



# 139<sup>th</sup> Annual Meeting of the

FLORIDA STATE  
HORTICULTURAL SOCIETY  
2026



June 7-9, 2026  
Jacksonville, Florida

# Florida State Horticultural Society

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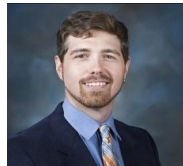
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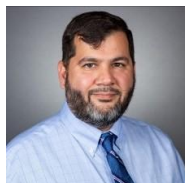
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## Agritourism Section

**Developing agritourism in Gadsden County: strategic framework, benefits, and legal considerations.** Angel S Forde\*  
Florida A&M University Extension, Gadsden County.  
([angel.forde@famu.edu](mailto:angel.forde@famu.edu)) [AGR-01]

**Considerations for agritourism + farm tours.** Alissa Hevesh\*.  
University of Florida IFAS Extension, Highlands County.  
([ahevesh@ufl.edu](mailto:ahevesh@ufl.edu)) [AGR-02]

**Behind agritourism: navigating zoning, regulations, and compliance in Florida.** Lisa Amara\*. University of Florida IFAS Extension, Palm Beach County. ([lamara@pbc.gov](mailto:lamara@pbc.gov)) [AGR-03]

**Positioning muscadine wine as an authentic Florida cultural heritage tourism experience.** Robin M. Back\*. University of Central Florida. ([robin.back@ucf.edu](mailto:robin.back@ucf.edu)) [AGR-04]

**From crops to connections: engaging visitors through agritourism at Kingsley Plantation.** Tonya Ashworth\*. University of Florida IFAS Extension, Duval County. ([t.ashworth@ufl.edu](mailto:t.ashworth@ufl.edu)) [AGR-05]



# Agroecology & Natural Resources Section

## **Bamboo growth response to varying rates of potassium fertilization and irrigation under greenhouse conditions.**

Labake Agunbiade<sup>1</sup>, Marcio R. Nunes<sup>2</sup>, and Davie M. Kadyampakeni<sup>1\*</sup>. <sup>1</sup>Citrus Research and Education Center, University of Florida IFAS, Lake Alfred, FL. <sup>2</sup>Soil, Water and Ecosystem Sciences Department, University of Florida IFAS, Gainesville, FL ([dkadyampakeni@ufl.edu](mailto:dkadyampakeni@ufl.edu)) [ANR-1]

## **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](mailto:dkadyampakeni@ufl.edu)) [ANR-2]

## **Industrial hemp response to nitrogen in diverse Florida agroecosystems.**

Muhammad Alamgeer<sup>1\*</sup>, Ajit Williams<sup>1</sup>, Tamara Ser-rano<sup>1</sup>, Zachary Brym<sup>1</sup>, Karamvir Kaur<sup>2</sup>, Lakesh Sharma<sup>2</sup>, Nkem Nwosu<sup>3</sup>, Hardeep Singh<sup>3</sup>, Moriah Williams<sup>4</sup>, and Carlene Chase<sup>4</sup>. <sup>1</sup>Tropical Research and Education Center, University of Florida IFAS, Homestead, FL, <sup>2</sup>Soil, Water, and Ecosystem Sciences Department, University of Florida IFAS, Gainesville, FL, <sup>3</sup>West Florida Research and Education Center, University of Florida IFAS, Jay, FL, <sup>4</sup>Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL. ([alamgeer.m@ufl.edu](mailto:alamgeer.m@ufl.edu)) [ANR-3]

## **Applied phosphorus behavior in northern Florida soils.**

Elena Máximo, Guodong Liu\*, Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL. ([guodong@ufl.edu](mailto:guodong@ufl.edu)) [ANR-04]

## **Influence of PGPB-inoculated biochar on soil properties and growth of young citrus under reclaimed water irrigation.**

Tunde S. Oluwatuyi<sup>1</sup>, Davie M. Kadyampakeni<sup>1\*</sup>, and Mary G. Lusk<sup>2</sup>. <sup>1</sup>Citrus Research and Education Center, University of Florida IFAS, Lake Alfred, FL, <sup>2</sup>Gulf Coast Research and Education Center, University of Florida IFAS, Wimauma, FL. ([dkadyampakeni@ufl.edu](mailto:dkadyampakeni@ufl.edu)) [ANR-5]

## **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](mailto:cachase@ufl.edu)) [ANR-6]

## **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](mailto:agatorwilliams@ufl.edu)) [ANR-7]

**In vitro establishment of a salt tolerant selection of *Panicum amarum*.** Reed Gilmore, John L. Griffis, Jr.<sup>\*</sup>, Jeannine Richards. Department of Ecology and Environmental Studies, Florida Gulf Coast University, Fort Myers, FL. ([jgriffis@fgcu.edu](mailto:jgriffis@fgcu.edu)) [ANR-8]

**Vegetative propagation of *Murraya koenigii* and the application of commercial growth enhancers.** Raquel Ruggeberg<sup>\*</sup>. Dundee Biological Control Laboratory, Florida Department of Agriculture and Consumer Services, Dundee, FL. ([raquel.ruggeberg@fdacs.gov](mailto:raquel.ruggeberg@fdacs.gov)) [ANR-9]

**Determining the diversity and quality of saw palmetto berries for a booming market in Florida.** Thiago Souza Campos, Christopher Khan, Satya Swathi Nadakuduti<sup>\*</sup>. Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL. ([s.nadakuduti@ufl.edu](mailto:s.nadakuduti@ufl.edu)) [ANR-10]

**IoT-based smart irrigation system development for strawberry cultivation.** Susanta Das<sup>1</sup>, Carlene Chase<sup>2</sup>, and Vivek Sharma<sup>1\*</sup>. <sup>1</sup>Department of Agricultural and Biological Engineering, University of Florida IFAS, Gainesville, FL, <sup>2</sup>Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL. ([vsharma1@ufl.edu](mailto:vsharma1@ufl.edu)) [ANR-11]

**Decision-support tool for Florida strawberry growers.** Hope Nelson<sup>1</sup>, Venkata Satya Dinesh Cha<sup>2</sup>, Clyde Fraisse<sup>2</sup>, Suzanne Thornsby<sup>1\*</sup>. <sup>1</sup>Food and Resource Economics Department, University of Florida IFAS, Gainesville FL. <sup>2</sup>Agricultural and Biological Engineering Department, University of Florida IFAS, Gainesville, FL. ([thornsbs@ufl.edu](mailto:thornsbs@ufl.edu)) [ANR-12]

**Facilitating irrigation and nutrient management extension demonstrations in the Suwannee valley.** Jay Capasso<sup>1\*</sup>, Tyler Pittman<sup>2</sup>, Mark Warren<sup>3</sup>, James DeValerio<sup>4</sup>, Bob Hochmuth<sup>1</sup>, Luke Harlow<sup>5</sup>, Tatiana Sanchez-Jones<sup>6</sup>, Emily Beach<sup>7</sup>, Raymond Balaguer<sup>8</sup>, Vivek Sharma<sup>9</sup>. <sup>1</sup>North Florida Research and Education Center – Suwannee Valley, University of Florida IFAS, Live Oak, FL. <sup>2</sup>Gilchrist County Extension, University of Florida IFAS, FL. <sup>3</sup>Levy County Extension, University of Florida IFAS, FL. <sup>4</sup>Union County Extension, University of Florida IFAS, FL. <sup>5</sup>Bradford County Extension, University of Florida IFAS, FL. <sup>6</sup>Alachua County Extension, University of Florida IFAS, FL. <sup>7</sup>Lafayette County Extension, University of Florida IFAS, FL. <sup>8</sup>Suwannee County Extension, University of Florida IFAS, FL. <sup>9</sup>Agricultural and Biological Engineering Department, University of Florida IFAS, FL. ([jcapasso@ufl.edu](mailto:jcapasso@ufl.edu)) [ANR-13]

**Performance of cover crops for biomass production, weed suppression, and plant growth in south Florida.** Vander Rocha Lacerda<sup>1</sup>, Qingren Wang<sup>2</sup>, Yuncong Li<sup>1</sup>, and Xiaoying Li<sup>1\*</sup>. <sup>1</sup>Tropical Research and Education Center, University of Florida IFAS, Homestead, FL. <sup>2</sup>Miami-Dade County Extension, University of Florida IFAS, Homestead, FL. ([xiaoying.li@ufl.edu](mailto:xiaoying.li@ufl.edu)) [ANR-14]

**Agroecosystem composition across UF / IFAS research centers.**

Zachary Brym<sup>1\*</sup>, Jerry Fankhauser<sup>2</sup>, Alison Short<sup>2</sup>, John Davis<sup>2</sup>.

