



2014

127th Annual Meeting of the

**FLORIDA STATE
HORTICULTURAL SOCIETY**

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Program Overview

Registration Desk Hours – Longboat Key Foyer

Sunday June 1 2:00 PM – 7:00 PM

Monday June 2 7:00 AM – 7:00 PM

Tuesday June 3 7:00 AM – 1:15 PM

Sunday Afternoon

2:00-4:00	FSHS Board of Directors Meeting	Siesta Key
3:00-4:30	Posters Set up, Erin Harlow	Ballroom Foyer
4:30-5:30	Opening Ceremony, Nancy Roe	Bellair/Redington
4:45-5:15	Dr. Gary Mormino: Wondrous Fruit, Bountiful Land: From Truck Farms to Agribusiness	
5:15-5:30	Awards Ceremony	
6:00-7:00	Welcome Reception <i>(Included in paid conference registration)</i>	Madeira/Indian Shores & Foyer

Monday Morning

7:00-8:00	Continental Breakfast <i>(Included in paid conference registration)</i>	Madeira/Indian Shores
7:30-8:15	Poster Session, Erin Harlow <i>(See list of posters on p. 12)</i>	Ballroom Foyer
8:30-9:45	General Session	Bellair/Redington
8:30	Introduction and Welcome	
8:40	Presidential Address: Ed Etxeberria, FSHS President	
9:00	General Session Keynote Speaker: Dr. Kevin Folta: Science Communication at the Public Interface: Transgenic (GMO) Technology Questions and Answers	
9:45	End of General Session	

Concurrent Morning Sessions:

10:00-12:00	Citrus (p.32)	Siesta Key
10:00-12:00	Handling & Processing (p.25)	Longboat Key 1
10:00-12:00	Krome Memorial Institute (p. 23)	Cedarwood 1
10:00-12:15	Natural Resources (p.29)	Longboat Key 2
10:00-12:00	Ornamental, Garden & Landscape (p.18)	Cedarwood 2
10:00-12:00	Vegetable (p.14)	Bellair/Redington

Monday Lunch

11:45-1:20	Lunch (on your own) at Watercolour Grillhouse or Watercolour Lounge or Kokomos Bar & Grille or Pizza Hut Express	
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Monday Afternoon

Concurrent Afternoon Sessions:

2:00-4:45	Citrus	Siesta Key
1:30-5:30	Handling & Processing	Longboat Key 1
1:30-2:15	Krome Memorial Institute	Cedarwood 1
1:30-3:45	Natural Resources	Longboat Key 2
1:30-5:15	Ornamental, Garden & Landscape	Cedarwood 2
1:30-5:15	Vegetable	Bellair/Redington

Monday Evening

6:00-7:00	Industry Reception (Included in paid conference registration)	Madeira/Indian Shores & Foyer
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Tuesday Morning

7:00-8:15	Horticultural Crops Breakfast (Event ticket required)	Madeira/Indian Shores
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Invited Speaker:

Eric DeHaven: Agricultural Water Resource Issues in Southwest Florida.

Natural Systems & Restoration Bureau Chief
SW Florida Water Management District

8:30-9:45 FSHS Annual Business Meeting: Bellair/Redington
Student Competition Awards, **Carlene Chase**

Concurrent Morning Sessions:

10:00-12:00 Citrus Siesta Key
10:00-12:00 Handling & Processing Longboat Key 1
10:00-11:00 Krome Memorial Institute Cedarwood 1
10:00-12:00 Natural Resources Longboat Key 2
10:00-12:00 Ornamental, Garden & Landscape Cedarwood 2
10:00-10:45 Vegetable Bellair/Redington
12:00 All posters are taken down Ballroom Foyer

Tuesday Lunch

12:00-1:15 Extension Luncheon Madeira/Indian
(Event ticket required) Shores
Invited speaker:
Dr. Kelly Morgan: Current and Future Goals of State-Wide Water Conservation/Quality and Best Management Practice Extension Programs

Tuesday Afternoon

1:15-5:00 In-Service Training and Producer Workshop:
Irrigation Management Strategies and 4R Plant Nutrition
Check Pages 35-36 for room information

End of 2014 Annual meeting.
Have a safe trip home, and See you next year!

Volunteers Needed!

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

Visit fshs.org and step up!

Extension Luncheon Speakers

Dr. Eva Worden, 2013

Dr. Daniel Cantliffe, 2012

Mr. Ted Campbell, 2011

Mr. Kevin Morgan, 2010

Dr. Jim Horne, 2009

Mr. Armando Campos, 2008

Mr. Ted Winsberg, 2007

Mr. Chuck Obern, 2006

Florida State Horticultural Society 2013-2014 Board of Directors

Chairman of the Board

Nancy Roe

President

Ed Etxeberria

President-elect

Steve Sargent

Sectional Vice-presidents:

Citrus

Krome Memorial Institute

Natural Resources

Ornamental, Garden and Landscape

Handling & Processing

Vegetable

Barrett Gruber

Peter Dittmar

Barton Wilder

Karen Stauderman

Anne Plotto

David G. Liu

Secretary and Treasurer

Chris Oswalt

Proceedings Editor

Jan Narciso

Marketing Coordinator/ Webmaster

Mark Ritenour

Members At-Large

Robert Adair

Ed Stover

Program Coordinator

Aparna Gazula

2014 Meeting Facilitators

Meeting Coordinator

Tracy Shawn

Local Arrangements Coordinators

Theresa Badurek

Sponsorship Coordinator

Gene Albrigo

Student Competitions Coordinator

Kelly Morgan

CEU Coordinator

Barton Wilder

Poster Session Coordinator

Erin Harlow

FSHS Newsletter Team

Kathy Snyder

Ed Etxeberria

Shawn Steed

Welcome 2014 FSHS Sectional Vice-Presidents!

- Citrus:** **Barrett Gruber**, Horticulture Department
University of Florida, Fort Pierce, FL.
(bgruber@ufl.edu)
- Handling & Processing:** **Anne Plotto**, USDA ARS
Fort Pierce, FL.
(Anne.Plotto@ars.usda.gov)
- Krome Memorial Institute:** **Peter Dittmar**, Horticulture Department,
University of Florida, Gainesville, FL.
(pdittmar@ufl.edu)
- Ornamental, Garden, & Landscape:** **Karen Stauderman**, UF/IFAS Extension
Volusia County, DeLand, FL.
(kstauderman@ufl.edu)
- Natural Resources:** **Barton Wilder**, UF/IFAS Extension Alachua
County, Gainesville, FL.
(bwilder@ufl.edu)
- Vegetables:** **David G. Liu**, Horticulture Department,
University of Florida, Gainesville, FL.
(guodong@ufl.edu)

Displays During the Meeting

(Ballroom Foyer)

2014 Florida Small Farms and Alternative Enterprise Conference. Robert Hochmuth and Sean McCoy, UF/IFAS Suwannee Valley Ag. Ext. Ctr., Live Oak, FL.

The UF/IFAS Small Farms Academy. Robert Hochmuth and Sean McCoy, UF/IFAS Suwannee Valley Ag. Ext. Ctr., Live Oak, FL.

Citrus Greening and Citrus Health Management Areas. Jamie Yates, UF/IFAS Citrus Res. and Edu. Ctr., Lake Alfred, FL.

