12:00 | Citrus | Orange C |
| 9:50-12:00 | Handling & Processing | Orange D |
| 9:50-12:00 | Krome Memorial Institute | Cypress B |
| 9:50-11:45 | Ornamental, Garden, & Landscaping | Cypress A |
| 9:50-12:00 | Vegetables | Orange A-B |

Monday Lunch

12:00—1:00 Lunch (on your own)

Monday Afternoon

Concurrent Monday Afternoon Sessions:

| | | |
|-----------|---|------------|
| 1:20-1:45 | Agroecology & Natural Resources | Cypress C |
| 3:05-4:45 | Agritourism | Cypress A |
| 1:45-5:00 | Best Management Practices | Cypress C |
| 1:25-4:45 | Citrus | Orange C |
| 1:20-4:00 | Handling & Processing | Orange D |
| 1:20-4:15 | Krome Memorial Institute | Cypress B |
| 1:15-3:00 | Ornamental, Garden, & Landscaping | Cypress A |
| 1:20-4:45 | Vegetables | Orange A-B |

Monday Evening

| | | |
|-----------|--|-------------------------|
| 5:15—6:15 | Reception and Poster Session (Included in conference registration - Presenters are encouraged to stay by their posters) | Orange Pre- Function |
|-----------|--|-------------------------|

Tuesday Morning —June 11

| | | |
|-----------|--|------------|
| 7:00—8:15 | Horticultural Crops Breakfast (Event ticket required) Invited Speaker: Marcio Resende, Assis- tant Professor, UF/IFAS Horticultural Sci- ences Department. "Potatoes from Florida: The need for heat tolerance and local adaptation" | Citrus A-B |
|-----------|--|------------|

| | | |
|---|--|---------------------|
| 8:30—9:00 | FSHS Annual Business Meeting. Ute Albrecht, FSHS President | Orange A-B |
| 9:00—9:30 | Student Oral Competition and Poster Awards. Tie Liu, Anna Mészáros | Orange A-B |
| 9:30 | Coffee Break | Orange Pre-Function |
| Concurrent Tuesday Morning Sessions: | | |
| 9:50—11:15 | Citrus | Orange C |
| 9:50—11:00 | Handling & Processing | Orange D |
| 9:50—11:45 | Vegetables Concurrent Session I | Orange A-B |
| 9:50—12:00 | Vegetables Concurrent Session II | Cypress ABC |
| Tuesday Lunch | | |
| 12:00—1:00 | Extension Luncheon (Event ticket required) Invited Speakers: Robert Hochmuth "Decades of Change in Florida's Greenhouse Vegetable Industry" | Orange A-B |
| Tuesday Afternoon | | |
| 1:00—4:30 | In-Service Training I "Controlled Environment Agriculture" See full agenda at back of program | Orange C |
| 1:20—4:30 | In-Service Training II "Managing Labor Risk Profitability: The UF/IFAS Farm Labor Supervisor Program Certification" See full agenda at back of program | Cypress ABC |
| 1:30—4:05 | Mango Summit See full agenda at back of program | Orange D |

Florida State Horticultural Society

2023-2024 Board of Directors and

Ex-Officio Members

Chairman of the Board: George Fitzpatrick

President: Ute Albrecht

President-Elect: Evelyn "Prissy" Fletcher

Sectional Vice Presidents

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Agroecology & Natural Resources: Nickie Munroe

Citrus: John Chater

Handling & Processing: Adrian Berry

Krome Memorial Institute: Muhammad A. Shahid

Ornamental, Garden and Landscape: David Austin

Vegetable: Alejandro Bolques

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Florida State Horticultural Society

2024 Meeting Facilitators

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Sponsorship Coordinator: Gene McAvoy

Student Competitions Coordinator: Tie Liu

CEU Coordinator: Tripti Vashisth

Poster Session Coordinator: Anna Mészáros

FSHS Newsletter Team: Alicia Lamborn

Scholarship Coordinator: David Austin

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Platinum Level Sponsor (\$2,000—\$4,999)

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UF IFAS Environmental Horticulture

Anonymous

Bronze Level Sponsor (under \$500)

Florida Tomato Committee

Cultivate AI

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

2024 FSHS Patron Members

Michael Boss

Ed Etxeberria

Gene McAvoy

Karen Stauderman

Erika Wallace

Presentation, Publication and Submission Guidelines

- Full payment of page charges from past years is required before presentations and submissions can be accepted in the current year.
- 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.
- Electronic submissions prior to the meeting are highly encouraged and preferred. Manuscripts should be emailed as a **Word document** to the FSHS editor, Mary Lamberts (editors@fshs.org), copying the appropriate sectional VP, at the time of the meeting. PDFs will be returned to the author for resubmission in the correct format.

Please **name** your manuscript using: the paper number from the Conference Program (ANR-5), your last name (Gettys) (you can add other last names using a hyphen between them); please add **SN** at the end if the paper is a scientific note or **Abstract + doi** if that is the format you are using. Both the Editor and Publish keep track of manuscripts using this system.

- Authors may also publish their manuscripts in any refereed journal, grower publication or EDIS document. The publications will be published as an abstract + a doi or other link.

For **all** submissions, see the complete Manuscript Preparation Guide (<https://www.fshs.org/instructions-for-authors>), **including the Literature Cited Chart**, for the Proceedings of the Florida State Horticultural Society.

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, figures and videos are included FREE of CHARGE in the online Proceedings.

2024 FSHS

Poster Presentation Guidelines

- All posters must be set up Sunday, June 9th, between 2:00 to 4:00 pm at the Orange Pre-function Area .
- Student Posters will be judged between Sunday 5:00 pm and Monday 3:00 pm.
- 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 (5:15pm-6:15pm) to interact with meeting participants.
- The winners for best student poster will be announced at the business meeting Tuesday morning.
- Posters must be taken down on Tuesday, June 11th, by noon.

Poster dimensions 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).
- Two posters will be displayed per table.



Welcome 2024 FSHS Sectional Vice-Presidents!

Agritourism: **Gene McAvoy** UF/IFAS Extension, Emeritus,
gmcavoy@ufl.edu

Agroecology & Natural Resources: **Leslie Nicole Munroe**, UF/IFAS Extension Indian River County, lmunroe@ufl.edu

Citrus: **John Chater**, UF/IFAS Citrus Research and Education Center, jchater@ufl.edu

Handling & Processing: **Adrian Berry**, UF/IFAS Horticultural Sciences adberry@ufl.edu

Krome Memorial Institute: **Muhammad A. Shahid**, UF/IFAS North Florida Research and Education Center, mshahid@ufl.edu

Ornamental, Garden, & Landscape: **David Austin**, UF/IFAS Highlands County, davidaustin@ufl.edu

Vegetables: **Alex Bolques**, FAMU, alejandrobolques@famu.edu

Technical Program Schedule

Poster Session:

Anna Mészáros

Coordinator

ameszaros@ufl.edu

[P-1-ANR]

Assisting Florida sod producers with protecting water quality by quantifying nutrient inputs and exports.

Bonnie Wells^{1*}, Bryan Unruh², Alex Lindsey³, Mark Tancig⁴, Matt VanWeelden⁵, Kevin Kenworthy⁶, and Marco Schiavon⁷. ¹Brevard County Extension, University of Florida IFAS, Cocoa, FL ²West Florida Research and Education Center, University of Florida IFAS, Jay, FL, ³Environmental Horticulture Department, University of Florida IFAS, Gainesville, FL, ⁴Leon County Extension, University of Florida IFAS, Tallahassee, FL, ⁵Palm Beach County Extension, University of Florida IFAS, Belle Glade, FL, ⁶Agronomy Department, University of Florida IFAS, Gainesville, FL, ⁷Ft. Lauderdale Research and Education Center, Ft. Lauderdale, FL. (bcwells@ufl.edu)

[P-2-ANR]

Nitrogen uptake efficiency of daikon radish on sandy soils in greenhouse conditions: an evaluation. Miurel Brewer^{1*},

Davie Kadyampakeni¹, Ramdas Kaniserry², Samuel Kwakye³. ¹Soil, Water and Ecosystem Sciences, University of Florida, Gainesville, FL, ²Horticultural Sciences, University of Florida, Gainesville, FL, ³Sand County Foundation 8461 Jamestown Dr, Winter Haven, FL. (miurelbrewer@ufl.edu)

[P-3-ANR]

Floridians' residential fertilizer behaviors, practices, and ordinance awareness. Karlibeth Leitheiser^{1*},

Ricky Telg¹, Bryan Unruh², Yilin Zhuang³, Michael Dukes⁴, Sandra Anderson¹, Hayk Khachatryan³, William Lester⁵. ¹Center for Public Issues Education in Agriculture and Natural Resources, University of Florida IFAS, Gainesville, FL, ²West Florida Research and Education Center, University of Florida IFAS, Jay, FL, ³Mid-Florida Research and Education Center, University of Florida IFAS, Apopka,

FL, ⁴Center for Land Use Efficiency, University of Florida, Gainesville, FL, ⁵Hernando County Extension, University of Florida IFAS, Brooksville, FL. (kleitheiser@ufl.edu)

- [P-4-ANR] **Seed treatments decreased time to emergence and increased abundance of emergent seedlings in American beautyberry (*Callicarpa americana*).** William Moore^{1*}, Jennifer Meader,¹Brian Bovard², [Anna Goebel](#)¹. ¹Department of Biological Sciences, Florida Gulf Coast University, Fort Myers, FL, ²Department of Ecology and Environmental Studies, Florida Gulf Coast University, Fort Myers, FL. (wfmoores6559@eagle.fgcu.edu)
- [P-5-ANR] **Utilizing Florida-friendly landscaping to revitalize a neighborhood learning garden in an underserved community.** [Leslie N. Munroe](#)^{1*}. Indian River County Extension, University of Florida IFAS, Vero Beach, FL, (lnmunroe@ufl.edu)
- [P-6-ANR] **Pheno Cam: a camera based remote sensing method to measure phenology in Florida.** [David N. Campbell](#)^{*} and Danielle D. Treadwell. Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL. (campbell@ufl.edu)
- [P-7-C] **Effects of oxytetracycline trunk injections on tree health of different HLB-affected citrus accessions.** Giancarlo Buzzi^{1,2*}, Matthew R. Mattia², and [Lorenzo Rossi](#)¹. ¹ Indian River Research and Education Center, University of Florida IFAS, Fort Pierce, FL, ² United States Horticulture Research Laboratory, Agricultural Research Service, USDA, Fort Pierce, FL. (gbuzzi@ufl.edu)
- [P-8-C] **Study of variety and rootstock effect on the incidence of *Delotococcus aberiae* in citrus plants in Castellon (Spain), using remote sensing data.** Constanza Rubio¹, Belén Franch^{2,3}, Salvador Escriche⁴, Daniel Tarrazo-Serrano¹, Sergio Castiñeira¹, Antonio Uris¹, Patricia Arizo-García⁴, [Rubén Simeón](#)^{4*}, Alberto San Bautista⁴. ¹Center of Physical Technologies, Universitat Politècnica de València, Spain, ²Global Change Unit, Image Processing Laboratory, Universitat de València, Spain, ³Department of Geographical Sciences, University of Maryland, USA, ⁴Departament of Plant Production, Universitat Politècnica de València, Spain. (rusibro@etsiamn.upv.es)