<sup>1</sup>Tropical Research and Education Center, University of Florida

IFAS, Homestead, FL, <sup>2</sup>Office of the Dean for Research, University of Florida IFAS, Gainesville, FL. ([brymz@ufl.edu](mailto:brymz@ufl.edu)) [ANR-15]

**Economics of saffron production and its potential for New**

**Mexico small-scale farmers.** Sawssan Boufous<sup>1\*</sup>, Saeid

Zehtab Salmasi<sup>2</sup>. <sup>1</sup>Extension Economics Department, New

Mexi-co State University, Las Cruces, NM, <sup>2</sup>Sustainable

Agriculture Science Center at Alcalde, New Mexico State

University, Alcalde, NM. ([sawssanb@nmsu.edu](mailto:sawssanb@nmsu.edu)) [ANR-16]

**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](mailto:anesiz@etsiamn.upv.es)) [ANR-17]

**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](mailto:civince@ufl.edu)) [ANR-

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**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](mailto:lourdes.perezcordero@fdacs.gov)) [ANR-19]

**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](mailto:lnmunroe@ufl.edu)) [ANR-20]



# Citrus Section

**Effects of irradiance and temperature on whole-canopy carbon assimilation in citrus.** Rashmi Kumari and Christopher Vin-cent\*. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. ([civince@ufl.edu](mailto:civince@ufl.edu)) [C-1]

**Seasonal nutrient dynamics of HLB-affected sweet orange trees under variable nitrogen rates: impacts on growth, yield, and fruit quality.** Noor Ul Basar<sup>1</sup>, Muhammad Adnan Shahid<sup>2</sup>, and Davie M. Kadyampakeni<sup>1\*</sup>. Citrus Research and Education Center, University of Florida, Lake Alfred, FL, <sup>2</sup>North Florida Research and Education Center, University of Florida IFAS, Quincy, FL. ([dkadyampakeni@ufl.edu](mailto:dkadyampakeni@ufl.edu)) [C-2]

**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](mailto:dkadyampakeni@ufl.edu)) [C-3]

**Can optimizing the nitrogen–phosphorus ratio enhance growth of HLB-affected citrus trees?** Monika Peddapuli<sup>1</sup>, Mark A. Ritenour<sup>2</sup> and Davie Kadyampakeni<sup>1\*</sup>. <sup>1</sup>Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL, <sup>2</sup>Indian River Research and Education Center, University of Florida, IFAS, Fort Pierce, FL. ([dkadyampakeni@ufl.edu](mailto:dkadyampakeni@ufl.edu)) [C-4]

**Effect of homobrassinolide on growth and physiological responses of young citrus trees under Huanglongbing conditions.** Divya Aryal\* and Fernando Alferez. Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL. ([alferez@ufl.edu](mailto:alferez@ufl.edu)) [C-5]

**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](mailto:civince@ufl.edu)) [C-6]

**Evaluation of ascorbic acid as a stabilizer for oxytetracycline in Huanglongbing management in Florida citrus.** Lauren Fessler Mathews<sup>1</sup>, Ana Redondo<sup>1</sup>, Sanju Kunwar<sup>2</sup>, and Ozgur Batuman<sup>1\*</sup>. <sup>1</sup>Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL, <sup>2</sup>North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL. ([obatuman@ufl.edu](mailto:obatuman@ufl.edu)) [C-7]

**Comparing acidified and neutral oxytetracycline solutions for citrus trunk injection.** Igor Rodrigues da Silva<sup>1</sup>, Swadeshmukul Santra<sup>2,3,4</sup>, Jorge Pereira<sup>3</sup>, Ute Albrecht<sup>1\*</sup>. <sup>1</sup>Horticultural Sciences Department, University of Florida, IFAS, Southwest Florida Research and Education Center, Immokalee, FL, <sup>2</sup>Department of Chemistry, <sup>3</sup>NanoScience Technology Center, and <sup>4</sup>Burnett School of Biomedical Sciences, University of Central Florida, Orlando, FL. ([ualbrecht@ufl.edu](mailto:ualbrecht@ufl.edu)) [C-8]

**Effects of propagation method and rootstock genotype on growth, yield, and fruit quality of 'Valencia' orange in HLB-endemic Florida.** Deived Uilian de Carvalho<sup>1\*</sup>, Caroline Tardivo<sup>1</sup>, Kim D. Bowman<sup>2</sup>, and Ute Albrecht<sup>1</sup>. <sup>1</sup>Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL, <sup>2</sup>U.S. Horticultural Research Laboratory, Agricultural Research Service, United States Department of Agriculture, Ft. Pierce, FL. ([ddecarvalho@ufl.edu](mailto:ddecarvalho@ufl.edu)) [C-9]

**Fruit thinning strategies to improve fruit quality in heavy-cropping mandarin cultivars.** Heinrich Geldenhuys<sup>1,2\*</sup>, Nanje Naude<sup>1</sup>, and Pieter Raath<sup>1,2</sup>. <sup>1</sup>Department of Horticultural Science, University of Stellenbosch, South Africa, <sup>2</sup>Citrus Research International, Department of Horticultural Science, University of Stellenbosch, South Africa. ([hg@sun.ac.za](mailto:hg@sun.ac.za)) [C-10]

**Propagation capacity and variety availability in Southwest Florida: citrus and other fruit tree crops.** Edwin Antonio Gutiérrez-Rodríguez<sup>1\*</sup>, Jonael Bosques<sup>2</sup>. <sup>1</sup>De Soto, Hardee, and Manatee County Extension, University of Florida, IFAS, FL, <sup>2</sup>Hardee County Extension, University of Florida, IFAS, FL. ([edwingr@ufl.edu](mailto:edwingr@ufl.edu)) [C-11]

**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](mailto:marmolea@upv.es)) [C-12]

**Beyond fertilizers: how biostimulants shape organic citrus performance in challenging sandy soils.** Shankar Shrestha<sup>1\*</sup>, Muhammad Adnan Shahid<sup>2</sup>, Davie Kadyampakeni<sup>1</sup>. <sup>1</sup>Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL, <sup>2</sup>North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL. ([ishankshrestha@gmail.com](mailto:ishankshrestha@gmail.com)) [C-13]

**Compositional nutrient diagnosis identifies yield-limiting nutrients in HLB citrus.** Edilaine Istéfani Franklin Traspadini<sup>1\*</sup>, Davie Mayeso Kadyampakeni<sup>1</sup>, Jonas Pereira Souza Junior<sup>1</sup>, Alisheikh Adem Atta<sup>1</sup>, Shankar Shrestha<sup>1</sup>, Renato de Mello Prado<sup>2</sup>. <sup>1</sup>Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL, <sup>2</sup>Universidade Estadual Paulista, Jaboticabal, SP, Brazil. ([e.franklintraspa@ufl.edu](mailto:e.franklintraspa@ufl.edu)) [C-14]