2014 Meeting Sponsors

Platinum Level Sponsor (above \$2,000)

Citrus Research and Development Foundation

Yara North America

Plant Food Systems

Gold Level Sponsor (\$1,000–1,999)

Bayer Crop Sciences

KeyPlex

Valent BioSciences

Helena Chemicals

Novozymes BioAg

Silver Level Sponsor (\$500–999)

Howard Fertilizer Co.

Syngenta

Chemical Dynamics

Bronze Level Sponsor (under \$500)

BASF Chemicals

Triangle Chemical Company

2014 FSHS Patron Members

Ed Etxeberria

David Hall

Attention FSHS Authors!

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

FSHS Presentation, Publication and Submission Guidelines

- Full payment of page charges from past years (<http://shop.ashs.org/home.php?cat=270>) is required before presentations and submissions can be accepted in current year.
- The SENIOR AUTHOR must be a member of the Society, and the PRESENTING AUTHOR of the paper must be registered at the annual meeting (except for invited papers) for papers to be accepted for the Proceedings. Papers not presented at the meeting will not be published.
- Electronic submissions are highly encouraged and preferred. Manuscripts should be delivered in FINAL electronic form (1) at the time of meeting to the appropriate section VP or (2) no later than two weeks after the meeting at fshsproc@ashs.org.
- Manuscripts to be considered as “refereed” MUST be submitted electronically at the time of the meeting.
- For all submissions, see complete Manuscript Preparation Guide for the Proceedings of the Florida State Horticultural Society at: http://www.fshs.org/instructions_ref_sub.shtml.

FSHS Paper Authors:

Remember to e-mail full-length manuscripts at
Fshsproc@Ashs.Org by **June 6, 2014**
with copy to the sectional VP:

Citrus:

Barrett Gruber,
bgruber@ufl.edu

Handling & Processing:

Anne Plotto,
Anne.Plotto@ars.usda.gov

Krome Memorial Institute:

Peter Dittmar,
pdittmar@ufl.edu

Natural Resources:

Barton Wilder,
bwilder@ufl.edu

Ornamental, Garden, and Landscape:

Karen Stauderman,
kstauderman@ufl.edu

Vegetable:

David G. Liu,
guodong@ufl.edu

FSHS Student Scholarships

Did you know that FSHS awards ten, \$200 scholarships to students attending the Annual Meeting?

To apply, you have to submit a less-than-100-word statement describing the importance of attending the FSHS Annual Meeting to the achievement of your personal and professional goals and aspirations at *fshs@crec.ifas.ufl.edu*. The FSHS Board of Directors judges submissions and verifies that the awardees are eligible registered students who have registered for the Annual Meeting. Scholarship checks will be awarded during the annual business meeting; awardees must be registered and present to receive their scholarship check.

FSHS Student Competitions

FSHS offers two competitions for students: Student Best Oral Presentation (SBOPC) and Student Best Paper (SBPC). Awards for the SBOPC will be presented during the Annual Business Meeting at the 2014 FSHS annual meeting in Clearwater Beach. The SBPC awards will be announced at the 2015 FSHS annual meeting in St. Augustine. Awardees will receive cash prizes and will be recognized in the Proceedings of FSHS. Students may participate in either or both competitions.

Student Best Oral Presentation Competition (SBOPC):

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

Student Best Paper Competition (SBPC):

To participate in the SBPC, students must submit a manuscript (use author guidelines for the Proceedings of the FSHS) by email with the subject "Student Best Paper Competition" to *fshsproc@ashs.org* by **June 6, 2014**. Student papers will be published in the Proceedings of FSHS. Entries will be judged on relevance to Florida horticulture, scientific merit, experimental design rigor, literature review, completeness, and clarity. For more information on the SBPC competition, **Carlene Chase** at *cachase@ufl.edu*

Technical Program Schedule

(Ballroom Foyer)

Poster Session:

Erin Harlow,
Coordinator
(erine@coj.net)

Monday Morning Session

(Authors at posters 7:30 – 8:15 a.m.)

Basil Downy Mildew: Present and Future Prospects for Control. Gene McAvoy, UF/ IFAS Hendry County Extension, LaBelle, FL, Christian Miller, EREC, UF, and R. N. Raid, UF/IFAS, Palm Beach County Extension, West Palm Beach, FL. (gmcavoy@ufl.edu) [P-V-1]

Management of Phoma Using Bio- and Conventional Fungicides on Fresh Market Dill. Christian Miller, UF/IFAS Everglades Research & Education Center, Belle Glade, FL, G. McAvoy, UF/ IFAS Hendry County Extension, LaBelle, FL, and R. N. Raid, UF/IFAS, Palm Beach County Extension, West Palm Beach, FL. (gmcavoy@ufl.edu) [P-V-2]

Evaluation of Eight Table Beet Varieties for Stand, Disease Resistance, and Cultural Characteristics. Gene McAvoy, UF/ IFAS Hendry County Extension, LaBelle, FL, Christian Miller UF/IFAS EREC, UF, and R.N. Raid, UF/IFAS, Palm Beach County Extension, West Palm Beach, FL. (gmcavoy@ufl.edu) [P-V-3]

The Effects of Foliar Applied Soar[®] Micronutrients and Biostimulants on Yield of Tomato (cv. Phoenix) in Florida. Alex Csizinszky, GCREC, UF, E. Waldo, Chemical Dynamics, Plant City, FL. (ericw@chemicaldynamics.com) [P-V-4]

Fostering an Agritourism Industry. Mary E. Henry, UF/IFAS Polk County Extension, Bartow, FL. (mbhenry@ufl.edu) [P-V-5]

Implementation of Advanced Technologies by North Florida Farmers Improve Water and Fertilizer Use and Document the Implementation of Best Management Practices. Mace Bauer, UF/IFAS Extension Columbia County, E. Toro, UF/IFAS Extension Suwannee County, Live Oak, FL. (mgbauer@ufl.edu) [P-V-6]

Cladosporium Leaf Spot Management on Spinach Using Bio and Conventional Chemistries. Christian Miller, EREC, UF, G. McAvoy, UF/ IFAS Hendry County Extension, LaBelle, FL, and R. N. Raid, UF/IFAS, Palm Beach County Extension, West Palm Beach, FL. (gmcavoy@ufl.edu) [P-V-7]

A Farm-based Weather Data Collection and Display System in Support of Freeze Protection of Florida Crops. William R. Lusher, UF/IFAS, Gainesville, FL 32611. [P-V-8]

Spotted Wing Drosophila (*Drosophila suzukii* Matsumura) in Florida. Teresia W.