- [P-9-C] **Effect of potassium silicate on performance and growth of mature citrus trees.** Jose Prieto* and Davie Kadyampakeni. Citrus Research and Education Center, University of Florida IFAS, Lake Alfred, FL. (j.prietofajardo@ufl.edu)
- [P-10-C] **Endophytic potential of *Beauveria bassiana* in 'Valencia' sweet orange trees grafted on US-942 rootstock.** Terri L. Price-Baker*, Joseph P. Paoli, John-Paul Fox, Jeremiah A. Rodriguez, Pasco B. Avery, Lorenzo Rossi. Indian River Research and Education Center, University of Florida IFAS, Fort Pierce, FL. (terriprice@ufl.edu)
- [P-11-C] **Short-term effects of cover crops on soil properties and green house gas emissions on citrus production in Florida.** Hossein Ghomeisi¹, Gio Ijpkmeule², Mieurel Brewer^{1*}, Davie Kadyampakeni. ¹Citrus Research and Education Center, University of Florida IFAS, Lake Alfred, FL. ² IFF-Citrus Innovation Center, Lakeland, FL (dkadyampakeni@ufl.edu)
- [P-12-C] **Nursery characteristics and field performance of novel citrus rootstocks.** Caroline Tardivo^{1*}, Kim D. Bowman², Ute Albrecht¹. University of Florida IFAS, Southwest Florida Research and Education Center, Immokalee, Florida, USA. ²US Horticultural Research Laboratory, USDA, ARS, Fort Pierce, FL. (caroline.defava@ufl.edu)
- [P-13-C] **Fine-tuning zinc and potassium treatments to increase yield in sweet orange.** Murillo Otavio de Sousa* and Fernando Alferez. University of Florida/IFAS, Southwest Florida Research and Education Center, Immokalee, FL. (motaviodesousa@ufl.edu)
- [P-14-C] **Methyl salicylate and gibberellic acid for the rehabilitation of HLB-affected sweet oranges.** Gurleen Kaur*, Shalini Pareek, Taylor Livingston, and Tripti Vashisth. University of Florida IFAS, Citrus Research and Education Center, Lake Alfred, FL. (gurleenkaur1@ufl.edu)
- [P-15-HP] **Modified hydrocooling and optimized postharvest handling practices can improve the shelf life of water spinach during summer in humid subtropical regions.** Wei-Shiang Liao*, Wing-Fu Fung and Ah Chiou Lee. Taoyuan District Agricultural Research and Extension

- Station, Ministry of Agriculture, Taoyuan City, R.O.C. (Taiwan). (wsliau0721@tydais.gov.tw)
- [P-16-HP] **Ethyl formate does not reduce decay or extend the quality of stored strawberries.** Jingyi Cheng^{1*}, Ahmad Moussa¹, Moshe Doron², Yavuz Yagiz¹, Jeffrey Brecht², Liwei Gu¹. ¹Food Science and Human Nutrition Department, University of Florida IFAS, Gainesville, FL, ²Horticultural Science Department, University of Florida IFAS, Gainesville, FL. (jingyicheng@ufl.edu)
- [P-17-OGL] **Evaluating olives as an alternative fruit crop for Florida** Audrey H. Beany^{1*}, John-Paul Fox¹, Davie M. Kadyampakeni², Michael O'Hara Garcia³, Sandra M. Guzmán¹, Alejandro Bolques⁴, and Lorenzo Rossi¹. ¹Indian River Research and Education Center, University of Florida IFAS, Fort Pierce, FL, ² Soil, Water and Ecosystem Sciences Department, University of Florida IFAS, Gainesville, FL, ³Florida Olive Council, LAA, Alachua, FL. ⁴School of the Environment, Florida A&M University, Tallahassee, FL. (ahbeany@ufl.edu)
- [P-18-OGL] **Empowering home vegetable cultivation through container gardening.** Julio Perez^{*}. Putnam County Extension, University of Florida IFAS, Palatka, FL. (pjulio@ufl.edu)
- [P-19-OGL] **Establishing in vitro germination protocols for three threatened cactus species.** Reed Gilmore^{*} and John Griffis. Department of Ecology & Environmental Studies, Florida Gulf Coast University, Ft. Myers, FL (rdgilmore0671@eagle.fgcu.edu)
- [P-20-OGL] **Genome size estimates of *Hibiscus rosa-sinensis* cultivars using flow cytometry.** Sisi Chen^{*}, Vincent N. Michael, Pamela Moon, Xingbo Wu. Tropical Research and Education Center, University of Florida IFAS, Homestead, FL (sisi.chen@ufl.edu)
- [P-21-OGL] **Empowering communities with gardening education to confront food insecurity.** Emily A. Marois^{*}, Kara C. Krueger, John W. Roberts, Yesenia A. Rodriguez, Anna Mészáros, Ronald Rice, and Frank Dowdle. Palm Beach County Extension, University of Florida IFAS, West Palm Beach, FL. (Emarois@pbcgov.org)

- [P-22-OGL] **Progress on the breeding of an ornamental redbud adapted to north central Florida.** Paislyn M. Ellington^{1*}, Dennis J. Werner², and José X. Chaparro^{1,1}. ¹Horticultural Sciences Department, University of Florida, Gainesville, FL. ²Horticultural Sciences Department, North Carolina State University, Raleigh, NC. (pellington@ufl.edu)
- [P-23-OGL] ***in-vitro* micropropagation of Anthurium using various plant growth regulators (PGRs).** Milagros Ninoska Munoz Salas^{1*}, Bárbara Nogueira Souza Costa¹, Brett Jestrow², Amir Ali Khoddamzadeh^{1,2*}. ¹Department of Earth and Environment, Florida International University, Miami, FL, ²Fairchild Tropical Botanic Garden, Coral Gables, FL. (mmuno126@fiu.edu)
- [P-24-OGL] **Understanding ecophysiological responses of cabbage palm to saltwater intrusion and silicon amendment.** Pedro Gonzalez^{1*}, Daniel Tucker^{1,2}, Maruthi Sridhar Balaji Baskar¹, Madhugiri Nageswara-Rao³, M. Patrick Griffith², and Amir A. Khoddamzadeh¹. ¹Department of Earth and Environment, Florida International University, Miami, FL, ²Montgomery Botanical Center, Coral Gables, FL, ³USDA ARS Subtropical Horticultural Research Station, Coral Gables, FL. (pgonz179@fiu.edu)
- [P-25-OGL] **Cultivation and seed propagation of the leafless beaked orchid, *Sacoila lanceolata* (Aubl.) Garay.** Malcolm M. Manners¹ and Dominic A. Garrido^{2*}. ¹Department of Horticultural Science, Florida Southern College, Lakeland, FL, ²Better-Gro, Port Charlotte, FL. (dominic.garrido@icloud.com)
- [P-26-OGL] **Salinity tolerance in olive tree cultivars ‘Oliana’ and ‘Lecciana’.** Khalid Hussain*, John-Paul Fox, Lorenzo Rossi. Indian River Research and Education Center, Fort Pierce, FL (l.rossi@ufl.edu)
- [P-27-V] **Demonstrating the advancements of automated irrigation technology for adoption in fruit and vegetable crops.** Tyler Pittman*. Gilchrist County Extension, University of Florida IFAS, Trenton, FL. (pittmanh1@ufl.edu)
- [P-28-V] **Integrating compost and sunn hemp cover crop residue in an organic celery production system.** Zachary

Ray^{1*}, Gabriel Maltais-Landry², Lincoln Zotarelli¹, Xin Zhao¹. ¹Horticultural Sciences Department, University of Florida, Gainesville, FL, ²Department of Soil, Water, and Ecosystem Sciences, University of Florida, Gainesville, FL. (ray.ztyler@ufl.edu)

[P-29-V] **Marker-assisted selection of pepper plants with resistances to both bacterial spot disease and root-knot nematodes.** Dominick Padilla^{1*}, Victor Arias Fiallos¹, Jingwei Fu¹, Donald Dickson³, Jerry Minsavage², Jeff Jones², and Bala Rathinasabapathi¹. ¹Horticultural Sciences Department, University of Florida, Gainesville, FL, ²Plant Pathology Department, University of Florida, Gainesville, FL, ³Entomology and Nematology Department, University of Florida, Gainesville, FL. (dpadilla@ufl.edu)

[P-30-V] **Weevil management in celery and parsley.** Anna Mészáros^{1*}, Julien Beuzelin². ¹Palm Beach County Extension, University of Florida IFAS, West Palm Beach, FL, ²Everglades Research and Education Center, University of Florida IFAS, Belle Glade, FL (ameszaros@ufl.edu)

[P-31-V] **Identification and cultivation of superior potato varieties in northeast Florida.** Shayan Hadjiabadi^{*}, Leo Hoffman, Marcio Resende, Lincoln Zotarelli. Horticultural Sciences Department, University of Florida. Gainesville, Florida. (shadjiabadi@ufl.edu)

Agritourism Section

Agritourism Section

Gene McAvoy
Presiding
gmcavoy@ufl.edu

Monday Afternoon Session

(3:05-4:45) Cypress A

3:05 Welcome and Introductions, Gene McAvoy

A – AgriTourism

- 3:15 **Helpful Hints On Hosting On Farm Events.** Matthew Lollar* UF/IFAS Extension Santa Rosa County. (mlollar@ufl.edu) [AGR-1]
- 3:30 **Supporting Agritourism Providers Through a Regional Agritourism Conference.** Yvette Goodiel* UF/IFAS Extension Martin County. (goodiel@ufl.edu) [AGR-2]
- 3:45 **Agri-tourism needs assessment and opportunities, observations from Duval County.** Stephen Jennewein* UF/IFAS Extension Duval County. (sjennewein@ufl.edu) [AGR-3]
- 4:00 **Mobile Application Use in Agritourism.** Jill Stanford* Cultivate Agi. (jstanford@cultivateagi.com) [AGR-4]
- 4:15 **Tours Increase Agriculture Awareness and Extension Revenues.** David Austin* UF/IFAS Extension Highlands County. (davidaustin@ufl.edu) [AGR-5]
- 4:30 **Agritourism Section Business Meeting.** Presiding Gene McAvoy, Coordinator.
- 4:45 **End of Sessions.** See you next year for the 138th FSHS annual meeting!

Agroecology & Natural Resources Section

Leslie Nicole Munroe

Presiding

lnmunroe@ufl.edu

Monday Morning Session

(9:50 – 12:15) Cypress C

9:50 Welcome and Introductions, Leslie Nicole Munroe.

A – Student Presentations

- 10:00 **Response of Young D. Asper Bamboo to Increased Nitrogen Rates Under Greenhouse Conditions in Florida.** Januarie Cyrus^{1*}, [Davie Kadyampakeni](mailto:Davie.Kadyampakeni@ufl.edu). UF/IFAS Citrus REC, Lake Alfred, FL. (cjanuarie@ufl.edu) [ANR-1]
- 10:15 **Nitrogen Mineralization and Carbon Dioxide Emissions From Amendments Used in Florida Soils With Incubation Data.** Cristina Gil^{1*}, [Gabriel Maltais-Landry](mailto:Gabriel.Maltais-Landry@ufl.edu). University of Florida, (cristina.gil@ufl.edu) [ANR-2]
- 10:30 **The Use of Phosphorus Starter Fertilizer in Field Corn Production.** [Jay Capasso](mailto:jcapasso@ufl.edu)^{1*}, Kelly Morgan², Vimala Nair², Jehangir Bhadha², Vivek Sharma³, Kevin Athrean¹, Joel Love¹, Shivendra Kumar¹. ¹UF/IFAS North Florida Research and Education Center - Suwannee Valley, ⁴UF/IFAS North Florida REC Suwannee Valley, Live Oak, FL., ²UF/IFAS Soil, Water & Ecosystem Sciences Dept, Gainesville, FL, ³UF/IFAS Agricultural & Biological Engineering Dept, Gainesville, FL. (jcapasso@ufl.edu) [ANR-3]

B – Agroecology

- 10:45 **Preparing to Scale Agroecology - Highlights from Around Florida.** [Zachary Brym](mailto:Zachary.Brym@ufl.edu)^{1*}, Daniel Calzadilla, Cliff Martin, Catalina

Obando, Bruno Rozzi. UF/IFAS Tropical REC, Homestead, FL.
(brymz@ufl.edu) [ANR-4]

- 11:00 **Effects of Cover Cropping on Non-irrigated Soybean Production in Jefferson County, Florida.** David N. Campbell^{1*}, Danielle D. Treadwell¹, Joel C. Love², Tabitha Petri¹, Fabrizio Pilco¹, Noah Allen¹, Danielle S. Williams³, and Kirk Brock⁴. ¹Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL, ²North Florida Research and Education Center, Suwannee Valley, University of Florida IFAS, Live Oak, FL, ³Gasden County Extension, University of Florida IFAS, Gainesville, FL, ⁴Brock Farms, Monticello, FL.
(campbell@ufl.edu) [ANR-5]

C – Florida Friendly Landscaping

- 11:15 **Extension Educational Programs to Promote Biodiversity.** Tiare Silvasy^{1*}. UF/IFAS Extension Hillsboro County, FL.
(tsilvasy@ufl.edu) [ANR-6]
- 11:30 **2nd Arbor Day Tree Planting Event- Impact of Tree Planting Activities on Environmental Awareness in Young Children.**
Leslie Nicole Munroe^{1*}. UF/IFAS Extension Indian River County, FL.
(lnmunroe@ufl.edu) [ANR-7]

D – Natural Resources

- 11:45 **East Central Florida CISMA Workdays: Community-Driven Solutions in Action for Invasive Species Removal.** Bonnie Wells^{1*}, Carl Greene² and Kristine Campbell². ¹Brevard County Extension, University of Florida IFAS, Cocoa, FL ²Florida Wildlife Commission, Orlando, FL. (bcwells@ufl.edu) [ANR-8]
- 12:00 **Agroecology & Natural Resources Section Business Meeting.**
Presiding Leslie Nicole Munroe, VP and Jay Capasso, VP-elect
- 12:15 **Lunch**

Monday Afternoon Session

(1:20 – 1:45) Cypress C

1:20 Welcome and Introductions

1:30 **Lettuce Phosphorus Fertilizer Recommendation on Organic Soils of Florida.** Shabnam Sadeghibaniani ^{1,*}, Germán Sandoya Miranda ¹, Jehangir Bhadha ¹, Md Anik Mahmud ¹, Steven Sargent ². ¹ Everglades Research and Education Center, University of Florida, Belle Glade, Florida, USA, 33430. ² Horticulture Department, University of Florida, Gainesville, Florida, USA, 32607 [ANR-9]

1:45 **Adjourn**

Tuesday Morning Session

10:00 **Agroecology & Natural Resources Field Trip- Orange County Extension Demonstration Gardens-**
Hosted by Dr. Heather Kalaman and Dr. JK Yarborough:
We will meet at Orange County Extension Office, 6021 Conway Rd, Orlando, FL 32812.
Our hosts will take us on a guided tour of the Exploration Gardens which will also include a talk on the honeybees they also keep.
Please be sure to wear comfortable clothing, protect yourself from the sun, and manage your hydration levels for this outing.