**Comparative impact of organic nitrogen sources and microbial inoculants on ‘Shiranui’ mandarin performance and freeze susceptibility.** Oluwafemi A. Adesina<sup>1</sup>, Carlos E. AuciquePerez<sup>1</sup>, Herbert S. Young<sup>2</sup>, Davie M. Kadyampakeni<sup>3</sup> and Muhammad A. Shahid<sup>1\*</sup>. <sup>1</sup>North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL, <sup>2</sup>Squeeze Citrus LLC, US-319, Coolidge, GA, <sup>3</sup>Citrus Research and Education Center, University of Florida IFAS, Lake Alfred, FL. ([mshahid@ufl.edu](mailto:mshahid@ufl.edu)) [C-15]

**Silicon enhances freezing tolerance in Valencia orange by modulating antioxidant defense and carbohydrate metabolism.** Alaiha Asif<sup>1</sup>, Shahid Iqbal<sup>1</sup>, KeAndre Leaks<sup>1</sup>, Matt Mattia<sup>2</sup> and Muhammad A. Shahid<sup>1\*</sup>. <sup>1</sup>North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL, <sup>2</sup>United States Horticultural Research Laboratory, United States Department of Agriculture, Agricultural Research Service, Ft. Pierce, FL. ([mshahid@ufl.edu](mailto:mshahid@ufl.edu)) [C-16]

**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](mailto:ualbrecht@ufl.edu)) [C-17].

**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](mailto:d.sambani@ufl.edu)) [C-18].

**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](mailto:kadyampakeni@ufl.edu)) [C-19].

**Citrus growers’ preferences for a cost-support program.** Kelvin Amon<sup>1</sup>, Tara Wade<sup>2\*</sup>, Shourish Chakravarty<sup>3</sup>. <sup>1</sup>Regional Dairy Business and Economic Development, University of Wisconsin-Platteville, WI, <sup>2</sup> Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL, <sup>3</sup> Department of Agricultural and Applied Economics, Virginia Tech University, VA. ([tara.wade@ufl.edu](mailto:tara.wade@ufl.edu)) [C-20]

**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](mailto:schumaw@ufl.edu)) [C-21]

**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](mailto:jchater@ufl.edu)) [C-22]

**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](mailto:ualbrecht@ufl.edu)) [C-23]

**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](mailto:lukas.hallman@ufl.edu)) [C-24]

**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](mailto:ualbrecht@ufl.edu)) [C-25]

**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](mailto:emilyworbington@ufl.edu)) [C-26]

**Optimizing oxytetracycline trunk injection strategy to improve tree performance of HLB-affected 'Valencia' sweet orange.** Larissa Nunes<sup>1</sup>\*, Brandon Page<sup>2</sup>, Ute Albrecht<sup>1</sup>. <sup>1</sup>Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL, <sup>2</sup>Citrus Research and Development Foundation, Lake Alfred, FL. ([nunesdasilva.la@ufl.edu](mailto:nunesdasilva.la@ufl.edu)) [C-27]

**Photosynthetic alterations in new citrus scion selections exposed to freezing stress.** Carlos Eduardo Aucique-Perez<sup>1</sup>, Nazneen Qureshi<sup>1</sup>, John Chater<sup>2</sup>, Jude Grosser<sup>2</sup>, Fred Gmitter<sup>2</sup>, and Muhammad Adnan Shahid<sup>1</sup>\*. <sup>1</sup>North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL, <sup>2</sup>Citrus Research and Education Center, University of Florida IFAS, Lake Alfred, FL. ([mshahid@ufl.edu](mailto:mshahid@ufl.edu)) [C-28]

**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](mailto:mshahid@ufl.edu)) [C-29]

**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](mailto:jpereiradesouza@ufl.edu)) [C-30]

**Characterization of field-derived HLB-tolerant sweet orange selections.** Sheetal Ramekar<sup>1\*</sup>, Jaideep Kaur Deol<sup>1</sup>, Gary England<sup>2</sup>, and Manjul Dutt<sup>1,1</sup>. Citrus Research and Education Center, University of Florida, Lake Alfred, FL, <sup>2</sup>, University of Florida, IFAS, Extension (Emeritus), DeLand, FL. ([sheetalramekar@ufl.edu](mailto:sheetalramekar@ufl.edu)) [C-31]

**‘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](mailto:rusibro@etsiamn.upv.es)) [C-32]

**Differential physiological responses of grapefruit and sweet orange to nanocarrier micronutrient treatments.** Flavia Tabay Zambon<sup>1\*</sup>, Paulo Eduardo Branco Paiva<sup>1,3</sup>, Hope Morris<sup>1</sup>, Silvio Milanez Neto<sup>1,4</sup>, Jorge Pereira<sup>2</sup>, and Swadesh Santra<sup>2</sup>. <sup>1</sup> Indian River Research and Education Center, University of Florida, IFAS, Fort Pierce, FL, <sup>2</sup> NanoScience Technology Center, University of Central Florida, Orlando, FL, <sup>3</sup> Instituto Federal do Triangulo Mineiro, Uberaba, Minas Gerais, Brazil, <sup>4</sup> “Luiz de Queiroz” College of Agriculture, University of Sao Paulo, Piracicaba, Sao Paulo, Brazil. ([f.zambon@ufl.edu](mailto:f.zambon@ufl.edu)) [C-33]



# Handling & Processing Section

## **Tree nutrition effects on postharvest fruit quality and shelf life of 'Valencia' sweet orange.**

Mark A. Ritenour<sup>1\*</sup>, Alisheikh A. Atta<sup>2</sup>, Cuifeng Hu<sup>1</sup>, Audrey Beany<sup>1</sup>, and Davie M. Kadyampakeni<sup>2</sup>.  
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## **Characterizing discoloration susceptibility and shelf-life performance in Florida lettuce germplasm.**

Brianna Haynes<sup>1</sup>, Steven Sargent<sup>1\*</sup>, Adrian Berry<sup>1</sup>, Germán Sandoya-Miranda<sup>2</sup>.  
<sup>1</sup>Horti-cultural Sciences Department, University of Florida, IFAS, Gainesville, FL. <sup>2</sup>Everglades Research and Education Center, University of Florida, IFAS, Belle Glade, FL. ([sasa@ufl.edu](mailto:sasa@ufl.edu)) [HP-2]

## **Determination of Harvest Maturity Indices in Finger Lime.**

Jonathan Lainez<sup>1\*</sup>, Jeffrey K. Brecht<sup>1</sup>, Manjul Dutt<sup>2</sup>, and Tie Liu<sup>1</sup>.  
<sup>1</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. <sup>2</sup>Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. ([jlainezorellana@ufl.edu](mailto:jlainezorellana@ufl.edu)) [HP-3]

## **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](mailto:jinhe.bai@usda.gov)) [HP-4]

## **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](mailto:jinhe.bai@usda.gov)) [HP-5]

## **Lipidomics reveal peel lipid changes driving flavor and shelf life in finger lime.**

Tie Liu<sup>1\*</sup>, Jonathan Lainez<sup>1</sup>, Manjul Dutt<sup>2</sup>, and Jeffrey Brecht<sup>1</sup>. <sup>1</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. <sup>2</sup>Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. ([tieliu@ufl.edu](mailto:tieliu@ufl.edu)) [HP-6]

## **Postharvest quality of the new muscadine cultivar 'Gold Delight' in comparison with commercial bronze cultivars.**

Fariborz Habibi<sup>1\*</sup>, Xinwei Liu<sup>1</sup>, Patrick J. Conner<sup>2</sup>, and Ali Sarkhosh<sup>1</sup>. <sup>1</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. <sup>2</sup>Department of Horticulture, University of Georgia, Tifton, GA. ([fhhabibi@ufl.edu](mailto:fhhabibi@ufl.edu)) [HP-7]