Nyoike and O.E. Liburd, Entomology and Nematology Department, UF. [P-V-9]

School Garden Support: Success Stories and Lessons Learned. Theresa Badurek, UF/IFAS Pinellas County Extension, FL. (tbadurek@co.pinellas.fl.us) [P-OGL-10]

Globally Harmonized Pesticide Training for Applicators. E. Harlow, UF/IFAS Duval County Extension., Jacksonville, FL., F.Fishel, PhD., UF/IFAS Pesticide Information Office, Gainesville, FL. (erine@coj.net) [P-OGL-11]

Environmental Horticulture Container Growers Learn Irrigation Practices Through Extension BMP Education. Shawn Steed, UF/IFAS Hillsborough County, Seffner, FL., E.V. Campoverde, UF/IFAS Miami-Dade County Extension, Homestead, FL., E.Skvarch, UF/IFAS St. Lucie County Extension, Fort Pierce, FL, P. Fisher, UF/IFAS Environmental Horticulture Department, Gainesville, FL., and T. Yeager, UF/IFAS Environmental Horticulture Department, Gainesville, FL. (ststeed@ad.ufl.edu) [P-OGL-12]

UF/IFAS Treasure Coast Green Industries Working Group – Meeting the Educational Needs Of The Green Industry. Cristine A. Kelly-Begazo, UF/IFAS Indian River County Extension, E. Skvarch, UF/IFAS St. Lucie County Extension, D. Culbert, UF/IFAS Okeechobee County Extension, Y. Goodiel, UF/IFAS Martin County Extension and F. Burkey, UF/IFAS Martin County Extension. (ckellybe@ufl.edu) [P-OGL-13]

Creating Demonstration Gardens: Steps to Success. Lisa Hickey, UF/IFAS Manatee County Extension. (lisa.hickey@ufl.edu) [P-OGL-14]

2014 FSHS Annual Meeting Facts

Oral Invited Presentations	4
Poster Presentations	14
Oral Contributed Presentations	110
Citrus	21
Handling and Processing	20
Krome Memorial institute	10
Natural Resources	12
Ornamental, Garden & Landscape	24
Vegetables	23
Total Meeting Presentations	128

Vegetable Section:

G. David Liu,
Presiding
(guodong@ufl.edu)

Monday Morning Session

(10:00 a.m. – 12:00 p.m.) Bellair/Redington

9:50 Welcome and Introductions: G. David Liu.

A – Production and Cultural Practices

- 10:00 **Performance of Lettuce (*Lactuca sativa*) Grown in Soilless Media in Vertical Hydroponics.** Robert C. Hochmuth, W.L. Laughlin, and D.E. Toro, SVAEC, UF, A. Gazula, Alachua County Extension, UF (bobhoch@ufl.edu) [V-1]
- 10:15 **Yield Performance of Strawberry Cultivars Under Organic Production in High Tunnel and Open Field.** Xin Zhao, Z. Black, J.M. Neumann, C.A. Chase, and J. López, Horticultural Sciences, UF. (zxin@ufl.edu) [V-2]
- 10:30 **Going Organic to Diversify and Sustain the Strawberry Industry.** Carlene A. Chase, X. Zhao, Horticultural Sciences, UF, O.E. Liburd, Entomology and Nematology, UF, Z. Gao, Food and Resource Economics, UF, and M.E. Swisher, Family Youth and Community Sciences, UF. (cachase@ufl.edu) [V-3]
- 10:45 **Challenges and Potential Solutions for Vegetable Producers in Miami-Dade County.** Qingren Wang, T. Olczyk, Miami Dade County Extension, UF, S. Zhang, D. Seal, K. Migliaccio, Y. Li, TREC, UF, M. Ozores-Hampton, SWREC, UF, and G. Liu, Horticultural Sciences, UF. (qrwang@ufl.edu) [V-4]
- 11:00 **Effects of Crown Diameter on Strawberry Growth and Yield.** Ixchel M. Hernández-Ochoa, E.A. Torres Quezada, and B.M. Santos, GREC, UF. (ixchel@ufl.edu) [V-5]

B – Nutrition and Water Management

- 11:15 **Water savings for commercial potato production in SW Florida: from seepage to center pivot.** Xiaolin Liao, G.D. Liu, L. Zotarelli, B. Santos, Horticultural Sciences, UF, C. Snodgrass, Manatee County Extension, UF, A. Jones, Jones Potato Farm. (liao Xiaolin@ufl.edu) [V-6]
- 11:30 **Interactions between N source and PGPR on tomato plant growth and nitrogen uptake.** Xiaohui Fan, S.A. Zhang, X.D. Mo, Y.C. Li, Y.Q. Fu and Z.G. Liu, TREC, UF. (xiaohfan@ufl.edu) [V-7]
- 11:45 **Heavy Metal Content of Tomatoes Fertilized With A Biosolids.** George H. Snyder, Milorganite, Lake Worth, FL, and J.L. Cisar, FLREC, UF. (phdlaboratory@hotmail.com) [V-8]

12:00 End of morning session/Lunch on your own (at Watercolour Grillhouse or Watercolour Lounge or Kokomos Bar & Grille or Pizza Hut Express)

Monday Afternoon Session

(1:30 – 5:15 pm)

1:20 Welcome and Introductions: **G. David Liu.**

1:30 **Optimizing Gypsum Rate for Commercial Potato Production in NE Florida.** Guodong Liu, S. Sargent, Horticultural Sciences, UF, D. Dinkins, Putnam County Extension, UF, D. Johns, Blue Sky Farms. (guodong@ufl.edu) [V-9]

1:45 **The Effect of Increasing Rates of Fertilizer on Insect Pests of Organically Grown Squash ‘Gentry’ (Cucurbita pepo L.).** Danielle Treadwell, Horticultural Sciences, UF, S. Webb, Entomology and Nematology, UF, M.C. Giurcanu, Statistics, UF, M. Alligood, SYAEC, UF. (ddtreadw@ufl.edu) [V-10]

C – Disease, Pest, and Weed Management

2:00 **Improvement of Lettuce for Resistance to Bacterial Leaf Spot.** Huangjun Lu, EREC, UF. (hjl@ufl.edu) [V-11]

2:15 **Effect of Stockosorb on the Management of Bean and Cucumber Plants and their Insect Pests, Silverleaf Whitefly Using Three Levels of Irrigation.** Dakshina R. Seal, TREC, UF, J.A.Norton and C.M. Sabines. (dseal3@ufl.edu) [V-12]

2:30 **Vegetable Section Business Meeting:** Mary E. Henry

2:45 **Break**

3:15 **Management of Yellow Nutsedge (Cyperus esculentus) with Reduced Fumigant Application Rates in Combination with Totally Impermeable Film.** Josh H. Freeman, NFREC, UF. (joshuafr@ufl.edu) [V-13]

D – Student Best Oral Presentation Competition

3:30 **Alternative production system for cabbage production in northeast Florida.** Charles Barrett, L. Zotarelli, L.G. Paranhos, P. Dittmar, C.W. Fraisse, J.J. VanSickle, Horticultural Sciences, UF. (soulpole@ufl.edu) (lzota@ufl.edu) (Student Best Oral Presentation Competition Entry) [V-14]

3:45 **Evaluation of Compact Growth Habit Tomato Breeding Lines for the Florida Mature-green Fresh Market.** Aline Coelho Frasca, M. Ozores-Hampton, SWFREC, UF, J. Scott, C.D. Stanley, GCREC, UF, and E. McAvoy, Hendry County Extension Service, UF. (acfrasca@ufl.edu) (ozores@ufl.edu) (Student Best Oral Presentation Competition Entry) [V-15]