12:00 **End of sessions.** See you next year for the 138th FSHS annual meeting!

Citrus Section

John M. Chater

Presiding

jchater@ufl.edu

Monday Morning Session

(9:50 – 12:00) Orange C

9:50 Welcome and Introduction, John M. Chater

A– Water, Soil, and Nutrient Management

- 10:00 **Impact of cover cropping on soil and tree parameters in citrus groves affected by citrus greening: a field study in the Indian River regions of Florida.** Lorenzo Rossi^{1*}, Lukas M.Hallman¹, John-Paul Fox¹, Alan L.Wright². ¹Horticultural Sciences Department, University of Florida, IFAS, Indian River Research and Education Center, Fort Pierce, FL, ²Soil, Water, and Ecosystem Sciences Department, University of Florida, IFAS, Indian River Research and Education Center, Fort Pierce, FL. (l.rossi@ufl.edu). [C-1]
- 10:15 **The impact of Irrigation rate on the fate of root morphology and life span of sweet oranges at varying tree densities in commercial groves.** Alisheikh A. Atta^{1*}, Kelly T. Morgan², Said A. Hamido³, and Davie M. Kadyampakeni¹. Citrus Research and Education Center, University of Florida, Lake Alfred, FL, ²Soil and Water Sciences Department, University of Florida, 2157 McCarty Hall, Gainesville, FL, ³Rodale Institute, Kutztown, PA. (aatta@ufl.edu). [C-2]
- 10:30 **Influence of the application of Zn and Mn obtained from black mass on young citrus plant growth.** Ana Isabel Escudero^{1*}, Patricia Arizo-García¹, Rubén Simeón¹, Miguel Angel Naranjo², Marcos Caballero², Feliz Antonio López³, María Isabel Martín³, Alberto San Bautista¹. ¹Departamento de Producción Vegetal, Universitat Politècnica de València, Valencia, Spain, ²Fertinagro Biotech, Teruel, Spain, ³TecnoEco Group, National Center for Metallurgical Research, Spanish National Research Council, Madrid,

Spain. (patarga1@etsiamn.upv.es). [C-3]

- 10:45 **The Historical Utility and Research of Entomopathogenic Fungi in Floridian Citriculture, 1885-2024.** Joseph P. Paoli^{1*}, Pasco B. Avery², Mark A. Ritenour¹, Liliana M. Cano³, Lorenzo Rossi¹. ¹Indian River Research and Education Center, Horticultural Sciences Department, Institute of Food and Agricultural Sciences, University of Florida, Fort Pierce, FL, ²Indian River Research and Education Center, Entomology and Nematology Department, Institute of Food and Agricultural Sciences, University of Florida, Fort Pierce, FL, ³Indian River Research and Education Center, Plant Pathology Department, Institute of Food and Agricultural Sciences, University of Florida, Fort Pierce, FL. (l.rossi@ufl.edu). [C-4]

B– Cultural Practices, Tree and Fruit Physiology

- 11:00 **Grove-First: A Novel Approach to Field Testing Molecules for the Treatment of Citrus Greening.** Guilherme Locatelli^{1*}, Nicholas R. Larson², Ellen Cochrane^{1,2}, Randall P. Niedz², Michelle L. Heck^{3,4}, Lorenzo Rossi¹. ¹Indian River Research and Education Center, Horticultural Sciences Department, Institute of Food and Agricultural Sciences, University of Florida, Fort Pierce, FL, United States Horticultural Research Laboratory, USDA Agricultural Research Service Fort Pierce, FL, ³Emerging Pests and Pathogens Research Unit, USDA Agricultural Research Service, Ithaca, NY, ⁴Plant Pathology and Plant Microbe Interactions Section, School of Integrative Plant Science, Cornell University, Ithaca, NY. (l.rossi@ufl.edu). [C-5]
- 11:15 **Brassinosteroids improve yield and plant defense in different citrus varieties.** Saoussen Ben Abdallah^{1*}, Fernando Alferez¹. ¹Southwest Florida Research and Education Center, the University of Florida, Institute of Food and Agricultural Sciences UF-IFAS, Immokalee, FL. (saoussen.benabda@ufl.edu). [C-6]
- 11:30 **Exploring the Effect of Brassinosteroids Application Timing on the Internal Fruit Quality in Mature Citrus Trees.** Divya Aryal^{1*}, Fernando Alferez¹. ¹Southwest Florida Research and Education Center, University of Florida, Institute of Food and Agricultural Sciences UF-IFAS, Immokalee, FL. (divyaaryal@ufl.edu). [C-7]

- 11:45 **Key components of grapefruit quality affecting pack-out and fruit revenue in CUPS.** Arnold Schumann^{1*}, Laura Waldo¹, Mark Ritenour², Chris Oswalt³. ¹Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL, ²Indian River Research and Education Center, University of Florida, IFAS, Ft. Pierce, FL, ³Polk County Extension Service, PO Box 9005, Drawer HS03, Bartow, FL. (schumaw@ufl.edu). [C-8]

12:00 **Lunch**

Monday Afternoon Session

(1:25 – 4:45) Orange C

1:25 Welcome and Introduction, John M. Chater, Ph.D.

B– Cultural Practices, Tree and Fruit Physiology (continued)

- 1:30 **To Understand the Cause and Mechanism of Poor Fruit Attributes in HLB-symptomatic Sweet Orange Fruit.** Meryam Manzoor^{1*}, Mary Sutton¹, Taylor Livingston¹, Tripti Vashisth¹. ¹University of Florida IFAS, Citrus Research and Education Center, Lake Alfred, FL. (meryam.manzoor@ufl.edu). [C-9]
- 1:45 **Optimizing Oxytetracycline Injection in Citrus Trees: Concentration and Dosage Effects.** Jasmine de Freitas^{1*}, Caroline Tardivo¹, Leigh Archer^{1,2}, Ute Albrecht¹. ¹University of Florida/IFAS, Southwest Florida Research and Education Center, Immokalee, FL, ²Rodale Institute, Kutztown, PA. (ualbrecht@ufl.edu). [C-10]
- 2:00 **Efficacy of Propionic Acid in Reducing Pre-harvest Fruit Drop in 'Hamlin' Sweet Oranges Under Huanglongbing (HLB) Stress.** Pablo Orozco^{1*}, Fernando Alferez¹. ¹Southwest Florida Research and Education Center, University of Florida, Institute of Food and Agricultural Sciences UF-IFAS, Immokalee, FL. (pablojoq1994@gmail.com). [C-11]

C– Student Presentations

- 2:15 **Therapeutic Impacts of Molybdenum on Young Huanglong-**

Citrus Section

- bing-Affected Citrus Trees.** Kondwani Kamsikiri¹, Davie Kadyampakeni^{1,*}. ¹Horticultural Sciences Department, Citrus Research and Education Center, University of Florida, Lake Alfred, FL. (dkadyampakeni@ufl.edu). [C-12]
- 2:30 **Foliar spray of macronutrients influences leaf nutrient status and citrus fruit qualities of Sugar Belle® grown in Florida sandy soil.** Shankar Shrestha^{1*}, Laura Waldo¹, Arnold Schumann¹. ¹Horticultural Sciences Department, Citrus Research and Education Center, University of Florida, Lake Alfred, FL. (shrestha.s@ufl.edu). [C-13]
- 2:45 **Response of Grapefruit Trees to Reclaimed Water as Alternative to Groundwater Irrigation in Florida.** Neus Alcon Bou^{1*}, Sandra Guzman¹, Lorenzo Rossi¹. ¹University of Florida, Institute of Food and Agricultural Sciences, Indian River Research and Education Center, Fort Pierce, FL. (l.rossi@ufl.edu). [C-14]
- 3:00 **Does variable macronutrient application impact the performance of huanglongbing (HLB)-affected sweet oranges?** Monika Peddapuli^{1*}, Alisheikh Atta, Davie Kadyampakeni¹. ¹Citrus Research and Education Center, University of Florida, Lake Alfred, FL. (dkadyampakeni@ufl.edu). [C-15]
- 3:15 **Impact of Huanglongbing (HLB) on Source-Sink Dynamics and Photosynthesis in Citrus.** Dorcas Alade^{1*}, Christopher Vincent. ¹Horticultural Sciences Department, Citrus Research and Education Center, University of Florida, Lake Alfred, FL. (aladedorcas@ufl.edu). [C-16]
- 3:30 **Evaluation of Different Container Types on Root Architecture and Performance of Nursery-Grown Citrus Plants.** Ankit Pokhrel^{1*}, Ute Albrecht¹. ¹University of Florida/IFAS, Southwest Florida Research and Education Center, Immokalee, FL. (pokhrel.an@ufl.edu). [C-17].
- 3:45 **Cover Crops for the Indian River Citrus District: Selection of Leguminosae Species Based on Biomass and Root Nodulation.** Lukas Hallman^{1*}, John-Paul Fox¹, Audrey H. Beany¹, Alan L. Wright², Lorenzo Rossi¹. ¹Horticultural Sciences Department, University of Florida, IFAS, Indian River Research and Education Center, Fort Pierce, FL, ²Soil, Water, and Ecosystem Sciences Department, University of Florida, IFAS, Indian River Research and Education Center, Fort Pierce, FL. (l.rossi@ufl.edu). [C-18].