**USDA hybrids with tolerance to citrus greening as a source of high-value and health promoting bioactive compounds.**

John A. Manthey<sup>1</sup>, Kim D. Bowman<sup>2</sup>, Christina Dorado<sup>1\*</sup>. <sup>1</sup>Citrus and Other Subtropical Products Research Unit, U.S. Horticultural Research Laboratory, Ft. Pierce, FL. <sup>2</sup>Subtropical Insects and Horticulture Research Unit, U.S. Horticultural Research Laboratory, Ft. Pierce, FL. ([christina.dorado@usda.gov](mailto:christina.dorado@usda.gov)) [HP-8]

**Reducing oxidative discoloration in lettuce through natural compound treatments.**

Brianna Haynes<sup>1\*</sup>, Steven Sargent<sup>1</sup>, Tie Liu<sup>1</sup>, Jeongim Kim<sup>1</sup>, and Germán Sandoya-Miranda<sup>2</sup>. <sup>1</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. <sup>2</sup>Everglades Research and Education Center, University of Florida, IFAS, Belle Glade, FL. ([briannahaynes@ufl.edu](mailto:briannahaynes@ufl.edu)) [HP-9]

**Chilling-storage responses of *Persea americana* 'Oro Negro' and 'Harvest' avocados under 6°C vs 8°C.**

Michaela Vanderburg\*, Moshe Doron, Steven Sargent, and Tie Liu. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ([mrvanderburg@ufl.edu](mailto:mrvanderburg@ufl.edu)) [HP-10]

**A data-focused analysis of leafy green harvest equipment cleaning & sanitation practices.**

LaTaunya Tillman<sup>1</sup>, Clara Diekmann<sup>1</sup>, Dalton Zingali<sup>4</sup>, Trevor V. Suslow<sup>2</sup>, Justin Kerr<sup>3</sup>, Channah M. Rock<sup>4</sup>, and Michelle D. Danyluk<sup>1\*</sup>. <sup>1</sup>Citrus Research Education Center, University of Florida, IFAS, Lake Alfred, FL. <sup>2</sup>University of California, Davis, CA. <sup>3</sup>Factor IV Solutions, Atascadero, CA. <sup>4</sup>University of Arizona, Maricopa, AZ. ([mddanyluk@ufl.edu](mailto:mddanyluk@ufl.edu)) [HP-11]

**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](mailto:ritenour@ufl.edu)) [HP-12]

**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](mailto:mddanyluk@ufl.edu)) [HP-13]

**Effects of ClO<sub>2</sub> 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](mailto:ritenour@ufl.edu)) [HP-14]

**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](mailto:mddanyluk@ufl.edu)) [HP-15]

**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](mailto:ritenour@ufl.edu)) [HP-16]



## Krome Memorial Institute Section

**'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](mailto:zhongbo.ren@famu.edu)) [KRO-01]

**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](mailto:ukhyalil.chaudhry@ufl.edu)) [KRO-02]

**The 'Ruby Supreme' mango.** Jonathan H. Crane\*, Jugpreet Singh<sup>1</sup>, and Ray Melcon<sup>1</sup>. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. ([jhcrane75@gmail.com](mailto:jhcrane75@gmail.com)) [KRO-03]

**Flowering dynamics and fruit retention in diverse mango (*Mangifera indica* L.).** Sumit Jangra<sup>1\*</sup>, Pooja<sup>1</sup>, and Jugpreet Singh<sup>1,2,3</sup>. <sup>1</sup>Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL, <sup>2</sup> Horticultural Sciences Department, University of Florida, Gainesville, FL, <sup>3</sup>Plant Breeding Graduate Program, University of Florida, Gainesville, FL. ([Jangra.sumit@ufl.edu](mailto:Jangra.sumit@ufl.edu)) [KRO-04]

**Supply response of Florida green-skin avocados to weather, disease and trade pressures.** Fredy Ballen<sup>1\*</sup> and A. Malek Hammami<sup>1,2</sup>. <sup>1</sup>Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. ([Fredy.ballen@ufl.edu](mailto:Fredy.ballen@ufl.edu)) [KRO-5]

**Unraveling peel color variation in avocado using transcriptomics and biochemical analysis.** Sheetal Ramekar<sup>1\*</sup>, Jaideep Kaur Deol<sup>1</sup>, Madhugiri Nageswara-Rao<sup>3</sup>, Sukhwinder Singh<sup>3</sup> and Manjul Dutt<sup>1,2</sup>. <sup>1</sup>Horticultural Sciences Department, Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL, <sup>2</sup> Plant Breeding Graduate Program, University of Florida, Gainesville, FL, <sup>3</sup>Subtropical Horticultural Research Station, USDA-ARS, Coral Gables, FL. ([sheetalramekar@ufl.edu](mailto:sheetalramekar@ufl.edu)) [KRO-6]

**Evaluation of non-astringent persimmon cultivars in North Central Florida.** Ali Sarkhosh\*, and Fariborz Habibi. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ([sarkhosha@ufl.edu](mailto:sarkhosha@ufl.edu)) [KRO-7]

**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<sup>1\*</sup>, Davie Kadyampakeni<sup>1</sup>, and Shinsuke Agehara<sup>2</sup>. <sup>1</sup>Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL., <sup>2</sup> Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL. ([saleemyasmeen@ufl.edu](mailto:saleemyasmeen@ufl.edu)) [KRO-8]

**Modeling fruit dry matter accumulation for southern highbush blueberry.** Md Zohurul Kadir Roni<sup>1</sup>, Patricio R. Munoz<sup>1</sup>, and Gerardo H. Nunez<sup>1\*</sup>. <sup>1</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ([g.nunez@ufl.edu](mailto:g.nunez@ufl.edu)) [KRO-9]

**From breeding to deployment: a statewide effort to develop, trial, and deliver Florida-adapted blackberry cultivars.** Zhanao Deng<sup>1\*</sup>, Guodong David Liu<sup>2</sup>, Muhammad A. Shahid<sup>3</sup>, Shinsuke Agehara<sup>1</sup>, and Wael Elwakil<sup>4</sup>. <sup>1</sup> Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL, <sup>2</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, Florida 32611, <sup>3</sup>North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL, <sup>4</sup>University of Florida, IFAS Extension, Hillsborough County, Seffner, FL ([zdeng@ufl.edu](mailto:zdeng@ufl.edu)) [KRO-10]

**Cold tolerance of select avocado genotypes grown in central Florida.** Anne Plotto<sup>1\*</sup>, Rachel Noma<sup>2</sup>, Mark A. Ritenour<sup>2</sup>, James Salvatore<sup>1</sup> and Erin Roskopf<sup>1</sup>. <sup>1</sup>USDA-ARS, U.S. Horticultural Research Laboratory, Fort Pierce, FL, <sup>2</sup>Indian River Research and Education Center, University of Florida, IFAS, Fort Pierce, FL. ([anne.plotto@usda.gov](mailto:anne.plotto@usda.gov)) [KRO-11]

**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](mailto:aosoriobarahona@ufl.edu)) [KRO-12]

**Entry Performance of diverse papaya (*Carica papaya* L.) genotypes under subtropical Florida climates.** Mst. Salina Akter<sup>1,2</sup>, Sumit Jangra<sup>1</sup>, and Jugpreet Singh<sup>1,2,3</sup>. <sup>1</sup>Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL, <sup>2</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL, <sup>3</sup>Plant Breeding Graduate Program, University of Florida, IFAS, Gainesville, FL. ([mst.akter@ufl.edu](mailto:mst.akter@ufl.edu)) [KRO-13]