- 4:00 **Potassium Fertilizers for Vegetable Production.** Marcel Barbier, Y. Li, Soil and Water Science, TREC, UF, G. Liu, Horticultural Sciences, UF, F. Pierce, Soil and Water Science, TREC, UF. (marcelbarbier@ufl.edu) (Yunli@ufl.edu) (Student Best Oral Presentation Competition Entry) [V-16]
- 4:15 **Developing technologies for Florida-produced strawberry plug transplants: time in nursery and tray sizes.** Emmanuel A. Torres-Quezada, GCREC, UF, L. Zotarelli, Horticultural Sciences, UF, V.M. Whitaker, and B.M. Santos. GCREC, UF. (etorres1618@ufl.edu) (lzota@ufl.edu) (Student Best Oral Presentation Competition Entry) [V-17]
- 4:30 **Effect of drip irrigation and nitrogen, phosphorus and potassium applications on tomatoes growth and yield.** Miurel T. Bermudez and K.T. Morgan, SWFREC, UF. (mbermudez05@ufl.edu) (conserv@ufl.edu) (Student Best Oral Presentation Competition Entry) [V-18]
- 4:45 **Spatial Distribution of the Leafminer, *Liriomyza trifolii* (Diptera: Agromyzidae) on Bean and Squash in Southern Florida.** Shashan Devkota, D.R. Seal, C. Waddil, O.E. Liburd, and S. Ferguson, TREC, UF. (devkotasashan@ufl.edu) (dseal3@ufl.edu) (Student Best Oral Presentation and Paper Competition Entry) [V-19]
- 5:00 **Growth Response Of Melonworm, *Diaphania Hyalinata* Linnaeus (Insecta: Lepidoptera: Pyralidae) to 4 Cultivars Of Cucurbit Grown In South Florida.** Babu Ram Panthi, D.R. Seal, TREC, UF, G. Nuessly, EREC, UF and J.H. Capinera, Entomology and Nematology, UF, (panthibabu@ufl.edu) (dseal3@ufl.edu) (Student Best Oral Presentation Competition Entry) [V-20]
- 5:15 **End of afternoon session**
- 6:00 **Industry Reception** (*Madiera/Indian Shores & Foyer; Included in paid conference registration*)

Tuesday Morning Session

(10:00 – 10:45 a.m.)

9:50 **Welcome and Introductions, Mary Beth Henry**

C – Disease, Pest, and Weed Management, continued

- 10:00 **Assessing Sting Nematode Impact and Soil Fumigant Performance on Strawberry Yield Using Multispectral Reflectance.** Joe W. Noling, A.W. Schumann, and M. Cody, CREC, UF (jnoling@ufl.edu) [V-21]
- 10:15 **Impact of Clopyralid on Strawberry Growth and Reproduction.** Nathan S. Boyd, GCREC, UF and P. Dittmar, Horticultural Sciences, UF. (nsboyd@ufl.edu) [V-22]

10:30 **Abundance of insect pests and mites on strawberry varieties grown in high tunnel and open field.** Oscar E. Liburd, O.G. Dosunmu, A. Minott, Entomology and Nematology Department, UF; X. Zhao and C.A. Chase, Horticultural Sciences Department, UF. (oeliburd@ufl.edu) [V-23]

10:45 **End of Program**

12:00 **Extension Luncheon** (*Madiera/Indian Shores; Event ticket required*)

Vegetable Section Posters:

Basil Downy Mildew: Present and Future Prospects for Control. Gene McAvoy, UF/ IFAS Hendry County Extension, LaBelle, FL, Christian Miller, EREC, UF, and R. N. Raid, UF/IFAS, Palm Beach County Extension, West Palm Beach, FL. (gmcavoy@ufl.edu) [P-V-1]

Management of Phoma Using Bio-and Conventional Fungicides on Fresh Market Dill. Christian Miller, EREC, UF, G. McAvoy, UF/ IFAS Hendry County Extension, LaBelle, FL, and R. N. Raid, UF/IFAS, Palm Beach County Extension, West Palm Beach, FL. (gmcavoy@ufl.edu) [P-V-2]

Evaluation of Eight Table Beet Varieties for Stand, Disease Resistance, and Cultural Characteristics. Gene McAvoy, UF/ IFAS Hendry County Extension, LaBelle, FL, Christian Miller, EREC, UF, and R. N. Raid, UF/IFAS, Palm Beach County Extension, West Palm Beach, FL. (gmcavoy@ufl.edu) [P-V-3]

The Effects of Foliar Applied Soar[®] Micronutrients and Biostimulants on Yield of Tomato (cv. Phoenix) in Florida. Alex Csizinszky, GCREC, UF, E. Waldo, Chemical Dynamics, Plant City, FL. (ericw@chemicaldynamics.com) [P-V-4]

Fostering an Agritourism Industry. Mary E. Henry, UF/IFAS Polk County Extension, Bartow, FL. (mbhenry@ufl.edu) [P-V-5]

Implementation of Advanced Technologies by North Florida Farmers Improve Water and Fertilizer Use and Document the Implementation of Best Management Practices. Mace Bauer, UF/IFAS Extension Columbia County, E. Toro, UF/IFAS Extension Suwannee County, Live Oak, FL. (mgbauer@ufl.edu) [P-V-6]

Cladosporium Leaf Spot Management on Spinach Using Bio and Conventional Chemistries. Christian Miller, EREC, UF, G. McAvoy, UF/ IFAS Hendry County Extension, LaBelle, FL, and R.N. Raid, UF/IFAS, Palm Beach County Extension, West Palm Beach, FL. (gmcavoy@ufl.edu). [P-V-7]

A Farm-based Weather Data Collection and Display System in Support of Freeze Protection of Florida Crops. William R. Lusher, UF/IFAS, Gainesville, FL 32611. [P-V-8]

Spotted Wing Drosophila (*Drosophila suzukii* Matsumura) in Florida. Teresia W. Nyoike and O.E. Liburd, Entomology and Nematology Department, UF. [P-V-9]

Monday Morning Session

(10:00 a.m. – 12:00 p.m.) Cedarwood 2

9:50 Welcome and Introductions, **Karen Stauderman**

A – Plant Pests & Pathogens

- 10:00 Gumbo Limbo Trees Struggle with Three New Dieback Plagues: Puzzling Witches' Broom Symptoms, A CSI Mystery Plus Croton Scale and Rugose Spiraling Whitefly, A Favorite Native Tree Under Attack!** Doug L. Caldwell, UF/IFAS Extension Collier County and A. J. Palmateer, UF/IFAS Tropical Research & Education Center. (dougbug@ufl.edu) [OGL-1].
- 10:15 Evaluation of Anthracnose on Leatherleaf Fern Treated with Keyplex.** Karen M. Stauderman, UF/IFAS Extension Volusia County, D.J. Norman, UF/IFAS Mid-Florida Research & Education Center and R.A. Atwood, Keyplex Inc. (kstauderman@ufl.edu) [OGL-2].
- 10:30 Phytophthora Leaf Blight Caused by *Phytophthora nicotianae* on Natal Mahogany *Trichilia dregeana*.** Robert T. McMillan Jr., Kerry's Nursery Inc., Homestead and R. M. Leahy, Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Gainesville, FL. (rmcmillan@kerrys.com) [OGL-3].
- 10:45 Rose Rosette Disease in Florida.** Alex Bolques, FAMU Cooperative Extension/Gadsden County, M. Paret, G. Knox, B. Babu, and H. Dankers, UF/IFAS North Florida Research and Education Center, Quincy, T. Schubert, and C. Baker, UF/IFAS Department of Plant Pathology, Gainesville, and M. Orwat, UF/IFAS Extension Washington County. (abol@ufl.edu) [OGL-4].

B – Landscape Maintenance

- 11:00 Hedge Bamboo Growth Management Near Power Lines.** A.D. Ali, J. Harlow, The Davey Institute, D. Hughes, Debbie's Gardening Solutions, S. Bernick, Rainbow Treecare Scientific Advancements. (A.D.Ali@davey.com) [OGL-5].
- 11:15 Ornamental Pre-Emergent Herbicide Efficacy.** Shawn T. Steed, UF/IFAS Extension Hillsborough County. (ststeed@ad.ufl.edu) [OLG-6].
- 11:30 Green Beer & Witches Brew: Themed Pesticide Training.** Karen M. Stauderman, UF/IFAS Extension Volusia County, M. Lenhardt, UF/IFAS

Extension Brevard County, M. Lollar, UF/IFAS Extension Seminole County. (kstauderman@ufl.edu) [OGL-7].