- 4:00 **Rootstock responses to oxytetracycline trunk injections for managing huanglongbing (HLB) in Florida citrus.** Larissa Nunes^{1*}, Brandon Page², [Ute Albrecht](mailto:Ute.Albrecht@ufl.edu)¹. ¹University of Florida/IFAS, Southwest Florida Research and Education Center, Immokalee, FL, ²Citrus Research and Development Foundation, Lake Alfred, FL. (nunesdasilva.la@ufl.edu). [C-19].
- 4:15 **Field evaluation of different rates of oxytetracycline delivered by trunk injection in mature 'Hamlin' sweet orange trees.** Gabriel Pugina^{1*}, Caroline Tardivo¹, [Ute Albrecht](mailto:Ute.Albrecht@ufl.edu)¹. ¹University of Florida/IFAS, Southwest Florida Research and Education Center, Immokalee, FL. (ualbrecht@ufl.edu). [C-20]
- 4:30 **Citrus section business meeting.** Presiding John Chater, VP and Muhammad Shahid, VP-elect
- 4:45 **Adjourn**

Tuesday Morning Session

(9:50 – 11:15) Orange C

9:50 Welcome and Introduction, John M. Chater

D – Breeding and genetic improvement

- 10:00 **Utilizing drones for high-throughput phenotyping of citrus tree health to identify HLB tolerant individuals for breeding and selection.** [John M. Chater](mailto:John.M.Chater@ufl.edu)^{1*} and Emily S. Worthington. ¹Horticultural Sciences Department, Citrus Research and Education Center, University of Florida, Lake Alfred, FL. (jchater@ufl.edu). [C-21]
- 10:15 **Understanding of molecular mechanism of newly identified natural bud sport from the 'Flame' Grapefruit.** Sheetal Ramekar^{1*}, Gary England², [Manjul Dutt](mailto:Manjul.Dutt@ufl.edu)¹. ¹Horticultural Sciences Department, Citrus Research and Education Center, University of Florida, Lake Alfred, FL, ²Extension Agent IV Emeritus, University of Florida, IFAS, DeLand, FL. (manjuldutt@ufl.edu). [C-22]
- 10:30 **Molecular Analysis of Pummelo-Finger Lime Hybrids Following Huanglongbing (HLB) Infection.** Lamiaa M. Mahmoud^{1*}, Jaideep Deol¹, Jude Grosser¹, Nabil Killiny¹, [Manjul Dutt](mailto:Manjul.Dutt@ufl.edu)¹. ¹Citrus

Citrus Section

Research and Education Center, Institute of Food and Agricultural Sciences, University of Florida, Lake Alfred, FL.
(lamiaa.mahmoud@ufl.edu). [C-23]

- 10:45 **Rootstock Effects on Yield and Juice Quality of HLB-affected 'Ray Ruby' Grapefruit and 'Glenn Navel' Sweet Oranges.** [Flavia Zambon](#)¹, Macselynia Hossain¹, Mark Ritenour¹, Ronald Cave¹, and Pete Spyke². ¹Indian River Research and Education Center, University of Florida/IFAS, Fort Pierce, FL, ²Arapaho Citrus, Fort Pierce, FL. (f.zambon@ufl.edu). [C-24]

E – Marketing

- 11:00 **Marketing and willingness to pay for finger limes.** [Fredy H. Ballen](#)^{1*}. ¹Food and Resource Economics Department, UF/IFAS Tropical Research and Education Center, Homestead, FL. [C-25]
- 11:15 **End of sessions. See you next year for the 138th FSHS annual meeting!**

Handling & Processing Section

Adrian Berry
Presiding
adberry@ufl.edu

Monday Morning Session

(9:50 – 12:00) Orange D

9:50 **Welcome and Introductions**, Adrian Berry

A – Cultivar Selections

- 10:00 **Comparative Analysis of Lemon Juice Quality: A Study of Ten Hybrids and Commercial Cultivars in Florida.** Thais Pádua Freitas^{1*}, Matthew Mattia¹, Anne Plotto¹ and Jinhe Bai¹. ¹USDA-ARS, Horticultural Research Laboratory, Fort Pierce, FL. (thaispadua777@gmail.com) [H&P-1]
- 10:15 **Postharvest Performance of UF Selection 914 – A Red-fleshed Grapefruit-like Hybrid.** Cuifeng Hu¹, Fred Gmitter², Jude Grosser², John Chater², and Mark Ritenour^{1*}. ¹Indian River Research and Education Center, University of Florida/IFAS, Fort Pierce, FL ²Citrus Research and Education Center, University of Florida/IFAS, Lake Alfred, FL. (ritenour@ufl.edu) [H&P-2]
- 10:30 **Postharvest Changes in Finger Lime Fruit (*Citrus australasica*, F. Muell.) during Storage at Chilling or Non-chilling Temperatures.** Moshe Doron^{1*}, Faisal Shahzad¹, and Jeffrey Brecht¹. ¹Horticultural Sciences Dept., University of Florida/IFAS, Gainesville, FL. (moshik@ufl.edu) [H&P-3]

B – Student Presentations

- 10:45 ***Escherichia coli* Transfer onto and Internalization into Strawberries Dropped on Plastic Mulch.** Claudia A. Pegueros-Valencia^{*}, Loretta Friedrich, Michelle Danyluk. Citrus Research and Education Center, Food Science and Human Nutrition, University

Handling & Processing Section

- of Florida/IFAS, Lake Alfred, FL. (claudiapeguerosv@ufl.edu) [H&P-4]
- 11:00 **Ethylene Degreening Enhances Peel Coloration in Georgia-Grown Satsuma (*Citrus reticulata*) Citrus Fruit.** Taiwo Owolanke^{1*}, Orestis Giannopoulos¹, Ramsey Corn¹, Jake Price², Anthony Bateman¹, and Angelos Deltsidis¹. ¹Department of Horticulture, University of Georgia, Tifton, GA ²University of Georgia Extension, Valdosta, GA. (taiwo.owolanke@uga.edu) [H&P-5]
- 11:15 **Salmonella Cross-contamination Risks between Tomatoes and Brush Rollers during Postharvest Activities.** Mari Schroeder^{1*} and Michelle Danyluk¹. ¹Citrus Research and Education Center, University of Florida/IFAS, Lake Alfred, FL. (mari.schroeder@ufl.edu) [H&P-6]
- 11:30 **Biochemical Assays at Harvest Potentially Associated with Shelf-Life in Lettuce Grown in Non-Traditional Areas of Florida.** Jesse Murray^{1*}, Adrian Berry², Christian Christensen³, Steve Sargent², and Germán Sandoya¹. ¹Everglades Research and Education Center, University of Florida/IFAS, Belle Glade, FL ²Horticultural Sciences Dept., University of Florida /IFAS, Gainesville, FL ³Hastings Agricultural Extension Center, University of Florida/IFAS, Hastings, FL. (jesse.murray@ufl.edu) [H&P-7]
- 11:45 **Fruit Characteristics of Six Mandarin Hybrids Tolerant to HLB.** Thais Pádua Freitas¹, Matthew Mattia¹, Anne Plotto^{*1} and Jinhe Bai¹. ¹USDA-ARS, Horticultural Research Laboratory, Fort Pierce, FL. (thaispadua777@gmail.com) [H&P-8]
- 12:00 **Lunch**

Monday Afternoon Session

(1:20 – 4:00) Orange D

- 1:20 **Welcome and Introductions**

C – Postharvest Technologies

- 1:30 **Tracking Postharvest Quality of Melons (*Cucumis melo* L.) Imported from Central America.** Adrian Berry^{1*}, Steven Sargent¹, and Merce Santana¹. ¹Horticulture Sciences Dept., University of Florida/IFAS, Gainesville, FL. (adberry@ufl.edu) [H&P-9]
- 1:45 **Postharvest Changes in Bioactive Compounds and Antioxi-**

- dant Activity in Muscadine Grape Cultivars during Cold Storage.** Fariborz Habibi^{1*}, Ali Sarkhosh¹, Jeffrey Brecht¹. ¹Horticultural Sciences Dept., University of Florida/IFAS, Gainesville, FL. (fhabibi@uf.edu) [H&P-10]
- 2:00 **Evaluation of postharvest treatments to extend the shelf life of mature breadfruit (*Artocarpus altilis*) fruit by restricting gas exchange.** Afiya John¹, Moshe Doron², and Jeffrey Brecht^{2*}. ¹Department of Food Production, University of the West Indies, St. Augustine, Trinidad and Tobago ²Horticultural Sciences Dept., University of Florida/IFAS, Gainesville, FL. (jkbrecht@ufl.edu) [H&P-11]
- 2:15 **Studies with Open Field-Grown Purple Passionfruit: Comparison of Harvest Stage on Storage Quality.** Steven Sargent^{1*}, Adrian Berry¹, Merce Santana¹, and Ali Sarkhosh¹. ¹Horticulture Sciences Dept., University of Florida/IFAS, Gainesville, FL. (sasa@ufl.edu) [H&P-12]
- 2:30 **Examining Preharvest Genetic and Morphological Factors Contributing to Lettuce (*Lactuca sativa* L.) Shelf-life.** Kathryn Chase¹, Catherine Belisle¹, Yogesh Ahlawat¹, Fahong Yu², Steven Sargent¹, Germán Sandoya³, Kevin Begcy⁴, and Tie Liu^{1*}. ¹Horticultural Sciences Dept., University of Florida/IFAS, Gainesville, FL ²Bioinformatics, Interdisciplinary Center for Biotechnology Research, University of Florida, Gainesville, FL ³Everglades Research and Education Center, University of Florida/IFAS, Belle Glade, FL ⁴Environmental Horticulture Dept., University of Florida/IFAS, Gainesville, FL. (tieliu@ufl.edu) [H&P-13]
- 2:45 **Break**
- 3:00 **Freeze-dried Muscadine Fruit: Potential for a Year-round Snack.** Ali Sarkhosh^{1*}, Fariborz Habibi¹, Steven Sargent¹, Jeffrey Brecht¹. ¹Horticultural Sciences Dept., University of Florida/IFAS, Gainesville, FL. (Sarkhosha@ufl.edu) [H&P-14]
- 3:15 **Extending the Postharvest Storage Life of Caladium Tubers, a Signature Florida Specialty Crop for the World.** Zhanao Deng^{1*}, Gasselle Cordova¹, Adrian Berry², Steven Sargent², and Robert Hartman³. ¹Gulf Coast Research and Education Center, Environmental Horticulture Dept., University of Florida/IFAS, Wimauma, FL ²Horticulture Sciences Dept., University of Florida/IFAS, Gainesville, FL ³Classic Caladiums, Inc., Avon Park, FL. (zdeng@ufl.edu) [H&P-15]
- 3:30 **Different Storage Responses of Blueberries and Blackberries**

Handling & Processing Section

to Modified Humidity and Controlled Released Thymol. Gabriela Olmedo^{1*}, Matt Mattia¹, Wei Zhao¹, Wayne Hunter¹, Erin N. Rosskopf¹, David Obenland², Anne Plotto¹, and Jinhe Bai¹. ¹USDA-ARS Horticultural Research Laboratory, Fort Pierce, FL ²San Joaquin Valley Agricultural Sciences Center (USDA-ARS), 9611 South Riverbend Avenue, Parlier, CA. (g.maria.olmedo@gmail.com) [H&P-16]

3:45 **Handling and Processing Section Business Meeting.** Presiding Adrian Berry, VP and Moshe Doron, VP-elect

4:00 **Adjourn**

Tuesday Morning Session

(9:50 – 11:00) Orange D

9:50 **Welcome and Introductions**

D – Postharvest Pathology & Food Safety

10:00 **Prediction of citrus-infused and non-infused kombucha bio-activity using metabolomics and a statistical method, Orthogonal Partial Least Squares-Discriminant Analysis.** Dongjoo Kim*, Hana Lee and Yu Wang, Citrus Research and Education Center, Department of Food Science and Human Nutrition, University of Florida/IFAS, Lake Alfred, FL. (dongjookim@ufl.edu) [H&P-17]

10:15 **Evaluation of Propiconazole and Natamycin for Postharvest Diplodia Stem-end Rot Control on Grapefruit in Florida.** Jiuxu Zhang^{1*} and Mark A. Ritenour. ¹Indian River Research and Education Center, University of Florida/IFAS, Fort Pierce, FL. (jiuxuzhang@ufl.edu) [H&P-18]

10:30 **Florida's Extension Programs Prepare Produce Growers for Produce Safety Rule Inspection.** Clara Diekman^{1*}, Micah Gallagher², Kirby Quam³, Chelsea Peebles³, Keith Schneider², Renee Goodrich², Michelle Danyluk¹, Taylor O'Bannon¹. ¹Citrus Research and Education Center, University of Florida/IFAS, Lake Alfred, FL ²Food Science and Human Nutrition, University of Florida/IFAS, Gainesville, FL ³Florida Department of Agriculture and Consumer Services, Bartow, FL. (cdiekman97@ufl.edu) [H&P-19]

Handling & Processing Section

- 10:45 **The Science behind Sustainable Packaging: It's All about the Functionality.** Jeff Brandenburg^{1*}. ¹Qfresh Lab, The JSB Group LLC, Greenfield, MA. (Jeffb@qfreshlab.com) [H&P-20]
- 11:00 **End of Sessions.** See you next year for the 138th annual FSHS meeting!