**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](mailto:xinwei.liu@ufl.edu)) [KRO-14]



## Ornamental, Garden and Landscape

**Establishing maintenance protocols for Florida native plants in urban landscapes.** Leynar Leyton<sup>1\*</sup>, Ashley R. Jackson<sup>2</sup>, Sandra B. Wilson<sup>2</sup>, and Gail M. Hansen<sup>2</sup>. <sup>1</sup>North Florida Research and Education Center, University of Florida, IFAS, Quincy, FL. <sup>2</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. [L.LeytonNaranjo@ufl.edu](mailto:L.LeytonNaranjo@ufl.edu) [OGL-1]

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

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

**Compost use and substrate stratification on the growth of container plants.** Qingchun Liu<sup>1\*</sup> and Shawn T. Steed<sup>2</sup>. <sup>1</sup>Miami-Dade County Extension, University of Florida, IFAS, Homestead, FL. <sup>2</sup>Multi-County Extension, University of Florida, IFAS, Plant City, FL. [q.liu1@ufl.edu](mailto:q.liu1@ufl.edu) [OGL-4]

**Green giant growth in a nursery using plastic and fabric containers.** Tom Yeager<sup>1\*</sup> and Ted Gardner<sup>2</sup>. <sup>1</sup>Nursery Plant Production, Gainesville, FL. <sup>2</sup>Hibernia Nursery, Webster, FL. [yeager\\_t@yahoo.com](mailto:yeager_t@yahoo.com) [OGL-5]

**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](mailto:zdeng@ufl.edu) [OGL-6]

**Three new caladium cultivars for use in containers and landscapes.** Zhanao Deng\*, Natalia A. Peres, and Johan Desaeager. Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL. [zdeng@ufl.edu](mailto:zdeng@ufl.edu) [OGL-7]

**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](mailto:neus.alcon.bou@disney.com) [OGL-8]

**Black soldier fly frass as a substrate amendment to reduce peat use in soilless culture of geranium (*Pelargonium interspecific*).** Tanner Gorton<sup>1</sup>, Lauren Seltsam<sup>1</sup>, Maria Chavez<sup>2</sup>, Jennifer Boldt<sup>3</sup>, and Jeb S. Fields<sup>1\*</sup>. <sup>1</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. <sup>2</sup> Plant and Environmental Sciences, Agricultural Science Center at Farmington, New Mexico State University, Farmington, NM. <sup>3</sup>Application Technology Research Unit, Agricultural Research Service, United States Department of Agriculture, Toledo, OH. [jsfields@ufl.edu](mailto:jsfields@ufl.edu) [OGL-9]

**Evaluating standard rates of incorporation of two different grades of woodchip biochar in production of sweet viburnum (*Viburnum odoratissimum*).** Megan Gibb\* and Jeb S. Fields. Department of Environmental Horticulture, University of Florida, IFAS, Gainesville, FL. [megangibb@ufl.edu](mailto:megangibb@ufl.edu) [OGL-10]

**Landscape irrigation retrofits and water savings in Miami-Dade County.** Laura Vasquez<sup>1\*</sup>, Jesus Lomeli<sup>1</sup>, Dalton Goolsby<sup>1</sup> and Patrick Martin<sup>2</sup>. <sup>1</sup> Miami-Dade County Extension, University of Florida, IFAS, FL. <sup>2</sup>Miami-Dade County Water and Sewer Department, FL. [lavasquez@ufl.edu](mailto:lavasquez@ufl.edu) [OGL-11]

**Hammermilled sugarcane bagasse fibers can be used to reduce peat and phosphorus applications in greenhouse flower production.** Martha Vilchez and Jeb S. Fields\*. <sup>1</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. [mvilchezherrera@ufl.edu](mailto:mvilchezherrera@ufl.edu) [OGL-12]

**Establishment of an agrobacterium-based CRISPR/Cas9 gene editing system in bahiagrass using phytoene desaturase as a visual reporter.** Mohammed Kyum<sup>1\*</sup>, Kevin Kenworthy<sup>1</sup>, Heqiang Huo<sup>2</sup>, Satya Swathi Nadakuduti<sup>2</sup>, Fredy Altpeter<sup>1</sup>, and Bryan Unruh<sup>1</sup>. <sup>1</sup>Agronomy Department, University of Florida, IFAS, Gainesville, FL. <sup>2</sup>Horticultural Sciences, University of Florida, IFAS, Gainesville, FL. [mkyum@ufl.edu](mailto:mkyum@ufl.edu) [OGL-13]

**Cultivating health: a seasonal gardening and nutrition education model in public library settings.** Lisa Sutphin Strange\* and Lori Wiggins. Taylor County Extension, University of Florida, IFAS, Perry, FL. [lstange@ufl.edu](mailto:lstange@ufl.edu) [OGL-14]

**Cultivating muscadine confidence.** Julio Perez<sup>1\*</sup>, Judy Jean<sup>2</sup>, and Terra Freeman<sup>3</sup>. <sup>1</sup>Putnam County Extension, University of Florida, IFAS, Palatka, FL. <sup>2</sup>Central District, University of Florida, IFAS, Gainesville, FL. <sup>3</sup>Saint Johns County Extension, University of Florida, IFAS, Saint Augustine, FL. [pjulio@ufl.edu](mailto:pjulio@ufl.edu) [OGL-15]

**Scaling citizen science through volunteer networks: 2025 expansion of the great southeast pollinator census in Florida.** Jeremy Rhoden<sup>1\*</sup>, Tia Saracino<sup>2</sup>, Lisa Strange<sup>3</sup>, Tonya Ashworth<sup>4</sup>, Cynthia Nazario-Leary<sup>5</sup>, Beth Bolles<sup>6</sup>, Mark Tancig<sup>7</sup>, Julie McConnell<sup>8</sup>. <sup>1</sup>Extension Marion County, University of Florida, IFAS, Ocala, FL; <sup>2</sup>Hillsborough County Extension, University of Florida, IFAS, Seffner, FL; <sup>3</sup>Taylor County Extension, University of Florida, IFAS, Perry, FL; <sup>4</sup>Duval County Extension, University of

Florida, IFAS, Jacksonville, FL; <sup>5</sup>Alachua County Extension, University of Florida, IFAS, Newberry, FL; <sup>6</sup>Escambia County Extension, University of Florida, IFAS, Cantonment, FL; <sup>7</sup>Leon County Extension, University of Florida, IFAS, Tallahassee, FL; <sup>8</sup> Washington County Extension, University of Florida, IFAS, Chipley FL. [jeremy.k.rhoden@ufl.edu](mailto:jeremy.k.rhoden@ufl.edu) [OGL-16]

**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](mailto:ironhill@ufl.edu) [OGL-17]

**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](mailto:k.graves@ufl.edu) [OGL-18]

**BGCI Accreditation Application: Discovery Gardens, Tavares, Florida.** Maria E. Quirico Bautista\*<sup>1</sup>, Clayton Yuen<sup>2 1</sup> Lake County Extension, University of Florida, IFAS, Tavares, FL., <sup>2</sup> Lake County Agriculture Center, Tavares, FL., <sup>3</sup>Botanic Garden Conservation International (BGCI). [mquiricobautista@ufl.edu](mailto:mquiricobautista@ufl.edu) [OGL-19]

**Summer cutting propagation of Japanese blueberry.** Shawn T. Steed\*, Extension Hillsborough County, University of Florida, IFAS, Seffner, FL. [ststeed@ufl.edu](mailto:ststeed@ufl.edu) [OGL-20]



# Vegetable Section

## **Yield response of snap bean (*Phaseolus vulgaris* L.) to liquid phosphorus fertigation in subtropical spodosols of North-Central Florida.**