11:45 **How do the Hazard Communication Standard (HCS) and the Globally Harmonized System (GHS) Apply to Your Clients?** Elizabeth V. Campoverde, H. Mayer and M. Lamberts. UF/IFAS Extension Miami Dade County.(evcampoverde@ufl.edu) [OGL-8].

12:00 **End of Morning Session/Lunch on your own** (at Watercolour Grillhouse or Watercolour Lounge or Kokomos Bar & Grille or Pizza Hut Express)

Monday Afternoon Session

(1:30 – 5:15 p.m.)

1:20 **Welcome and Introductions, Karen Stauderman**

C – Student Competitions, BMPs and Water Issues

1:30 **Effects of Media Formulation and Fertilizer Rate On Growth of Transplanted Tissue-cultured Plugs of Dracaena ‘Waikiki’.** Adam D. Caple, Malcolm M. Manners, Department of Horticultural Science, Florida Southern College, Lakeland, John L Griffis, Jr., Marine and Ecological Sciences Department, Florida Gulf Coast University, Ft. Myers, Andrew F. Kawabata and Kheng T. Cheah, Tropical Plant and Soil Sciences Department, University of Hawai‘i at Manoa, Honolulu, Hawai‘i. (acaple@mocs.flsouthern.edu) (mmanners@flsouthern.edu) (Student Best Oral Presentation Competition Entry) [OGL-9].

1:45 **Influence Of Soil Type On Nitrogen Leaching Of Controlled Release Fertilizers.** Austin L. Grimshaw, Brian M. Schwartz, and T.L. Grey. Dept. of Crop & Soil Sciences, University of Georgia, A.R. Kowalewski. Dept. of Horticulture, Oregon State University, Paul L. Raymer. University of Georgia, Dept. of Crop & Soil Sciences. (a.grimshaw.ag@gmail.com) (tifturf@uga.edu) (Student Best Oral and Paper Presentation Competition Entry) [OGL-10].

2:00 **Mowing Requirements And Costs To Maintain Bermudagrass Are Influenced By Cultivar Selection and Trinexapac-Ethyl Use.** A.R. Kowalewski, Horticulture, Oregon State University; B.M. Schwartz and A.L. Grimshaw, Crop and Soil Sciences, University of Georgia; J.N. McCrimmon and J. Layton, Environmental Horticulture, Abraham Baldwin Agricultural College. (Alec.Kowalewski@oregonstate.edu) (tifturf@uga.edu) (Student Best Oral and Paper Presentation Competition Entry) [OGL-11].

- 2:15 Impact of Soil Composition on Nitrate and Phosphate Removal Efficiencies: A Bioretention Mesocosm Study.** Alex Bolques, FAMU Cooperative Extension/Gadsden County and J. Cherrier, FAMU, School of the Environment. (abol@ufl.edu) [OGL-12].
- 2:30 Developing a Method for Large Scale Solarization and Recycling of Used Potting Soil.** Shawn T. Steed, UF/IFAS Extension Hillsborough County. (ststeed@ad.ufl.edu) [OGL-13].
- 2:45 Ornamental, Garden, and Landscape Section Business Meeting: Shawn Steed**
- 3:00 Break**
- 3:15 Best of the Best-How to Optimize Nursery BMP Techniques.** Juanita Popenoe, UF/IFAS Extension Lake County, M. Lollar, UF/IFAS Extension Seminole County and E. Felter, UF/IFAS Extension Orange County. (jpopenoe@ufl.edu) [OGL-14].
- 3:30 Educational Enhancement Advantages to Using Teamwork in the Training of Green Industries Best Management Practices.** Bobbi J. Jarvis, Citrus County Extension; M. Lenhardt, Brevard County Extension; B. Moffis, Lake County Extension; J. Moll, Pasco County Extension; L. Singleton, Sumter County Extension. (bjjarvis@ufl.edu) [OGL-15].
- 3:45 Microirrigation Workshops and Results in Hillsborough County.** Lynn Barber, UF/IFAS Extension Hillsborough County. (labarber@ufl.edu) [OGL-16].
- 4:00 Innovative Approaches, Methods and Techniques for Improving Water Quality.** Jane Morse, UF/IFAS Extension Pinellas County. (jmorse@co.pinellas.fl.us) [OGL-17].
- 4:15 Watershed Education: Hillsborough, Manatee, Pasco, Pinellas and Polk Counties.** Bobbi J. Jarvis, UF/IFAS Extension Citrus County, S. McGee, UF/IFAS Extension Polk County, and M. Denny, UF/IFAS Extension Manatee County. (bjjarvis@ufl.edu) [OGL-18].

D – Residential and Media Efforts

- 4:30 Advanced Master Gardener Training to Improve Service at Plant Clinics.** Theresa Badurek, UF/IFAS Extension Pinellas County.(tbadurek@co.pinellas.fl.us) [OGL-19].
- 4:45 Mass Media For Program Distribution: City of Tampa Television, Spotlight Tampa.** Lynn Barber, UF/IFAS Extension Hillsborough County. (labarber@ufl.edu) [OGL-20].
- 5:00 Bringing Water Quality Education to the World via eXtension.** Susan Haddock, UF/IFAS Extension Hillsborough County. (haddocks@hillsbor-

oughcounty.org) [OGL-21].

5:15 End of afternoon session

6:00 **Industry Reception** (*Madiera/Indian Shores & Foyer; Included in paid conference registration*)

Tuesday Morning Session

(10:00 a.m. – 12:00 p.m.)

9:50 Welcome and Introductions: **Shawn Steed**

E – Alternative Horticultural Crops: Current Trends Discussion

10:00 **New Landscape plants for Central and North Florida.** Robert Bowden, Director of Harry P. Leu Gardens.

10:50 **New Fruits in Florida-Round table Discussion on Pomegranate Trials, Citrus and New Fruit Introductions in Central and North Florida.** Bill Castle, Professor Emeritus, CREC-Lake Alfred.

11:00 **Tropical Fruits and More! What's Happening in South Florida? Round Table Discussion on New Issues, Trends and Plantings in South Florida.** Robert McMillan, JR. Kerry's Nursery, Homestead.