Krome Memorial Institute

Muhammad A. Shahid
Presiding
mshahid@ufl.edu

Monday Morning Session

(9:50 – 12:00) Cypress B

9:50 **Welcome and Introductions**, Muhammad A. Shahid

A– Grapes

- 10:00 **'C1-12-2', An Early Ripening Muscadine Grape Selection with High Fresh Market Potential.** Zhongbo Renz*, Violeta Tsoleva, and Islam El-Sharkawy, Center for Viticulture & Small Fruit Research, College of Agriculture and Food Sciences, Florida A&M University, Tallahassee, FL 32317 (zhongbo.ren@famu.edu) [KRO -1]
- 10:15 **Application of Gene-Editing Technology for the Production of Large Berry Seedless Muscadine.** Md Moniruzzaman and Islam El-Sharkawy*, Center for Viticulture & Small Fruit Research, College of Agriculture and Food Sciences, Florida A&M University, Tallahassee, FL 32317 (islam.elsharkawy@famu.edu) [KRO -2]
- 10:30 **The Anticancer Effects of Muscadine Grape Extracts on Racially Different Prostate Cancer Cells.** Ahmed G. Darwish and Islam El-Sharkawy*, Center for Viticulture & Small Fruit Research, College of Agriculture and Food Sciences, Florida A&M University, Tallahassee, FL 32317 (islam.elsharkawy@famu.edu) [KRO -3]

B– Tropical/Subtropical Fruits

- 10:45 **Leaf Nutrient Analysis Levels for Tropical and Subtropical Fruit Crops in Florida.** Jonathan Crane* and Yuncong Li. Tropical Research and Education Center, University of Florida IFAS, Homestead, FL 33031 (jhcr@ufl.edu) [KRO -4]
- 11:00 **Future scope and challenges of growing passionfruit in central Florida.** Uzman Khalil¹*, Mark Bailey², Jonathan H. Crane³, Ali Sar-

khosh¹. ¹Horticultural Sciences Department University of Florida IFAS, Gainesville, Florida 32611, ²University of Florida IFAS/Extension, Marion County, Ocala, Florida 34470, ³South Florida Research and Education Center, University of Florida IFAS, Homestead, Florida 33031 (ukhalil.chaudhry@ufl.edu) [KRO -5]

11:15 **Preliminary Investigations into Measuring Cold Hardiness of Passiflora Hybrids.** Eric T. Stafne^{*}, Haley Williams, and Jenny Ryals. Mississippi State University Coastal Research and Extension Center, Poplarville, MS 39470 (eric.stafne@msstate.edu) [KRO -6]

11:30 **Sensory Evaluation of Fresh Passion fruit and Buyer Interest.** Mark Bailey^{*}, ²University of Florida IFAS/Extension, Marion County, Ocala, Florida 34470 (ironhill@ufl.edu) [KRO -7]

11:45 **Innovation Management in Avocado Production Units in Morelos, Mexico.** Sergio Roberto Márquez-Berber^{1*}, Ruth Yessica Cruz Nieto², Gustavo Almaguer-Vargas¹, Alma Velia Ayala-Garay³, Diana América Reyna-Izaguirre⁴, and Abdul Khalil Gardezi⁵, ¹Crop Science Department, Chapingo Autonomous University, Texcoco, Estado de México, MEXICO, ²Independent advisor, ³Head of OCI-MA. National Institute for Agricultural, Livestock and Forrestry Research, Texcoco, Estado de México, MEXICO, ⁴Agricultural Industries Department, Chapingo Autonomous University, Texcoco, Estado de México, MEXICO, ⁵Hidroscience Center. Postgraduate College, Texcoco, Estado de México, MEXICO (smarquezb@chapingo.mx) [KRO -8]

12:00 **Lunch**

Monday Afternoon Session

(1:20 – 4:15) Cypress B

1:20 Welcome and Introductions, Muhammad A. Shahid

C– Blackberry and Blueberry

1:30 **Canopy Architecture Effects on Photosynthetic Light Interception in Southern Highbush Blueberry.** Gerardo H. Nunez^{*}, Md Zohurul Kadir Roni, and Patricio Munoz, ¹Horticultural Sciences Department, University of Florida, Gainesville, FL 32611 (g.nunez@ufl.edu) [KRO -9]

1:45 **Effect of Cold Storage Temperature on Various Blackberry**

Cultivars Grown In North Florida. Muneer Rehman^{1*}, Angelos Deltsidis², [Muhammad A. Shahid¹](#), ¹Horticultural Science Department, North Florida Research and Education Center, University of Florida/IFAS, Quincy, FL 32351, ²Department of Horticulture, University of Georgia-Tifton Campus, Tifton, GA 31793, USA (mrehman1@ufl.edu) [KRO -10]

2:00 **Chitosan Emulsion and Silicon: A Sustainable Approach To Extend The shelf Life of Blackberry Fruit.** Muneer Rehman^{1*}, Angelos Deltsidis², [Muhammad A. Shahid¹](#), ¹Horticultural Science Department, North Florida Research and Education Center, University of Florida/IFAS, Quincy, FL 32351, ²Department of Horticulture, University of Georgia-Tifton Campus, Tifton, GA 31793, USA (mrehman1@ufl.edu) [KRO -11]

D– Temperate Fruits

2:15 **Performance of Juvenile Low-chill ‘UFSun’ Peach Scions grafted on Low-, Medium-, and High-chill Requirement Rootstocks in Central Florida.** Jonathan Clavijo-Herrera^{1*}, Jose X. Chaparro¹, Lorenzo Rossi², and [Ali Sarkhosh¹](#), ¹Horticultural Sciences Department, University of Florida, Gainesville, FL 32611, ²Indian River Research and Education Center, University of Florida, Fort Pierce, FL 34945 (luiz.clavijo@ufl.edu) [KRO -12]

2:30 **Influence of Boron, Calcium and Silicon on Quality Fruit Production of Apple Cultivars in Swat valley.** Iftikhar Ahmad*, [Muhammad Sajid¹](#), Roshan Ali², Muhammad A Shahid³, ¹Department of Horticulture, University of Agriculture Peshawar, ²Agriculture Research Institute Mingora Swat, Khyber Pukhtunkhwa, Pakistan, ³Horticultural Science Department, North Florida Research and Education Center, University of Florida/IFAS, Quincy, FL 32351 (iftikhar.ahmad@ufl.edu) [KRO -13]

E– Student Presentations

2:45 **Optimizing Nitrogen Management for Blackberry Production in Florida.** Nurjahan Sriti^{1*}, Zhanao Deng², Steven Sargent¹, Jeffrey Williamson¹, and [Guodong Liu¹](#), ¹Horticultural Sciences Department, University of Florida, Gainesville, FL 32611, ²Gulf Coast Research and Education Center, University of Florida IFAS, Wimauma, FL 33598 (guodong@ufl.edu) [KRO -14]

3:00 **Break**

3:15 **Effect of mycorrhizal inoculation in southern highbush blueberry ‘Snowchaser’ establishment in rhizoboxes.** Valentina Go-

les*, Dylan Kovach, [Gerardo H. Nunez](mailto:Gerardo.H.Nunez@ufl.edu). Horticultural Sciences Department, University of Florida, Gainesville, FL 32611.
(zv.golesvarela@ufl.edu) [KRO-15]

- 3:30 **Enhancing Blackberry Cultivation in Florida: Assessing the Impact of the White and Black Groundcover on Plant Growth and Weed Prevention.** Nurjahan Sriti^{1*}, Zhanan Deng², Steven Sargent¹, Jeffrey Williamson¹, and [Guodong Liu](mailto:Guodong.Liu@ufl.edu)¹. ¹Horticultural Sciences Department, University of Florida, Gainesville, FL 32611, ²Gulf Coast Research and Education Center, University of Florida IFAS, Wimauma, FL 33598 (guodong@ufl.edu) [KRO -16]
- 3:45 **Superabsorbent Polymers as a Soil Amendment for Increasing Water Retention in Mango Trees.** Amir Rezazadeh*, St. Lucie County Extension University of Florida /IFAS, Fort Pierce, FL 34945 (amir2558@ufl.edu) [KRO-17]
- 4:00 **Krome Memorial Institute Business Meeting.** Presiding Muhammad Adnan Shahid, VP and Jeff Wasielewski, VP-Elect
- 4:15 **End of sessions.** See you next year for the 138th FSHS Annual Meeting.

Ornamental Garden and Landscape

David Austin
Presiding
davidaustin@ufl.edu

Monday Morning Session

(9:50 – 12:00) Cypress A

9:50 Welcome and Introductions, David Austin.

A – Student Presentations

10:00 **Characterization of genes associated with purple petiole color in ornamental papaya through transcriptomics and QTL-Seq analysis.** Xingbo Wu¹ Sisi Chen^{*1}, Vincent N. Michael¹, Sarah Brewer¹, Alan H. Chambers¹, Jonathan H. Crane¹, ¹UF/IFAS Tropical Research Extension Center, Miami-Dade, FL., (xingbo.wu@ufl.edu) [OGL-1]

B – Disease Management and Diagnosis

10:15 **A Review of Diseases on Ornamental Crops Submitted to Plant Diagnostic Clinic Over 10 Years in Miami-Dade County.** Qingchun Liu^{*1}, Xingbo Wu², F. Aaron Palmateer³, and Romina Gazis³, ¹UF/IFAS Extension Miami-Dade, Department of Parks, Recreation, and Open Spaces, Homestead, FL (q.liu1@ufl.edu) ²UF/IFAS, Department of Environmental Horticulture, Tropical Research and Education Center, Homestead. ³UF/IFAS Department of Plant Pathology, Tropical Research and Education Center, Homestead, FL. [OGL-2]

10:30 **Most Common Diseases and Pests that are Affecting the Landscape in Recent Years.** Henry Mayer^{*1}, Kara Krueger², and John Roberts². ¹UF/IFAS Extension Miami-Dade County, Miami FL. (hmayer@ufl.edu). ²UF/IFAS Extension, Palm Beach County, West Palm Beach, FL [OGL-3]

10:45 **Removing Bacterial Galls from Crapemyrtle Trees in Production.** Shawn Steed^{*1} and John Pearson². ¹UF/IFAS Extension, Hills-

borough County, Seffner, FL. (ststeed@ufl.edu) ²Stardust Tree Farm, Lutz, FL. [OGL 04]

C – Plant Production

- 11:00 **Rice Hulls as a Container Weed Pre-Emergent Weed Mulch.** Shawn Steed* UF/IFAS Extension, Hillsborough County, Seffner, FL. (ststeed@ufl.edu). [OGL 05]
- 11:15 ***Viburnum suspensum* Growth in a Nursery Using Plastic and Fabric Containers.** Thomas Yeager*¹ and Ted Gardner², ¹Department of Environmental Horticulture, University of Florida IFAS Extension, Gainesville, FL (yeager_t@yahoo.com) ²Hibernia Nursery, Webster, FL. [OGL 06]
- 11:30 **Recommendations for Production of *Calathea rufibarba* Grown in a Central Florida Greenhouse.** John L. Griffis*¹, Malcolm Manners², Ajpaal Kalyanmasih¹, Tristan Dumas¹, Ozlem Tuncay³. ¹Ecology and Environmental Studies Dept., Florida Gulf Coast University, 10501 FGCU Blvd S., Fort Myers, FL. (jgriffis@fgcu.edu). ²Horticultural Science Dept., Florida Southern College, 111 Lake Hollingsworth Dr., Lakeland, FL. ³Department of Horticulture, Ege University, Izmir, Turkey [OGL 07]
- 11:45 **Ornamental, Garden and Landscaping Business Meeting.** Presiding, David Austin, VP and Kara Krueger, VP-elect
- 12:00 **Lunch**

Monday Afternoon Session

(1:15 – 2:45) Cypress A

Welcome and Introductions, David Austin.

D – Plant Breeding

- 1:15 **Selecting Porterweeds for Florida Gardens: Findings from Recent Research and Ploidy Manipulation.** Zhanao Deng*¹, S. Brooks Parrish¹, Alexander Schaller¹, Sandra Wilson². ¹Department of Environmental Horticulture, UF/IFAS, Gulf Coast Research and Education Center, (zdeng@ufl.edu) ²Department of Environmental Horticulture, UF/IFAS, Gainesville FL. [OGL 08]

E – Community involvement

- 1:30 **Pollinator Sustainability Efforts Expand with a Train-the-**

Ornamental, Gardening & Landscape Section

- Trainer Approach Titled: “Pollinator Ambassador Academy”.**
Jeremy Rhoden* UF/IFAS Extension, Marion County, Ocala, FL.
(jeremy.k.rhoden@ufl.edu) [OGL-9]
- 1:45 **Disaster Preparation for Green Industry Businesses & Employees.** Yvette Goodiel*¹ and Henry Mayer². ¹ UF/IFAS Extension, Martin County, Stuart, FL. (goodiel@ufl.edu) ²UF/IFAS Extension, Dade County, Miami, FL. [OGL-10]
- 2:00 **Understanding Resident Perspectives on Fertilizer Usage and Fertilizer Ordinances: A Case Study of Hernando County, Florida.** Yilin Zhuang*¹, Hayk Khachatryan¹, William Lester², Younghyeon Jeon¹. ¹UF/IFAS Mid-Florida Research and Education Center, Apopka, FL. (yilinz@ufl.edu) ²UF/IFAS Extension, Hernando County, Brooksville, FL. [OGL-11]
- 2:15 **Investigating Homeowners’ Preferences for Stormwater Pond Maintenance Attributes.** Samiul Haque* and Hayk Khachatryan. UF/IFAS Mid-Florida Research and Education Center, Apopka, FL. (samiul.haque@ufl.edu). [OGL-12]
- 2:30 **Plant This, Not That: Encouraging Florida-Friendly Over Invasive.** Tina McIntyre*¹, Morgan Pinkerton¹, and Sandra Wilson². ¹UF/IFAS Extension, Seminole County, Sanford, FL. ²UF/IFAS Environmental Horticulture Department, Gainesville, FL. [OGL-13]
- 2:45 **End of sessions.** See you next year for the 138th FSHS annual meeting!