M. J. I. Shohag<sup>1</sup> and Guodong Liu (David)  
<sup>1\*</sup> Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ([guodong@ufl.edu](mailto:guodong@ufl.edu)) [V-1]

**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](mailto:xiaoying.li@ufl.edu)) [V-2]

**Why rhizosphere processes matter for phosphorus use in snap bean in Northeast Florida.** Guodong Liu (David)<sup>1\*</sup> and Elena Máximo. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ([guodong@ufl.edu](mailto:guodong@ufl.edu)) [V-3]

**Assessing potato response to phosphorus and nitrogen fertilization in sandy soils with contrasting soil phosphorus status.** Gustavo F. de Castro<sup>1,2</sup>, Judyson de M. Oliveira<sup>1\*</sup>, Bernardo A. da Silva<sup>1,2</sup>, Ester C. Ricken<sup>1</sup>, Simon S. Riley<sup>3</sup>, Mark W. Clark<sup>4</sup>, Gerardo H. Nunez<sup>1</sup>, Sandra Guzman<sup>5</sup>, Lincoln Zotarelli<sup>1</sup>.  
<sup>1</sup>Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL. <sup>2</sup>Universidade Federal de Viçosa, Brazil. <sup>3</sup>Aarhus University, Denmark. <sup>4</sup>Soil, Water, and Ecosystem Sciences Department, University of Florida, IFAS, Gainesville, FL.  
<sup>5</sup>Agricultural and Biological Engineering Department, University of Florida, IFAS, Gainesville, FL. ([judyson.dematoso@ufl.edu](mailto:judyson.dematoso@ufl.edu)) [V-4]

**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. ([sbambota@ufl.edu](mailto:sbambota@ufl.edu)) [V-5]

**Overestimating soil phosphorus for potatoes in Northeast Florida: Mehlich-3 test.** Guodong Liu (David)<sup>1\*</sup> and M. J. I. Shohag. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ([guodong@ufl.edu](mailto:guodong@ufl.edu)) [V-6]

**Improving potato (*Solanum tuberosum* L.) yield and nitrogen use efficiency with hydrogel in spodosol of Northeast Florida.** M. J. I. Shohag<sup>1</sup> and Guodong Liu (David)<sup>1</sup>.  
<sup>1</sup>Horticultural Sciences Department, University of Florida, IFAS Gainesville, FL  
([guodong@ufl.edu](mailto:guodong@ufl.edu)) [V-7]

**Optimizing phosphorus rate for sweet corn in muck soils of the Everglades Agricultural Area.** Dereje A. Birhan<sup>1\*</sup>, Getachew A. Kefelegn<sup>1</sup>, Zapata Barrientos, Krista Susseth<sup>1</sup>, Anna Mészáros<sup>2</sup>, and Niguss Solomon Hailegnaw<sup>1</sup>. <sup>1</sup>Department of Agronomy,

Everglades Research and Education Center, University of Florida, Belle Glade, FL.<sup>2</sup>Palm Beach County Extension, University of Florida, IFAS, West Palm Beach, FL. ([birhan.da@ufl.edu](mailto:birhan.da@ufl.edu)) [V-8]

**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](mailto:hbayabil@ufl.edu)) [V-9]

**Sustainable pumpkins: optimizing the value chain for reduced food loss and food waste.** Geoffrey Meru\*. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. ([gmeru@ufl.edu](mailto:gmeru@ufl.edu)) [V-10]

**Understanding consumer behavior in fresh vegetable markets: the roles of origin, promotion, and Florida-related awareness.** Younghyeon Jeon<sup>1</sup>, Lisa House<sup>1\*</sup>, and Sungeun Yoon<sup>1</sup>. <sup>1</sup>Food and Resource Economics Department, University of Florida, IFAS, Gainesville, FL. ([lahouse@ufl.edu](mailto:lahouse@ufl.edu)) [V-11]

**Economic analysis of grafted vs non-grafted watermelon trials in North Central Florida.** Kevin Athearn<sup>1\*</sup>, Bikash Adhikari<sup>2</sup>, Isaac Vincent<sup>2</sup>, Tatiana Sanchez-Jones<sup>3</sup>, Robert Hochmuth<sup>1</sup>, Mark Warren<sup>4</sup>, Xin Zhao<sup>2</sup>. <sup>1</sup>North Florida Research and Education Center – Suwannee Valley, University of Florida, IFAS, Live Oak, FL, <sup>2</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL, <sup>3</sup>Alachua County Extension, University of Florida, IFAS, Newberry, FL, <sup>4</sup>Levy County Extension, University of Florida, IFAS, Bronson, FL. ([athearn@ufl.edu](mailto:athearn@ufl.edu)) [V-12]

**Alternate substrate selection under varying fertigation methods for highwire cucumber and tomato propagation.** Uttara C. Samarakoon<sup>1\*</sup>, Manisha Hamal<sup>2</sup>, Milon Chowdhury<sup>3</sup>, Alexandra Espinoza-Ayala<sup>4</sup>, James E. Altland<sup>5</sup>. <sup>1</sup>Mid- Florida Research and Education Center, University of Florida, IFAS, Apopka, FL, <sup>2</sup>Agricultural Technical Institute, The Ohio State University, Wooster, OH, <sup>3</sup>College of Business Engineering, and Technology, Kentucky State University, Frankfort, KY, <sup>4</sup>Department of Horticulture and Crop Science, The Ohio State University, Wooster, OH, <sup>5</sup>USDA Agricultural Research Service, Wooster, OH. ([u.samarakoon@ufl.edu](mailto:u.samarakoon@ufl.edu)) [V-13]

**Uncovering the genetic basis of powdery mildew resistance in *Cucurbita pepo*.** Prerna Sabharwal<sup>1\*</sup>, Chris Smart<sup>2</sup>, Libby Indermaur<sup>2</sup>, Charles Thomas Day<sup>2</sup>, Michael Mazourek<sup>2</sup>, Gregory Inzinna<sup>2</sup>, Mary Hausbeck<sup>3</sup>, Carmen Medina-Mora<sup>3</sup>, and Geoffrey Meru<sup>1</sup>. <sup>1</sup> University of Florida, Tropical Research and Education Center. <sup>2</sup>Cornell University <sup>3</sup>Michigan State University. ([prernasabharwal@ufl.edu](mailto:prernasabharwal@ufl.edu)) [V-14]

**Engineering PTR1-mediated resistance to bacterial spot in domesticated tomato.** Abdullah Jamil<sup>1\*</sup> and Anuj Sharma<sup>1</sup>. <sup>1</sup>Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL. ([abdullah.jamil@ufl.edu](mailto:abdullah.jamil@ufl.edu)) [V-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](mailto:mseaton@ufl.edu)) [V-16] **Student Competition Entry**

**Improving phosphorus use efficiency in sweet corn production using slow-release fertilizers and soil additives.** Getachew Amare<sup>1</sup>, Dereje A Birhan<sup>1</sup>, Zapata Barrientos<sup>1</sup>, Krista Susseth<sup>1</sup>, Haimanote K. Bayabil<sup>2</sup> and Niguss Solomon Hailegnaw<sup>1</sup>. <sup>1</sup>Everglades Research and Education Center, University of Florida, Belle Glade, FL, <sup>2</sup>Tropical Research and Education Center, University of Florida, Belle Glade, FL. ([g.kefelegn@ufl.edu](mailto:g.kefelegn@ufl.edu)) [V-17]