12:00 End of Program

12:00 **Extension Luncheon** (*Madiera/Indian Shores; Event ticket required*)

Ornamental, Garden, and Landscape Section Posters:

School Garden Support: Success Stories and Lessons Learned. Theresa Badurek, UF/IFAS Pinellas County Extension, FL. (tbadurek@co.pinellas.fl.us) [P-OGL-10]

Globally Harmonized Pesticide Training for Applicators. E. Harlow, UF/IFAS Duval County Extension., Jacksonville, FL., F.Fishel, PhD., UF/IFAS Pesticide Information Office, Gainesville, FL. (erine@coj.net) [P-OGL-11]

Environmental Horticulture Container Growers Learn Irrigation Practices Through Extension BMP Education. Shawn Steed, UF/IFAS Hillsborough County, Seffner, FL., E.V. Campoverde, UF/IFAS Miami-Dade County Extension, Homestead, FL., E.Skvarch, UF/IFAS St. Lucie County Extension, Fort Pierce, FL, P. Fisher, UF/IFAS Environmental Horticulture Department, Gainesville, FL., and T. Yeager, UF/IFAS Environmental Horticulture Department, Gainesville, FL. (ststed@ad.ufl.edu) [P-OGL-12]

UF/IFAS Treasure Coast Green Industries Working Group – Meeting the Educational Needs Of The Green Industry. Cristine A. Kelly-Begazo, UF/IFAS Indian River County Extension, E. Skvarch, UF/IFAS St. Lucie County Extension, D. Culbert, UF/IFAS Okeechobee County Extension, Y. Goodiel, UF/IFAS Martin County Extension and F. Burkey, UF/IFAS Martin County Extension. (ckellybe@ufl.edu) [P-OGL-13]

Creating Demonstration Gardens: Steps to Success. Lisa Hickey, UF IFAS Manatee County Extension. (lisa.hickey@ufl.edu) [P-OGL-14]

Krome Memorial Institute: Peter Dittmar,
Presiding
(pdittmar@ufl.edu)

Monday Morning Session

(10:00 a.m. – 12:00 p.m.) Cedarwood 1

9:50 Welcome and Introductions, Peter Dittmar

A – Fruit Production

- 10:00 **The Introduction and Commercialization of West Indian Avocados to Fairchild Tropical Garden Living Collection, South Florida, USA.** Noris Ledesma, R. Campbell, and T. Walton, Fairchild Tropical Botanic Garden, Coral Gables. (nledesma@fairchildgarden.org) [K-1]
- 10:15 **Laurel Wilt in Avocados - The Evolution of a Powerful Threat to South Florida's Commercial Tropical Fruit Industry.** Jeff Wasielewski, Miami-Dade County Extension, UF, J.H. Crane, Tropical Research and Education Center, UF (jwasielewski@ufl.edu) [K-2]
- 10:30 **How to Make a Simple and Inexpensive Passive and Pressurized Infusion System for Systemically Applying Pest Control Substances to Fruit Trees.** Jonathan H. Crane, W. Montás, E.A. Evans, and R. Olszack, Tropical Research and Education Center, UF (jhcr@ufl.edu) [K-3]
- 10:45 **Conservation and Commercial Development of Mangifera Species (Wild Mangos) in Florida, USA.** Noris Ledesma and Richard Campbell, Fairchild Tropical Botanic Garden, Coral Gables (nledesma@fairchildgarden.org) [K-4]
- 11:00 **Pomological and Chemical Characterization of Black Sapote (Diospyros dygina).** Tomas A. Silva, USDA-ARS Subtropical Horticulture Research Station, Miami, H. Gubbuk, Department of Horticulture, Akdenis University, Antalya, Turkey, M. Winterstein, and A. Salas, Florida International University, Agroecology Program Department of Earth and Environment, Miami [K-5]
- 11:15 **Application of Hydrogen Cyanamide to Increase Bloom Uniformity in Low-Chill Peaches.** Mercy Olmstead, Horticultural Sciences Department, UF (mercy1@ufl.edu) [K-6]
- 11:30 **Results of a Taste-test Methodology Used to Compare 20 Fresh-market Muscadine Grape Cultivars to an Accepted Standard Cultivar, 'Fry'.** Jacque Breman, Columbia County Extension, UF, P. Andersen, North Florida Research and Education Center-Quincy, UF, J. Jump, Columbia County Extension, UF, and A. Simonne, Family, Youth and Community Sciences, UF (civilday@ufl.edu) [K-7]

- 11:45 **Some Notable Characteristics of Seedless Muscadines Observed in FAMU's Grape Breeding.** Zhongobo Ren, S. Leong, J. Lu, and X. Xu, Center for Viticulture, Florida A&M University, Tallahassee (zhongbo.ren@famuedu) [K-8]
- 12:00 **End of Morning Session/Lunch on your own** (at Watercolour Grillhouse or Watercolour Lounge or Kokomos Bar & Grille or Pizza Hut Express)

Monday Afternoon Session

(1:30 – 2:15 p.m.)

- 1:20 **Welcome and Introductions, Peter Dittmar**
- 1:30 **Effect of Floral Bud and Fruitlet Thinning on 'Emerald' Southern Highbush Blueberry.** Gary England, Lake County Extension, UF (gke@ufl.edu) [K-9]
- 1:45 **Effect of Pinebark Percentage on Herbicide Movement and Efficacy in Blueberry.** Peter Dittmar, Horticultural Sciences Department, UF (pdittmar@ufl.edu) [K-10]
- 2:00 **Krome Section Business Meeting: Christian Miller**
- 2:15 **End of Afternoon Session**
- 6:00 **Industry Reception** (Madiera/Indian Shores & Foyer; Included in paid conference registration)

Tuesday Morning Session

(10:00 a.m. – 11:00 a.m.)

- 9:50 **Welcome and Introductions, Christian Miller**
- 10:00 **Blueberry Research/Extension Planning Meeting, Follow-Up.** Jeff Williamson, Horticultural Sciences Department, UF. (jgrw@ufl.edu)
- 11:00 **End of Program**
- 12:00 **Extension Luncheon** (Madiera/Indian Shores; Event ticket required)

Handling & Processing Section: Anne Plotto,
Presiding
(Anne.Plotto@ars.usda.gov)

Monday Morning Session

(10:00 a.m. – 12:00 p.m.) Longboat Key 1

9:50 Welcome and Introductions, Anne Plotto

A – Student Competitions

- 10:00** **Maintaining Quality and Safety of Blueberries by Natural and Non-residue Chemicals.** Xiuxiu Sun and K. Zhou, Department of Nutrition and Food Science, Wayne State University, Detroit, MI; J. Narciso, C. Ference, and J. Bai, USDA, ARS, US Horticultural Research Lab, Fort Pierce. (xiuxiu.sun@ars.usda.gov) (Jinhe.bai@ars.usda.gov) [HP-1]
- 10:15** **Validation of Enterococcus spp. as Surrogate for Salmonella under Stagnant Dry Heating of Peanuts.** Pardeepinder K. Brar and M.D. Danyluk, Citrus Research & Education Center, UF. (pbrar27@ufl.edu) (mddanyluk@ufl.edu) (Student Best Oral Presentation Competition Entry) [HP-2]
- 10:30** **Salmonella Internalization Based on the Influence of Temperature Differential between Red Tomatoes and Postharvest Water.** Ashley N. Turner and M.D. Danyluk, Citrus Research & Education Center, UF. (an.turner12@gmail.com) (mddanyluk@ufl.edu) (Student Best Oral Presentation Competition Entry) [HP-3]
- 10:45** **Suppression of Volatile Production in Tomato Fruit Exposed to Chilling Temperature and Alleviation of Chilling Injury by a Pre-chilling Heat Treatment.** Libin Wang, E. Baldwin, W. Zhao, A. Plotto, X. Sun, Z. Wang, and J. Bai, USDA, ARS, US Horticultural Research Laboratory, Fort Pierce; J. Brecht, Horticultural Sciences Department, UF. (Libin.wang@ars.usda.gov) (Jinhe.bai@ars.usda.gov) (Student Best Oral Presentation Competition Entry) [HP-4]
- 11:00** **Investigating the Range in Acceptability of Muscadine Varieties.** Kelly Brown, C. Sims, A. Odabasi, Food Science and Human Nutrition Department, UF; D. Gray, Mid-Florida Research & Education Center, UF-IFAS; P. Conner, Horticulture Department, University of Georgia, Tifton, GA. (kellyebrown@ad.ufl.edu) (csims@ufl.edu) (Student Best Oral Presentation Competition Entry) [HP-5]
- 11:15** **California Avocados in Florida? Finding the Perfect Avocado for Production in East-Central Florida.** Cristina Pisani and M.A. Ritenour, Indian River Research and Education Center, UF; E. Stover and A. Plotto, USDA, ARS, US Horticultural Research Laboratory, Fort Pierce; O.A.