Tuesday Morning Session

- 10:00 Tuesday morning tour to the **Orange County Extension Office**. Meeting at the Cypress A room at 9:45 to 10 am and car-pooling from there. 6021 S. Conway Rd. Orlando, FL 32812. See Agroecology and Natural Resources Sectional Program for more information.
Contact: David Austin, (863) 699-1400

Vegetable Section

Alex Bolques

Presiding

alejandro.bolques@famu.edu

Monday Morning Session

(9:50 – 12:00) Orange A-B

9:50 Welcome and Introductions, Alex Bolques.

A – Student Presentations

- 10:00 **Analysis of Surface Water Treatment Efficacy Protocol using Calcium Hypochlorite and Peracetic acid against Salmonella in Florida.** LaTaunya Tillman* and Michelle D. Danyluk. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. (tillmanl@ufl.edu) [VEG-1]
- 10:15 **Marking Corn Silk Flies with Fluorescent Dyes for Improved Management.** Brynn Johnson¹*, Julien Beuzelin¹, Sandy Allan², Lauren Diepenbrock³, Phillip Hahn⁴. ¹Everglades Research and Education Center, University of Florida, IFAS, Belle Glade, FL. ²Center for Medical, Agricultural and Veterinary Entomology, USDA-ARS, Gainesville, FL. ³Citrus Research and Education Center, University of Florida, IFAS, Gainesville, FL. ⁴Entomology and Nematology Department, University of Florida, IFAS, Gainesville, FL. (brynnjohnson@ufl.edu) [VEG-2]
- 10:30 **Understanding the Effects Space Irradiation on Selected Crops.** Christopher Roland¹*, Williams Perez¹, Amelie Roses¹, Viviana Rivera¹, Jolynne Woodmansee¹*, Jamie Anderson², and Marion Litzinger². ¹Biotech Senior High School, Miami, FL ²Fairchild Tropical Botanic Garden, Miami, FL. (JWoodmansee@dadeschools.net) [VEG3]
- 10:45 **Nitrogen Fertilization Rate and Timing Effects on Strawberry Growth, Yield, and Soil-Plant Nitrogen Dynamics vary among Cultivars Grown in Florida.** Kalara Dissanayake* and Shinsuke Agehara. Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL. (kdissanayake@ufl.edu) [VEG-4]

Vegetable Section

- 11:00 **Effects of Biodegradable Plastic Mulches with Different Colors and Compositions on Microenvironments and Productivity of Annual Winter Strawberry in Florida.** Hadi Ghasemi¹, Shinsuke Agehara^{1*}, Nathan Boyd¹, and Lisa DeVetter². ¹Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL. ²North Western Washington Research and Extension Center, Washington State University, Mount Vernon, WA. (hghasemi@ufl.edu) [VEG-5]
- 11:15 **Exploring Interspecific and Intraspecific Competition in *Brassica rapa* (pak choi “extra dwarf”) and *Brassica campestris* var. *narinosa* (misome).** Samantha Perdomo^{1*}, Matthew Caceres¹, Azucena Flores¹, Aiden Neste¹, Jolynne Woodmansee¹, Jamie Anderson², and Marion Litzinger². ¹Biotech Senior High School, Miami, FL. ²Fairchild Tropical Botanic Garden, Miami, FL. (JWoodmansee@dadeschools.net) [VEG-6]
- 11:30 **Evaluation of a Newly Developed Chile Pepper Cultivar for Root-knot Nematode Resistance under a Pesticide-free and Organic Field Production Systems in Florida.** Dominick Padilla^{1*}, Donald W. Dickson², and Bala Rathinasabapathi¹. ¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ²Entomology and Nematology Department, University of Florida, IFAS, Gainesville, FL. (dpadilla@ufl.edu) [VEG-7]
- 11:45 **Exploring Plant-available Nitrogen Dynamics under Integrated Organic Nutrient Management.** Zachary Ray^{1*}, Gabriel Maltais-Landry², Lincoln Zotarelli¹, and Xin Zhao¹. ¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ²Department of Soil, Water, and Ecosystem Sciences, University of Florida, IFAS, Gainesville, FL. (ray.ztyler@ufl.edu) [VEG-8]
- 12:00 **Lunch**

Monday Afternoon Session

(1:20 – 5:00) Orange A-B

1:20 Welcome back and introductions.

A – Student Presentations (continued)

- 1:30 **Changes in Acid and Essential Oil Profiles in ‘Cascade’ Hop (*Humulus lupulus* L.) Cones during Maturation under Sub-**

- tropical Climatic Conditions.** Alvaro J. Bautista* and Shinsuke Agehara. Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL. (sagehara@ufl.edu) [VEG-9]
- 1:45 **Roles of Root Viability and Morphology in Establishment of Strawberry Bare-root Transplants.** Lillian Pride* and Shinsuke Agehara. Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL. (lpride3@ufl.edu) [VEG-10]
- 2:00 **Potential Sources of Resistance to Powdery Mildew in the USDA Cucurbita pepo Core Collection.** Prerna Sabharwal¹*, Chris Smart², Libby Indermaur², Charles Thomas Day², Michael Mazourek², Gregory Inzinna², Mary Hausbeck, Carmen³ Medina-Mora³, and Geoffrey Meru¹. ¹Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL, ²Cornell University, ³Michigan State University. (prernasabharwal@ufl.edu) [VEG-11]
- 2:15 **Non-destructive Assessment of Tomato Fruit Firmness and Nutritional Composition.** Sotirios Tasioulas*, Jessie Watson, and Pavlos Tsouvaltzis. Horticultural Sciences Department, University of Florida, IFAS, Southwest Florida Research and Education Center, Immokalee, FL. (tasioulas.s@ufl.edu) [VEG-12]
- 2:30 **Nitrogen use Efficiency using Controlled Release Urea and Soluble Urea under Drip-irrigated Tomatoes in Conventional and Compact Bed Geometries.** Shraddha Sharma* and Rao Mylavarapu. Soil, Water and Ecosystem Science Department, University of Florida IFAS, Gainesville, FL. (sharma.shraddha@ufl.edu) [VEG-13]

B – Nutrient Management

- 2:45 **Vegetable Section Business Meeting.** Presiding Alex Bolques, VP and Wael Elwakil, VP-elect
- 3:00 **Maximizing Vegetable Production: Unleashing the Potential of Oxygen Fertilization in Florida.** M. J. I. Shohag, Marina Gluck, and Guodong Liu*. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. (guodong@ufl.edu) [VEG-14]
- 3:15 **Afternoon Break**
- 3:30 **Interactive Effects of Hydrogel and Different Forms of Nitro-**

Vegetable Section

- gen Fertilizer on Growth, Photosynthesis, and Nutrient Accumulation in Bok Choy (*Brassica rapa* var. *chinensis*).** M. J. I. Shohag, and Guodong Liu*. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. (guodong@ufl.edu) [VEG-15]
- 3:45 **Improving Green Bean (*Phaseolus vulgaris* L.) Growth, Yield, and Nutrient Uptake with Solid Oxygen Fertilizer: A Two-Year Field Study.** M. J. I. Shohag, Marina Gluck, and Guodong Liu*. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, Florida. (guodong@ufl.edu) [VEG-16]
- 4:00 **Optimization of Carbon and Nitrogen Inputs for Adapting Anaerobic Soil Disinfestation to Organic Strawberry Production in Florida.** Nan Xu¹, Xin Zhao^{1*}, Erin Roskopf², and Jason Hong². ¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL, ²USDA-ARS, US Horticultural Research Laboratory, Fort Pierce, FL. (xn20131020@ufl.edu) [VEG-17]

C – Economics of Vegetable Crops

- 4:15 **Florida Statute 576.045: Analysis of Economic Impacts on Florida's Tomato Growers.** Victor Contreras^{1*} and Kimberly L. Morgan². ¹Food and Resource Economics Department, University of Florida IFAS, Gainesville, FL. ²SW Florida Research and Education Center, University of Florida IFAS, Immokalee, FL (vjosue.contreras@ufl.edu) [VEG-18]
- 4:30 **A Risk Analysis for Florida Fresh Snap Bean: Using Enterprise Budgets to Assess Profitability of Management Decisions.** Victor Contreras¹, Kimberly L. Morgan^{2*}, Meghan Foos³, and Craig Frey³. ¹Food and Resource Economics Department, University of Florida IFAS, Gainesville, FL. ²SW Florida Research and Education Center, University of Florida IFAS, Immokalee, FL. ³Hendry County, University of Florida IFAS, LaBelle, FL (kimorgan@ufl.edu) [VEG-19]
- 4:45 **Water Productivity for Drip Irrigated Tomatoes Produced in Conventional and Compact Bed Geometries.** Shahd Alrabia* and Rao Mylavarapu. Soil, Water and Ecosystem Sciences Department, University of Florida, IFAS, Gainesville, FL (s.alrabia@ufl.edu) [VEG-20]

5:00 **Adjourn**

Tuesday Morning Session Concurrent Session I

(9:50 – 12:00) Orange A-B

9:50 Welcome and Introductions, Alex Bolques.

B – Nutrient Management (continued)

10:00 **Effect of Biostimulant Application in Tomato Plant Yield and Fruit Quality in relation to Nitrogen Application.** Sotirios Tasioulas, Jessie Watson* and Pavlos Tsouvaltzis. Horticultural Science Department, Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL. (jwatson84@ufl.edu) [VEG-21]

10:15 **Artichoke Nutrient Management - Comparing Yield in CRFs vs Fertigation.** Evelyn Fletcher¹*, Kelly Morgan², Thomas Obreza², and Shinsuke Agehara². ¹St. Johns County Extension, University of Florida, IFAS, St. Augustine, FL. ²Soil, Water and Ecosystem Sciences Department, Gainesville, FL (pfletcher@ufl.edu) [VEG-22]

10:30 **To Understand the Potential of CRF in Maintaining Carrot Quality and Production Goals while Reducing Nitrate Leaching.** Vivek Sharma*, Robert Hochmuth, and Shiva Bhambota. ¹Agricultural and Biological Engineering Department, University of Florida, IFAS, Gainesville, FL. ²North Florida Research and Education Center-Suwannee Valley, Live Oak, FL. (vsharma1@ufl.edu) [VEG-23]

C – Cultivation

10:45 **Convincing Growers we have them Covered with Cover Crops.** Lisa Hickey*. Manatee County Extension, University of Florida, IFAS, Palmetto, FL. (lisa.hickey@ufl.edu) [VEG-24]

11:00 **Seed Planting and Nutrition Workshop for Taylor County.** Lisa

Vegetable Section

Strange* and Lori Wiggins. Taylor County Extension, University of Florida, IFAS, Perry, FL. (lstrange@ufl.edu) [VEG-25]

11:15 **Developing a Winter Artichoke Production Guide in Florida.** Shinsuke Agehara* and Weining Wang. Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL (sagehara@ufl.edu) [VEG-26]

11:30 **The Potential of Purple Sweet potato for Florida Horticulture.** Bala Rathinasabapathi*, Michael Harrington, Zachary Black, and Steve Sargent. Horticultural Sciences Department, University of Florida, Gainesville, FL. (brath@ufl.edu) [VEG-27]

11:45 **End of Session.** See you next year for the 138th FSHS annual meeting!

Tuesday Morning Session Concurrent Session II

(9:50 – 12:00) Cypress A

9:50 Welcome and Introductions, Wael Elwakil.