**Small Farm Start-up School Florida Cooperative Extension.** Jeet Ramjattan<sup>1\*</sup>, Donna Arnold<sup>2</sup>, Cheryl Danley<sup>3</sup>, Stacy Strickland<sup>4</sup>, David Outerbridge<sup>5</sup>, Yvette Goodiel<sup>6</sup>, Madelyn Greathouse<sup>7</sup>, Laura Bennett<sup>7</sup>, Luis Rodriguez<sup>8</sup>, Jim DeValerio<sup>9</sup>, Ashley Stonecipher<sup>10</sup>, Amanda Masholie<sup>11</sup>, Jessica Ryals<sup>12</sup>, Derek Farnsworth<sup>13</sup>, Anne Miller<sup>14</sup>, Danielle Treadwell<sup>15</sup>, and David Campbell<sup>16</sup>. <sup>1</sup>St. Johns County Extension, University of Florida, IFAS, Gainesville, FL, <sup>2</sup>Gadsden County Extension, Florida A&M University, Tallahassee, FL, <sup>3</sup>FAMU - Brooksville Extension, Florida A&M University, Tallahassee, FL, <sup>4</sup>Hernando County Extension, University of Florida, IFAS, Gainesville FL, <sup>5</sup>Lee County Extension, University of Florida, IFAS, Gainesville, FL, <sup>6</sup>Martin County Extension, University of Florida, IFAS, Gainesville, FL, <sup>7</sup>Pasco Sumter County Extension, University of Florida, IFAS, Gainesville, FL, <sup>8</sup>Polk County Extension, University of Florida IFAS, Gainesville, FL, <sup>9</sup>Union County Extension, University of Florida, IFAS, Gainesville, FL, <sup>10</sup>Volusia County Extension, University of Florida, IFAS, Gainesville, FL, <sup>11</sup>Walton County Extension, University of Florida, IFAS, Gainesville, FL, <sup>12</sup>Collier County Extension, University of Florida IFAS, Gainesville, FL, <sup>13</sup>Food and Resource Economics Department, University of Florida, IFAS, Gainesville, FL, <sup>14</sup>Salty Feathers Farm, Arcadia, FL, <sup>15</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL, <sup>16</sup>State Small Farms and Alternative Enterprises, University of Florida, IFAS, Gainesville, FL. ([jramjattan@ufl.edu](mailto:jramjattan@ufl.edu)) [V-18]

**Field demonstration of cover cropping for organic growers.** Qingren Wang<sup>1\*</sup> and Xiaoying Li, <sup>1</sup>Miami-Dade County Extension, University of Florida, IFAS, <sup>2</sup>Tropical Research and Education Center, University of Florida, IFAS ([qrwang@ufl.edu](mailto:qrwang@ufl.edu)) [V-19]

**Research and Extension efforts to improve insecticide spray efficacy for corn silk fly management in sweet corn.** Julien Beuzelin\*, Anna Mészáros<sup>2</sup>, and J. Declan Sullivan<sup>1</sup> Everglades

Research and Education Center, University of Florida, IFAS, Belle Glade, FL. <sup>2</sup>Palm Beach County Extension, University of Florida, IFAS, Belle Glade, FL. ([jbeuzelin@ufl.edu](mailto:jbeuzelin@ufl.edu)) [V-20]

**Extension-assisted smart weed management in South Florida: from weed identification to precision sprayer adoption.** Anna Mészáros<sup>1\*</sup>, Matthew T. VanWeelden<sup>1</sup>, and Calvin Otero<sup>2</sup>. <sup>1</sup>Palm Beach County Extension, University of Florida, IFAS, Belle Glade, FL, <sup>2</sup>Everglades Research and Education Center, University of Florida, IFAS, Belle Glade, FL. ([ameszaros@ufl.edu](mailto:ameszaros@ufl.edu)) [V-21]

**Extension programs prepare produce growers for produce safety rule inspection.** Billy Mitchell<sup>1\*</sup>, Emmy Collins<sup>2</sup>, Renee Goodrich<sup>1</sup>, Taylor O'Bannon<sup>2</sup>, Chelsea Peebles<sup>3</sup>, Kirby Quam<sup>3</sup>, Keith Schneider<sup>1</sup>, and Michelle Danyluk<sup>2</sup>. <sup>1</sup>Food Science and Human Nutrition Department, University of Florida, IFAS, Gainesville, FL, <sup>2</sup>Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL, <sup>3</sup>Department of Agriculture and Consumer Services, Bartow, FL ([w.mitchell1@ufl.edu](mailto:w.mitchell1@ufl.edu)) [V-22]

**Strengthening food production education through agricultural extension.** David Herbert\* and S. Samiei, Nassau County Extension, University of Florida, IFAS. ([david.hebert@ufl.edu](mailto:david.hebert@ufl.edu)) [V-23]

**Seasonal population trends of corn silk flies on sweet corn farms in the Everglades Agricultural Area.** J. Declan Sullivan, Julien Beuzelin\*, Donna Larsen, Hayden Mickley, and Noemi Fonseca. Everglades Research and Education Center, University of Florida, IFAS, Belle Glade, FL. ([jbeuzelin@ufl.edu](mailto: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\*. <sup>1</sup>Horticultural Sciences Department, Plant Pathology Department, University of Florida, IFAS, Gainesville, FL. ([brath@ufl.edu](mailto:brath@ufl.edu)) [V-25]

**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](mailto:jad@ufl.edu)) [V-26]

**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](mailto:alagmo@etsiamn.upv.es)) [V-27]

**Automated water table control for precision subirrigation: effects on irrigation water productivity, root growth, and crop yield.** Judyson de M. Oliveira<sup>1\*</sup>, Gustavo F. de Castro<sup>1,2</sup>, Mark W. Clark<sup>3</sup>, Gerardo H. Nunez<sup>1</sup>, Sandra Guzman<sup>4</sup>, Lincoln Zotarelli<sup>1</sup>.  
<sup>1</sup>Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL. <sup>2</sup>Universidade Federal de Viçosa, Brazil. <sup>3</sup>Soil, Water, and Ecosystem Sciences Department, University of Florida, IFAS. <sup>4</sup>Agricultural and Biological Engineering Department, University of Florida, IFAS. ([judyson.dematoso@ufl.edu](mailto:judyson.dematoso@ufl.edu)) [V-28]

**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](mailto:hbayabil@ufl.edu)) [V-29]

## Poster Session

- [P-1] **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](mailto:SavannahAtwell@ufl.edu))
- [P-2] **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](mailto:Mdubo020@fiu.edu))
- [P-3] **A meta-analysis of preferences for forest fuel reduction and restoration in the United States.** Abdul Khaliq<sup>1</sup>\* and Sawssan Boufous<sup>2</sup>. <sup>1</sup>Department of Agricultural Economics and Agricultural Business, New Mexico State University, <sup>2</sup>Department of Extension Economics, New Mexico State University. ([akb@nmsu.edu](mailto:akb@nmsu.edu))
- [P-4] **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](mailto:N01593551@unf.edu))
- [P-5] **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:hopemorris@ufl.edu))
- [P-6] **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](mailto:dnandwan@tnstate.edu))
- [P-7] **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](mailto:elbeach@ufl.edu))
- [P-8] **Refining Florida soil testing: fine-particulate P identified as a contributor to inflated Mehlich-3 values.** Maciej G. Sliwinski\*, Rebekah E. Warrick, and Franta Majš. Soil, Water, and Ecosystem Sciences Department, University of Florida, IFAS, Gainesville, FL. ([msliwinski@ufl.edu](mailto:msliwinski@ufl.edu))
- [P-9] **Assessment of finger lime-derived interstocks for managing Huanglongbing progression in citrus.** Selin Boga<sup>1</sup>, Ana Redondo<sup>1</sup>, Lamiaa M. Mahmoud<sup>2</sup>, Manjul Dutt<sup>2</sup>,

and Ozgur Batuman<sup>1\*</sup>. <sup>1</sup>Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL, <sup>2</sup>Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. ([obatuman@ufl.edu](mailto:obatuman@ufl.edu))