Gutierrez, and D. Kuhn, USDA, ARS, Subtropical Horticulture Research, Miami. (cpisani@ufl.edu) (Ritenour@ufl.edu) (Student Best Oral Presentation Competition Entry) [HP-6]

- 11:30 **“Note by Note” Cooking: Can Raw Food Ingredients Be Replaced by Chemical Components?** Elise Bourcier, AgroParisTech, Paris, France. (elise.bourcier@gmail.com) (Anne.plotto@ars.usda.gov) (Student Best Oral Presentation Competition Entry) [HP-7]
- 11:45 **Taste Research: Chemical and Molecular Advancements.** Smita Raithore and E. Baldwin, USDA, ARS, US Horticultural Research Laboratory, Fort Pierce. (smita.raithore@ars.usda.gov) [HP-8]
- 12:00 **End of Morning Session/Lunch on your own** (at *Watercolour Grillhouse or Watercolour Lounge or Kokomos Bar & Grille or Pizza Hut Express*)

Monday Afternoon Session

(1:30 – 5:30 pm)

1:20 **Welcome and Introductions, Anne Plotto**

B – Microbiology

- 1:30 **High Incidence of Diplodia Infection Was Found in HLB Symptomatic Orange Fruit.** Wei Zhao, J. Bai, G. McCollum and E.A. Baldwin, USDA, ARS, US Horticultural Research Laboratory, Fort Pierce. (wei.zhao@ars.usda.gov) [HP-9]
- 1:45 **Survival of Salmonella after Pesticide Application and Harvesting of Tomato Fruits During Screenhouse Production.** Angela M. Valadez, Citrus Research and Education Center, UF; W. Lester, Hernando County Cooperative Extension Service, UF; Lawrence D. Goodridge, Department of Food Science and Agricultural Chemistry, McGill University, Montreal, Canada; and Michelle D. Danyluk, Citrus Research and Education Center, UF (mddanyluk@ufl.edu) [HP-10]
- 2:00 **When Salmonella isn't Salmonella: Misidentification by Rapid Testing Methods.** Lawrence Goodridge, Department of Food Science and Agricultural Chemistry, McGill University, Montreal, Quebec, Canada. (Lawrence.goodridge@mcgill.ca) [HP-11]
- 2:15 **Development of an Integrated System to Rinse, Sanitize and Cool Fresh-Market Strawberries.** Drew F. Schiavone, S.A. Sargent and A.D. Berry, Horticultural Sciences Department, UF. (adberry@ufl.edu) [HP-12]

2:30 Handling & Processing Section Business Meeting: Michelle Danyluk

2:45 Break

C – Field Trip

3:00 Depart for Florida Orange Grove Winery. 1500 Pasadena Avenue, South, St. Petersburg, FL 337087. Phone: 800-338-7923.

3:45 Florida Orange Grove Winery Tour (<http://www.floridawine.com/>)

4:45 Return to Clearwater

5:30 End of afternoon session

6:00 Industry Reception (*Madiera/Indian Shores & Foyer; Included in paid conference registration*)

Tuesday Morning Session

(10:00 a.m. – 12:00 p.m.)

9:50 Welcome and Introductions, Michelle Danyluk

D – Postharvest Quality

10:00 Correlations between Subjective Quality Evaluations and Quantitative Analysis of Fresh Fruits and Vegetables. Cecilia N. Nunes, Department of Cell Biology, Microbiology and Molecular Biology, University of South Florida, Tampa. (mariacecilia@usf.edu) [HP-13]

10:15 Postharvest Quality of Forced-Air Cooled or Hydrocooled Strawberry. Vanessa Caron, M. Carnelossi, S. Sargent and A. Berry. Horticultural Sciences Department, UF. (sasa@ufl.edu) [HP-14]

10:30 Mango Fruit Aroma Volatile Production Following Quarantine Hot Water Treatment and Subsequent Ripening. Jeffrey K. Brecht and K. Cordasco; Horticultural Sciences Dept., UF. A.J. Lounds-Singleton, and S.A. Talcott, Food Science & Human Nutrition Department, UF; E.A. Baldwin, USDA, ARS, US Horticultural Research Laboratory, Fort Pierce. (jkbrecht@ufl.edu) [HP-15]

10:45 Temperature and Relative Humidity Conditions During Transport of Commercial Gift Fruit Citrus Shipments. Mark A. Ritenour, Indian River Research and Education Center, UF, and P.D. Spyke, Arapaho Citrus Management, Inc., Fort Pierce. (Ritenour@ufl.edu) [HP-16]

11:00 **A New Clamshell to Decrease Moisture Loss and Extend Storage Life of Small Fruit.** Jinhe Bai, E. Baldwin, A. Plotto, X. Sun, L. Wang, Z. Wang, J. Narciso, USDA, ARS, US Horticultural Research Laboratory, Fort Pierce; and C. Seavert, Oregon State University, Corvallis, OR. (Jinhe.bai@ars.usda.gov) [HP-17]

E – Processing

11:15 **Lipid-Based Edible Coatings Improved Shelf Life and Sensory Quality of White Bell Peppers (*Capsicum annuum* L.) without Affecting Ascorbic Acid Content.** Amy H. Simonne, Department of Family, Youth and Community Sciences, UF; C.M. Moore and N.R. Green, Department of Nutrition and Food Science, Auburn University, Auburn, AL; E.H. Simonne, M.G.F. Chowdhury, and J. K. Brecht, Horticultural Sciences Department, UF; R.D. Hagenmaier, USDA, ARS, Citrus & Subtropical Products Laboratory, Winter Haven; F.M. Woods, Department of Horticulture, Auburn University, Auburn, AL; R.R. Eitenmiller, Department of Food Science and Technology, University of Georgia, Athens, GA. (asim@ufl.edu) [HP-18]

11:30 **Effect of Edible Coatings to Preserve Physico-Chemical and Sensory Quality for Fresh and Cooked Zucchini Products.** M. Teresa Blanco-Díaz and R. Font, Instituto de Investigación y Formación Agraria y Pesquera, Almería, Spain. A. Plotto, J. Bai, J. Narciso and E.A. Baldwin, USDA, ARS, US Horticultural Research Laboratory, Fort Pierce. (liz.baldwin@ars.usda.gov) [HP-19]

11:45 **Low Ester Unpurified Citrus Pectin for Use as Suspension Stabilizers for Industrial Applications.** Gary Luzio and R. Cameron, USDA, ARS, US Horticultural Research Laboratory, Fort Pierce. (gary.luzio@ars.usda.gov) [HP-20]

12:00 **End of Program**

12:00 **Extension Luncheon** (*Madiera/Indian Shores; Event ticket required*)

Natural Resources Section: Barton Wilder,
Presiding
(bwilder@ufl.edu)