D – Pest Management

10:00 **Plant-parasitic Nematodes Infecting Alternative Crops in Florida.** Johan Desaegeer*, Hung Bui, Jackie Coburn, Justin Carter. Department of Entomology and Nematology, University of Florida Gulf Coast Research and Education Center, Wimauma, FL. (jad@ufl.edu) [VEG-28]

10:15 **Can Hydrolyzed Corn Protein baits be used for Sweet Corn Insect Pest Management in Florida?** Julien Beuzelin^{1*}, Larissa Pereira Lima¹, Sandra Allan², Dakshina Seal³. ¹Everglades Research and Education Center, University of Florida IFAS, Belle Glade, FL; ²Center for Medical, Agricultural and Veterinary Entomology, USDA-ARS, Gainesville, FL. ³Tropical Research and Education Center, University of Florida IFAS, Homestead, FL. (jbeuzelin@ufl.edu)

[V-29]

- 10:30 **Extension and Research efforts Focusing on *Thrips parvispinus*, a New Invasive Species Impacting Pepper Production in South Florida.** Anna Mészáros^{1*}, Julien M. Beuzelin², and De-Fen Mou². ¹Palm Beach County Extension, University of Florida, IFAS, West Palm Beach, FL. ²Everglades Research and Education Center, University of Florida, IFAS, Belle Glade, FL. (ameszaros@ufl.edu) [VEG-30]

E – General Category

- 10:45 **Allelic Variations in the Candidate Gene for Hull-less Seed Trait in Pumpkin.** Geoffrey Meru^{1*}, Shallu Thakur¹, Yuqing Fu¹ and Yennifer Velazquez Rodriguez^{1,2}. ¹Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. ²Miami Dade College, Homestead Campus, Homestead, FL. (gmeru@ufl.edu) [VEG-31]
- 11:00 **Analyzing Consumer Preferences and Willingness to Pay for Florida-Grown Fresh Blueberries.** Younghyeon Jeon^{1*}, Hayk Khachatryan¹, Xuan Wei², Bachir Kassas³, and Lisa A. House³. ¹Mid-Florida Research and Education Center, University of Florida, IFAS, Apopka, FL. ²University of Maryland Extension, College of Agricultural and Natural Resources, University of Maryland, College Park, MD. ³Food and Resource Economics Department, University of Florida, IFAS, Gainesville, FL. (yjeon1@ufl.edu) [VEG-32]
- 11:15 **Challenges and Possible Solutions for Vegetable Production in Miami-Dade County.** Qingren Wang*. Miami-Dade County Extension, University of Florida, IFAS, (qrwang@ufl.edu) [VEG-33]
- 11:30 **How New Mexico's Specialty Crops Growers Perceive and adapt to Climate.** Sawssan Boufous* and Brian Hurd. Department of Extension Economics, New Mexico State University, Las Cruces, NM. (sawssanb@nmsu.edu) [VEG-34]
- 11:45 **Prediction of tomato yield by image processing and crop canopy calculations.** Hadi Ghaderian*, Mehran Homayounfar, Gregory S. Hendricks, Sanjay Shukla, Vijay Santikari, Justin Schabow.

Vegetable Section

Southwest Research and Education Center, University of Florida,
IFAS. Immokalee, FL. (h.ghaderian@ufl.edu) [VEG-35]

12:00 **End of Session.** See you next year for the 138th FSHS annual meeting!

Best Management Practices

Monday Afternoon Session

(1:45 – 5:00) Cypress C

Renaissance of Nutrient Management Research in Florida

Organizer: Sanjay Shukla (sshukla@ufl.edu) and Thomas Obreza (obreza@ufl.edu)

Agenda

- 1:45 **Welcome and Introductions.** Sanjay Shukla. UF/IFAS, Southwest Research and Education Center, Immokalee, FL
- 1:50 **How did we get here?** Thomas Obreza. UF/IFAS, Soil and Water Ecosystem Sciences Department, Gainesville, FL
- 2:00 **A two-year on-farm study to evaluate the effectiveness of phosphorus fertilization for tomato in Central Florida.** João Cardoso de Souza Junior^{1*}, [Shinsuke Agehara](mailto:sagehara@ufl.edu)¹, Aleyda Acosta-Rangel¹, Sanjay Shukla², Vijay Santikari², Mehran Homayounfar², Justin Schabow², Nikolay Bliznyuk³, Thomas Obreza⁴, Craig Frey⁵, Lisa Hickey⁶, Anna Mészáros⁷, and Timothy Ayankojo⁸. ¹Gulf Coast Research and Education Center, University of Florida IFAS, Wimauma, FL. ²Southwest Florida Research and Education Center, University of Florida IFAS, Immokalee, FL. ³Agricultural and Biological Engineering Department, University of Florida IFAS, Gainesville, FL. ⁴Soil, Water, and Ecosystem Sciences Department, University of Florida IFAS, Gainesville, FL. ⁵Hendry County Extension, University of Florida IFAS, LaBelle, FL. ⁶Manatee County Extension, University of Florida IFAS, Palmetto, FL. ⁷Palm Beach County Extension, University of Florida IFAS, West Palm Beach, FL. ⁸North Mississippi Research and Extension Center, Mississippi State University, Verona, MS (sagehara@ufl.edu) [BMP 01]
- 2:15 **On-farm evaluation of phosphorus fertilization for potato in Central Florida.** Aleyda Acosta-Rangel^{1*}, [Shinsuke Agehara](mailto:sagehara@ufl.edu)¹, João Cardoso de Souza Junior¹, Sanjay Shukla², Vijay Santikari², Mehran Homayounfar², Justin Schabow², Nikolay Bliznyuk³, Thomas Obreza⁴, Craig Frey⁵, Lisa Hickey⁶, Anna Mészáros⁷, and Timothy Ayankojo⁸. ¹Gulf Coast Research and Education Center, University of Florida IFAS, Wimauma, FL. ²Southwest Florida Research and Education Center, University of Florida IFAS, Immokalee, FL. ³Agri-

cultural and Biological Engineering Department, University of Florida IFAS, Gainesville, FL. ⁴Soil, Water, and Ecosystem Sciences Department, University of Florida IFAS, Gainesville, FL. ⁵Hendry County Extension, University of Florida IFAS, LaBelle, FL. ⁶Manatee County Extension, University of Florida IFAS, Palmetto, FL. ⁷Palm Beach County Extension, University of Florida IFAS, West Palm Beach, FL. ⁸North Mississippi Research and Extension Center, Mississippi State University, Verona, MS (sagehara@ufl.edu) [BMP 02]

- 2:30 **On-farm evaluation of phosphorus fertilization for green beans in Central Florida.** Aleyda Acosta-Rangel^{1*}, Shinsuke Agehara¹, João Cardoso de Souza Junior¹, Sanjay Shukla², Vijay Santikari², Mehran Homayounfar², Justin Schabow², Nikolay Bliznyuk³, Thomas Obreza⁴, Craig Frey⁵, Lisa Hickey⁶, Anna Mészáros⁷, and Timothy Ayankoji⁸. ¹Gulf Coast Research and Education Center, University of Florida IFAS, Wimauma, FL. ²Southwest Florida Research and Education Center, University of Florida IFAS, Immokalee, FL. ³Agricultural and Biological Engineering Department, University of Florida IFAS, Gainesville, FL. ⁴Soil, Water, and Ecosystem Sciences Department, University of Florida IFAS, Gainesville, FL. ⁵Hendry County Extension, University of Florida IFAS, LaBelle, FL. ⁶Manatee County Extension, University of Florida IFAS, Palmetto, FL. ⁷Palm Beach County Extension, University of Florida IFAS, West Palm Beach, FL. ⁸North Mississippi Research and Extension Center, Mississippi State University, Verona, MS. [BMP 03]
- 2:45 **Evaluating Phosphorus Recommendations for Fresh-market Tomato Production in Florida.** Vijay Santikari^{1*}, Sanjay Shukla^{1*}, Mehran Homayounfar¹, Justin Schabow¹, Shinsuke Agehara², Nikolay Bliznyuk³, Thomas Obreza⁴, João Cardoso de Souza Junior², Aleyda Acosta-Rangel², Craig Frey⁵, Anna Mészáros⁶, and Lisa Hickey⁷. ¹Southwest Florida Research and Education Center, University of Florida, 2685 State Road 29 North, Immokalee, FL 34142, USA. ²Gulf Coast Research & Education Center, University of Florida, 14625 CR 672, Wimauma, FL, 33598. ³Agricultural and Biological Engineering Department, University of Florida, 120 Frazier Rogers Hall, Gainesville, FL 32611. ⁴Department of Soil, Water, and Ecosystem Sciences, University of Florida, 2181 McCarty Hall, Gainesville, FL 32611. ⁵UF/IFAS Extension Hendry County, 1085 Pratt Boulevard, LaBelle, FL 33935. ⁶Everglades Research and Education Center, Southeast Extension District Office, 3200 East Palm Beach Road, Belle Glade, FL, 33430. ⁷UF/IFAS Extension Manatee County, 1303 17th St West, Palmetto, FL 34221. * Corresponding

author (sshukla@ufl.edu). [BMP 04]

- 3:00 Large-scale Re-assessment of Phosphorus Fertilizer Recommendations for Potatoes on Commercial Farms in South Florida.** Justin E. Schabow^{1*}, Vijay P. Santikari¹, Ibukun T. Ayankojo¹, Mehran Homayounfar¹, João Cardoso de Souza Jr², Aleyda Maritza Acosta Rangel², Sanjay Shukla^{1*}, Shinsuke Agehara², Nikolay Bliznyuk³, Thomas Obreza⁴, Craig Frey⁵, Anna Mészáros⁶, and Lisa Hickey⁷. ¹ Agricultural and Biological Engineering Department, University of Florida, Southwest Florida Research and Education Center, 2685 State Road 29 North, Immokalee, FL 34142, USA. ² University of Florida, IFAS, Gulf Coast Research & Education Center, 14625 CR 672, Wimauma, FL, 33598. ³ Department of Agricultural and Biological Engineering, University of Florida, Gainesville, FL. ⁴ University of Florida, IFAS, Department of Soil, Water, and Ecosystem Sciences, 2181 McCarty Hall, Gainesville, FL, 32611. ⁵ University of Florida, Hendry County Extension, IFAS, 1085 Pratt Boulevard, LaBelle, FL 33935. ⁶ University of Florida, Palm Beach County Extension, IFAS, 559 N Military Trail West Palm Beach, FL 33415. ⁷ University of Florida, Manatee County Extension, IFAS, 1303 17th St West. Palmetto, FL 34221. * Corresponding author (sshukla@ufl.edu). [BMP 05]
- 3:15 Evaluating phosphorus recommendations for snap bean production in South Florida.** Mehran Homayounfar^{1*}, Sanjay Shukla^{1*}, Vijay Santikari¹, Justin Schabow¹, Ibukun T. Ayankojo², Shinsuke Agehara³, João Cardoso de Souza Junior³, Aleyda Acosta-Rangel³, Nikolay Bliznyuk⁴, Thomas Obreza⁵, Cray Frey⁶, Anna Mészáros⁷, Lisa Hickey⁸. ¹ Southwest Florida Research & Education Center, University of Florida, IFAS, Immokalee, FL. ² North MS Research and Extension Center, Department of Plant and Soil Sciences, Mississippi State University, Verona, MS. ³ Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL. ⁴ Department of Agricultural and Biological Engineering, University of Florida, Gainesville, FL. ⁵ Department of Soil, Water, and Ecosystem Sciences, University of Florida, 2181 McCarty Hall, Gainesville, FL. ⁶ University of Florida, IFAS, Extension, Hendry County, FL. ⁷ University of Florida, IFAS, Extension, Palm Beach County, FL. ⁸ University of Florida, IFAS, Extension, Manatee County, FL. * Corresponding author (sshukla@ufl.edu). [BMP 06]
- 3:30 Phosphorus fertilizer rate trials for potato yield response in Northeast Florida.** Lincoln Zotarelli^{1*}, Christian T. Christensen², Ester Ricken¹, Lakesh Sharma³, Kelly T. Morgan³. ¹ Horticultural

Sciences Department, University of Florida IFAS, Gainesville, FL.
²Hastings Agricultural and Extension Center, University of Florida
 IFAS, Hastings, FL. ³Soil, Water, and Ecosystems Department, Uni-
 versity of Florida IFAS, Gainesville, FL. (lzota@ufl.edu). [BMP 07]