- [P-10] **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](mailto:civince@ufl.edu))
- [P-11] **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](mailto:alferez@ufl.edu))
- [P-12] **Plant growth regulator programs enhance tree productivity and vascular function in HLB-affected Valencia sweet orange.** Prudhvi Vulchi and Tripti Vashisth\*. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. ([tvashisth@ufl.edu](mailto:tvashisth@ufl.edu))
- [P-13] **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](mailto:rmuruge@ufl.edu))
- [P-14] **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](mailto:jacob.pope@ufl.edu))
- [P-15] **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](mailto:jugpreetsingh@ufl.edu))
- [P-16] **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](mailto:Sover@ufl.edu))
- [P-17] **Biomechanical evaluation of manual weeding postures in nursery and landscaping tasks.** Yuetong Wu<sup>1</sup>, Kim Dunleavy<sup>2</sup>, and Boyi Hu<sup>1\*</sup>. <sup>1</sup>Department of Industrial and Systems Engineering, University of Florida, Gainesville, FL, <sup>2</sup>Department of Physical Therapy, University of Florida, Gainesville, FL. ([boyihu@ise.ufl.edu](mailto:boyihu@ise.ufl.edu))

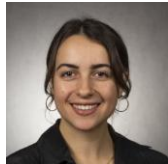
- [P-18] **High nutrient loss in lawn using compost instead of synthetic fertilizer.** Jaspal Singh\*, Victor Abarca, Natasha Restuccia, and A.J. Lindsey. Department of Environmental Horticulture, University of Florida, Gainesville, FL. ([jaspalsingh@ufl.edu](mailto:jaspalsingh@ufl.edu))
- [P-19] **Growth model and nutrient absorption of *Zamioculcas zamiifolia* (Zanzibar Gem).** Glory N. Chimezie<sup>1,2</sup>, Niger T. Houston<sup>2</sup>, Jose E. Villalobos<sup>2</sup>, Humberto LeBlanc<sup>2</sup>, Davie M. Kadyampakeni<sup>1\*</sup>. <sup>1</sup>Citrus Research Education Center, University of Florida, IFAS, Lake Alfred, FL, <sup>2</sup>EARTH University, Guacimo, Limon, Costa Rica. ([dkadyampakeni@ufl.edu](mailto:dkadyampakeni@ufl.edu))
- [P-20] **Out-of-season cover crops as living mulch for weed suppression in organic tropical pumpkin production.** Duane Hardy<sup>1</sup>, Carlene Chase<sup>1\*</sup>, and Geoffrey Meru<sup>2</sup>. <sup>1</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL, <sup>2</sup>Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. ([cachase@ufl.edu](mailto:cachase@ufl.edu))
- [P-21] **Planting date and varietal effect on vegetable soybean (*Glycine max* (L.) Merrill) productivity in a sub-tropical 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](mailto:xiaoying.li@ufl.edu))
- [P-22] **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](mailto:hvell002@fiu.edu))
- [P-23] **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](mailto:e.puckett@ufl.edu))
- [P-24] **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](mailto:m.fatema@ufl.edu))
- [P-25] **Introducing the radish and onion crops into the DSSAT-cropping system model.** Mariely Lopes dos Santos<sup>1\*</sup>, Hyejin Lee<sup>2</sup>, Bizuwork Tafes Desta<sup>3</sup>, Kenneth Boote<sup>1</sup>, Seunghwan Wi<sup>2</sup>, Matteo Longo<sup>3</sup>, Francesco Morari<sup>3</sup>, Nicola Dal Ferro<sup>3</sup>, and Gerrit Hoogenboom<sup>1,4</sup>. <sup>1</sup>Agricultural and Biological Engineering Department, University of Florida, IFAS, Gainesville, FL, <sup>2</sup>Rural Development Administration, National Institute of Horticultural and Herbal Science, Wanju, Jeollabuk-do, Republic of Korea. <sup>3</sup>Department of Agronomy, Food, Natural Resources, Animals and Environment,

University of Padova, Legnaro, Italy. <sup>4</sup>Global Food Systems Institute, University of Florida, Gainesville, FL.  
([marielysantos@gmail.com](mailto:marielysantos@gmail.com))

- [P-26] **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, Shal-lu Tuakur, and Geoffrey Meru\*. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. ([gmeru@ufl.edu](mailto:gmeru@ufl.edu))
- [P-27] **Simulation of tomato and snap bean growth and yield responses to phosphorus fertilization using the CSM-CROPGRO models.** Jasia Jannat<sup>1\*</sup>, Cleverson Henrique de Freitas<sup>1</sup>, Henrique Boriolo Dias<sup>1</sup>, Girma Worku Awoke<sup>2</sup>, Haimanote Bayabil<sup>2</sup>, Yuncong Li<sup>2</sup>, Kenneth J. Boote<sup>1</sup>, and Gerrit Hoogenboom<sup>1,3</sup>. <sup>1</sup>Department of Agricultural and Biological Engineering, University of Florida, IFAS, Gainesville, FL, <sup>2</sup>Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL, <sup>3</sup>Global Food Systems Institute, University of Florida, IFAS, Gainesville, FL. ([jasia.jannat@ufl.edu](mailto:jasia.jannat@ufl.edu))
- [P-28] **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](mailto:xiaoying.li@ufl.edu))
- [P-29] **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](mailto:szhang0007@ufl.edu))
- [P-30] **PlantGard™ – a microbial metabolite-based approach to crop stress management.** Bangya Ma<sup>1\*</sup>, Mike Bledsoe<sup>2</sup>, and Karin Tifft<sup>3</sup>. <sup>1</sup>ActiveCross Corporation, Duluth, GA, <sup>2</sup>Village Farm International, Lake Mary, FL, <sup>3</sup>Greenhouse Pest and Disease Management Strategies, LLC, Oak Ridge, TN. ([bangyam@activecrossus.com](mailto:bangyam@activecrossus.com))
- [P-31] **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](mailto:tasioulas.s@ufl.edu))
- [P-32] **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](mailto:tasioulas.s@ufl.edu))

- [P-33] **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](mailto:tasioulas.s@ufl.edu))
- [P-34] **Phosphorus retention and release dynamics in South Florida soils and the role of soil amendments.** Zapata Barrientos, Krista S.<sup>1</sup>, Getachew A. Kefelegn<sup>1</sup>, Dereje A. Birhan<sup>1</sup>, Haimanote K. Bayabil<sup>2</sup>, and Niguss Solomon Hailegnaw<sup>\*1</sup>. <sup>1</sup>Everglades Research and Education Center, University of Florida, Belle Glade, FL, Tropical Research and Education Center, IFAS, University of Florida, Homestead, FL. ([nhailegnaw@ufl.edu](mailto:nhailegnaw@ufl.edu))
- [P-35] **Evaluation of chemical and biological tactics for managing *Listronotus sparsus* in Florida celery.** Anna Mészáros<sup>1</sup>, J. Declan Sullivan<sup>2</sup>, and Julien Beuzelin<sup>2\*</sup>. <sup>1</sup>Palm Beach County Extension, University of Florida, IFAS, West Palm Beach, FL, <sup>2</sup>Everglades Research and Education Center, University of Florida, IFAS, Belle Glade, FL ([jbeuzelin@ufl.edu](mailto:jbeuzelin@ufl.edu))
- [P-36] **Delaying postharvest senescence of broccoli by using CRISPR knockout coupling with gRNAs design.** Premsak Chaiwiwattrakul, Utsab Ghimire, and Tie Liu\* Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ([tieliu@ufl.edu](mailto:tieliu@ufl.edu))

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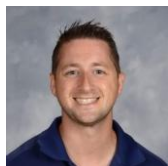
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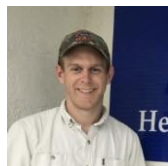
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