- 3:45 An Update on Optimizing Phosphorus Application Rates for Snap Bean Production in North Florida.** M. J. I. Shohag^{1*}, Guodong Liu¹ (David), Horticultural Sciences Department, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, Florida 32611. (guodong@ufl.edu) [BMP 08]
- 4:00 Snap Beans Response to Different Phosphorus Rates and Irrigation Scheduling.** Niguss Solomon Hailegnaw^{1*}, Mulatu Liyew Berihun, Getachew Kefelegn, Girma Worku Awoke, Saddam Hussain, Fitsum Teshome Tilahun, Syed Shaham Madni, Yuncong Li, Haimanote K. Bayabil. Department of Agricultural and Biological Engineering, Tropical Research and Education Center, IFAS, University of Florida, Homestead, FL, USA. hbayabil@ufl.edu [BMP 09]
- 4:15 Florida irrigated corn and nitrogen rate recommendations: insights and future perspectives.** Lakesh Sharma^{1*}, Diego Arruda Huggins de Sá Leitão¹. ¹Soil, Water, and Ecosystem Sciences Department, University of Florida, Gainesville FL, 32608. lakesh.sharma@ufl.edu [BMP 10]
- 4:30 Site-specific Nitrogen and Phosphorus BMPs of HLB-affected sweet orange.** Alisheikh Atta¹, Kelly T. Morgan², Mark A. Ritenour³, Muhammad A. Shahid⁴, Alan Wright³, Lorenzo Rossi³, Kimberly Morgan⁵ and Davie M. Kadyampakeni^{1*} ¹ UF/IFAS Citrus Research and Education Center, 700 Experiment Station Rd., Lake Alfred, FL 33850, USA. ² UF/IFAS Soil and Water Sciences Department, University of Florida, 2157 McCarty Hall, Gainesville, FL 32611, USA. ³ UF/IFAS Indian River Research and Education Center, 2199 S. Rock Road, Fort Pierce, FL 34945, USA. ⁴ UF/IFAS North Florida Research and Education Center, University of Florida/IFAS, Quincy, FL, 32351, USA. ⁵ UF/IFAS Southwest Florida Research and Education Center, 2685 SR 29 N, Immokalee, FL 34142, USA. dkadyampakeni@ufl.edu [BMP 11]
- 4:45 How do we take research to recommendation?** Thomas Obreza. UF/IFAS, Soil and Water Ecosystem Sciences Department, Gainesville, FL (obreza@ufl.edu)
- 5:00 Adjourn**

In-Service Training– Agriculture I

Tuesday Afternoon Session

DoubleTree by Hilton Hotel at SeaWorld, Orlando Florida. Orange C

1:00 P.M.—4:30

“Controlled Environment Agriculture”

Organizers: Tripti Vashisth, Germán Sandoya, and Hannah Wooten
(tvashisth@ufl.edu)

Agenda

- 1:00 **Welcome and Introduction, pre-testing, background.** Dr. Tripti Vashisth. UF/IFAS, Citrus Research and Education Center, Lake Alfred, FL
- 1:20 **What is CEA? Where we are as CEA UF/IFAS? Available re-sources for educating growers and stakeholders.** Drs. Germán Sandoya and Gerardo Nuñez UF/IFAS Everglades Research and Education Center, Belle Glade, FL and UF/IFAS Horticultural Sciences Department, Gainesville, FL
- 1:50 **Small scale systems/ Urban Agriculture.** Hannah Wooten, UF/IFAS Extension Orange County, FL
- 2:10 **Start up -do and don'ts and points of concerns.** Robert Hochmuth, UF/IFAS Suwanee Valley - North Florida Research and Education Center, Live Oak, FL
- 2:30 **Break**
- 2:40 **CEA systems and engineering innovations.** Dr. Ying Zhang, UF/IFAS Agricultural and Biological Engineering, Gainesville, FL
- 3:00 **Production of leafy greens in CEA.** Dr. Germán Sandoya, UF/IFAS Everglades Research and Education Center, Belle Glade, FL
- 3:20 **Cultivating Controlled Environment Agriculture at UF/IFAS:**

- Challenges and Opportunities.** Dr. Kirsten Pelz-Stelinski UF/IFAS
Mid Florida Research and Education Center, Apopka, FL
- 3:40 **Future directions and agents' perspective.** Hannah Wooten, UF/
IFAS Extension Orange County, FL
- 4:10 **Conclusion: questions, discussions, post-testing.** Dr. Tripti
Vashisth UF/IFAS, Citrus Research and Education Center, Lake Al-
fred, FL.
- 4:30 **Adjourn**

In-Service Training– Agriculture II

Tuesday Afternoon Session

Double Tree by Hilton, Orlando, Florida

1:20-4:30 Cypress B

“Managing Labor Risk to Improve Profitability: The UF/IFAS Farm Labor Supervisor Program Certification”

Organizers: Kimberly Morgan and French Price (kimorgan@ufl.edu;
e.price@ufl.edu)

Agenda

- 1:20 Welcome and Introduction, Pre-testing.** Kimberly Morgan and French Price, UF/IFAS, SW Florida Research and Education Center, Immokalee, FL
- 1:40 Why Farm Labor Economics is Doing the Heavy Lifting.** Kimberly Morgan, UF/IFAS, SW Florida Research and Education Center, Immokalee, FL
- 2:10 UF/IFAS Farm Labor Supervisor Program: Purpose, Partners, and 20+ Years of Progress.** Kimberly Morgan, UF/IFAS, SW Florida Research and Education Center, Immokalee, FL
- 2:35 Break**
- 2:50 Farm Labor Situation and Outlook: Regulatory Compliance and Management Communications.** French Price, UF/IFAS, SW Florida Research and Education Center, Immokalee, FL
- 3:20 Building Best Practices to Mitigate Farm Worker Safety Risks: Heat Illness, Pesticide Safety, Safe Transportation.** Kimberly Morgan, UF/IFAS, SW Florida Research and Education Center, Immokalee, FL
- 4:00 UF/IFAS Farm Labor Supervisor Program: 2025 and Beyond,**

Post-testing. Kimberly Morgan and French Price, UF/IFAS, SW
Florida Research and Education Center, Immokalee, FL

4:30 Adjourn

Mango Summit

Tuesday Afternoon Session

DoubleTree by Hilton Hotel Orlando at SeaWorld, Orlando, FL

1:30 —4:05 PM Orange D and Zoom

Organizer: Nathalia Tello, National Mango Board, Moderator: Muhammad A. Shahid, UF/IFAS North Florida Research and Education Center
(ntello@mango.org and mshahid@ufl.edu)

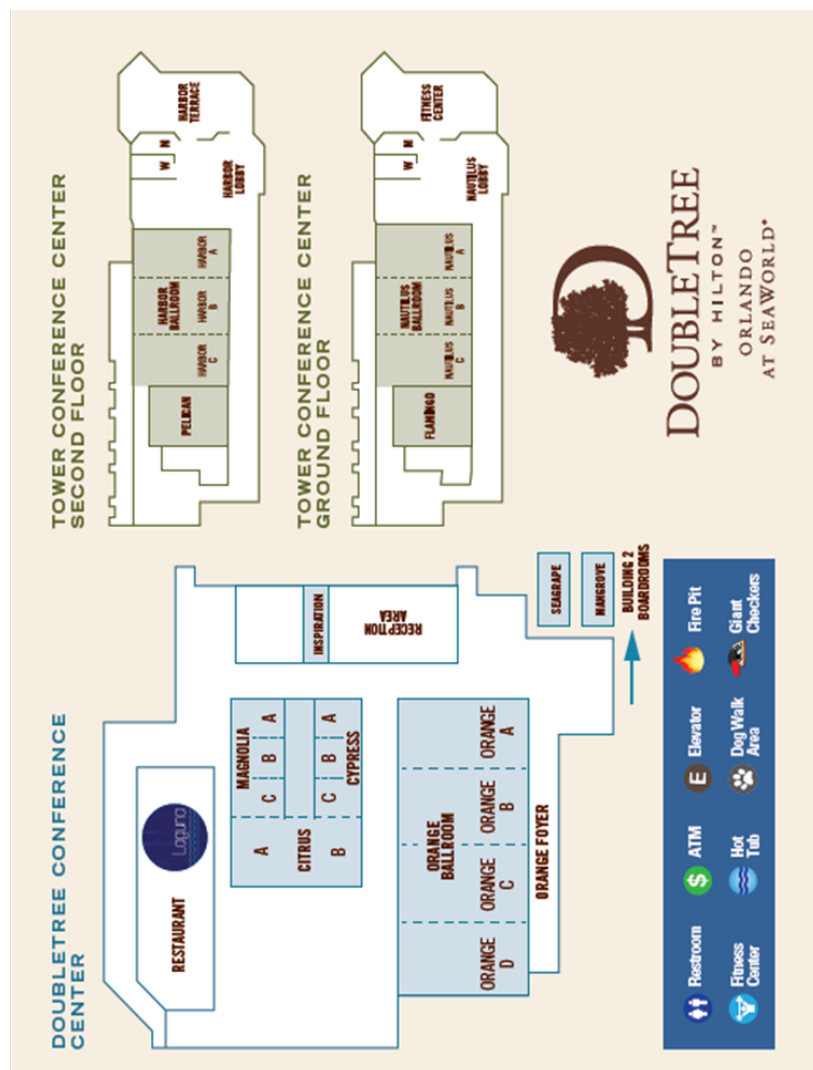
Agenda

- 1:30 **Welcome and Introductions.** Nathalia Tello¹, National Mango Board, Orlando, FL
- 1:40 **Efficacy of Thyme Guard®, Timorex ACT®, and Kocide®-2000 -O for controlling fruit diseases in ‘Valencia Pride’ mango and ‘Tower 2’ avocado under south Florida grove conditions.** Jonathan Crane¹, Romina Gazis¹, Lederson Gañán Betancur¹, and Bruce Schaffer¹, ¹Tropical Research and Education Center, Homestead, FL. (jhcr@ufl.edu) [K-18]
- 2:00 **The Use of Microtensiometers for Mango Irrigation Management: A Farmer's Perspective.** Rod Chamberlain¹, ¹Wong Farms, Mecca, CA. (fshfrmr@aol.com) [K-19]
- 2:20 **Optimization of Fresh-Cut Mango Packaging.** Jeffrey Brandenburg¹, ¹QFresh Lab, Marina, CA. (jbrandenburg@jsbgroup.com) [K-20]
- 2:40 **Perspectives and Challenges of Mexican Mango.** Sergio Roberto Márquez-Berber¹, Noris Ledesma², Gustavo Almaguer-Vargas¹, Alma Velia Ayala-Garay³, and Diana América Reyna-Izaguirre⁴, ¹Crop Science Department, Chapingo Autonomous University, Texcoco, MX. ²UF/IFAS. Tropical Research and Education Center, Homestead, FL. ³National Institute for Agricultural, Livestock and Forrestry Research, Texcoco, MX. ⁴Agricultural Industries Department, Chapingo Autonomous University, Texcoco, MX.

(smarquezb@chapingo.mx) [K-21]

- 3:00 **A Guide to Pruning and Training Young Mango Trees.** Jeff Wasielewski¹, Jonathan H. Crane², and Richard J. Campbell³, ¹Miami-Dade County Extension UF/IFAS, Homestead, FL, ² UF/IFAS, Tropical Research and Education Center, University of Florida, Homestead, FL, ³Ciruli Brothers LLC, Tubac, AZ. (sflhort@ufl.edu) [K-22]
- 3:20 **The Mango Loa Project: A Comparison of Two High Density Orchard Management Systems for Growing Mangoes.** Umi Martin¹, ¹Umi's Farm, Waimea, HI. (umisfarm@gmail.com) [K-23]
- 3:40 **Twenty Years of Field Experience: A Review of Specialty Mango Cultivars for Florida.** Richard J. Campbell¹, ¹Ciruli Brothers LLC, Tubac, AZ. (rcampbell@cirulibrothers.com) [K-24]
- 4:05 **Adjourn**

Double Tree by Hilton Orlando at Sea World Hotel Map



Meet your 2025 FSHS Sectional Vice-Presidents!

Agroecology & Natural **Jay Capasso**, UF/IFAS Extension. RSA Northeast, jcapasso@ufl.edu

Citrus: **Muhammad A. Shahid**, UF/IFAS
North Florida Research and
Education Center, mshahid@ufl.edu

Handling & Processing: **Moshen Doron**, UF/IFAS Horticultural Sciences ,
moshik@ufl.edu

Krome Memorial Institute: **Jeff Wasielewski**, UF/IFAS Extension. Miami-Dade County,
sflhort@ufl.edu

Ornamental, Garden, & **Kara Krueger**, UF/IFAS Extension. Palm Beach County, karackrueger@ufl.edu

Vegetables: **Wael Elwakil**, UF/IFAS Extension Hillsborough County.
wael.elwakil@ufl.edu

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