Monday Morning Session

(10:00 – 12:15 p.m.) Longboat Key 2

10:00 Welcome and Introductions: Barton Wilder

A – Alternative Energy and Agritourism

10:15 **Status Check on Florida Agritourism, Who's Running the Show?** Mary Henry, UF/IFAS Extension Polk County. (mbhenry@ufl.edu) [NR-1]

10:30 **Solar Energy Applications for Small Farms and Home Gardens.** Edmund L. Thralls and R.V. Tyson, UF/IFAS Extension Orange County. (ethralls@ifas.ufl.edu) [NR-2]

B – Invasive Pest Management

10:45 **Ambrosia Beetles in Florida – Good News and Bad News.** Jiri Hulcr, School of Forest Resource and Conservation, UF/IFAS. (hulcr@ufl.edu) [NR-3]

11:00 **Preliminary Investigations on an Integrated Pest Management Scheme to Protect Barn Owls and Agricultural Workers from Invasive Africanized Honey Bees.** Richard N. Raid, EREC, UF/IFAS, C. A. Efstathion and W.H. Kern, FLREC, UF/IFAS. (rnraid@ufl.edu) [NR-4]

11:15 Break

11:45 **Can Herbicide Usage be Reduced by Practicing IPM for Waterhyacinth (*Eichhornia crassipes*) Control?** Lyn A Gettys, S.N. Sardes and C. J Della Torre III, FLREC, UF/IFAS. (lgettys@ufl.edu) [NR-5]

C – Student Competitions

12:00 **Evaluating the Efficacy of Aquatic Herbicides on Emergent *Rotala* (*Rotala rotundifolia*).** Carl J Della Torre III, L.A. Gettys and S.N. Sardes, FLREC, UF/IFAS. (dellatorrec@ufl.edu) (lgettys@ufl.edu) (Student Best oral Presentation Competition Entry) [NR-6]

12:15 **End of Morning Session/Lunch on your own** (at Watercolour Grillhouse or Watercolour Lounge or Kokomos Bar & Grille or Pizza Hut Express)

Monday Afternoon Session

(1:30 – 3:45 p.m.)

1:25 Welcome and Introductions: **Barton Wilder**

D – Nutrient Management

1:30 **Engaging Homeowner Associations to Reduce Nutrient Runoff in Stormwater Ponds.** Michelle Atkinson, UF/IFAS Extension Manatee County, P. Monaghan and E. Ott, Agricultural Education and Communication, UF/IFAS, G. Hansen, Environmental Horticulture, UF/IFAS. (michelleatkinson@ufl.edu) [NR-7]

1:45 **Are Homeowners Willing to Pay a Price Premium for Environmentally Friendly Lawn Fertilizers?** Hayk Khachatryan, and G. Zhou, MREC, UF/IFAS, M. Dukes, Department of Agricultural and Biological Engineering, UF/IFAS. (hayk@ufl.edu) [NR-8]

2:00 **Fertilizer and Irrigation Education: My Brevard Yard for the Protection of the Indian River Lagoon.** Matthew Lenhardt, S. Scalera, L. Seals, UF/IFAS Extension Brevard County. (lenhardt@ufl.edu) [NR-9]

2:15: **Break**

2:30: **Alternative Uses for Forage Crops.** Joao Vendramini, RCREC, UF/IFAS. (jv@ufl.edu) [NR-10]

3:30 **Natural Resources Section Business Meeting: Lyn Gettys**

3:45 **End of Afternoon Session**

6:00 **Industry Reception** (*Madiera/Indian Shores & Foyer, included in your conference registration*)

Tuesday Morning Session

(10:00 a.m. – 12:00 p.m.)

9:50 Welcome and Introductions, **Lyn Gettys**

E – Aquaponics Production in Florida

10:00 **Aquaponics 101.** Richard V. Tyson, UF/IFAS Extension Orange County. (rvt@ufl.edu) [NR-11]

11:00 Growing Plants with Fish. William Falls and P. Reasons, Morning Star Fishermen, LLC, Dade City, FL. (wfalls001@tampabay.rr.com) [NR-12]

12:00 End of Program



Citrus Section:

Barrett Gruber,
Presiding
(bgruber@ufl.edu)

Monday Morning Session

(10:00 a.m. – 12:00 p.m.) *Siesta Key*

9:50 Welcome and Introductions: Barrett Gruber

A – Anatomy and Physiology of Disease

- 10:00 **Leaf Carbohydrate and Nutritional Responses to Stem Girdling and Drought Stress with Respect to Understanding HLB (Greening) Symptoms in Citrus Leaves.** G. Cimo, R. LoBianco, Department of Agriculture and Forestry Sciences, University of Palermo, Palermo, Italy, P. Gonzalez, W. Bandaranayake, E. Etxeberria, and J.P. Syvertsen, CREC, UF. (jmsn@ufl.edu) [C-1]
- 10:15 **Enzyme digestion of HLB-infected tissues: A better approach to study phloem.** Naveen Kumar, E. Etxeberria, Craig Brodersen, and C. Narciso, CREC, UF. (naveengupta266@ufl.edu) [C-2]
- 10:30 **Seasonal Production of Phloem Tissue in HLB-Affected Trees.** Craig Brodersen, C. Narciso, M. Reed, and E. Etxeberria, CREC, UF. (reedmm89@ufl.edu) [C-3]
- 10:45 **Root Density and Water Uptake of Trees Infected with Huanglongbing.** D.M. Kadyampakeni, K.T. Morgan, SWFREC, UF, and A.W. Schumann, CREC, UF. (dkadyampakeni@ufl.edu) [C-4]
- 11:00 **Preliminary Data on Water Uptake by Huanglongbing Infected Trees.** D.M. Kadyampakeni, and K.T. Morgan, SWFREC, UF. (dkadyampakeni@ufl.edu) [C-5]

B – Production and Harvesting

- 11:15 **The Florida Citrus Soil Water Atmosphere Plant (SWAP) Project: Review and Final Summary of Yields and Tree Health.** Leon H. Allen, USDA-ARS, CMAVE, Gainesville, FL, D.V. Calvert, M. Cohen, R.R. Pelosi, IRREC, UF, J.S. Rogers, USDA-ARS, CMAVE, Gainesville, FL, and E.H. Stewart, USDA-ARS, USHRL, Fort Pierce, FL. (Hartwell.Allen@ars.usda.gov) [C-6]
- 11:30 **Decision-support Program for Managing Citrus Fertigation.** A.W. Schumann, CREC, UF. (schumaw@ufl.edu) [C-7]
- 11:45 **Growth, Health, and Liberibacter asiaticus Titer for Diverse Citrus Scions on Mandarin vs. Trifoliate Hybrid Rootstocks in a Field Planting**

with **Severe Huanglongbing**. Ed Stover and G. McCollum, USDA-ARS, USHRL, Fort Pierce, FL. (ed.stover@ars.usda.gov) [C-8]

12:00 End of Morning Session/Lunch on your own (at Watercolour Grillhouse or Watercolour Lounge or Kokomos Bar & Grille or Pizza Hut Express)

Monday Afternoon Session

(2:00 – 4:45 p.m.)

1:50 Welcome and Introductions: Barrett Gruber

2:00 Foliar Sprays of Delegate WG and Closer 240 SC with Adjuvants for Control of Asian Citrus Psyllid and Citrus Leafminer. Jawwad A. Qureshi, B. Kostyk, and P.A. Stansly, SWFREC, UF. (jawwadq@ufl.edu) [C-9]

2:15 Plant Growth Regulator Tests to Reduce Preharvest Fruit Drop from Citrus Trees Affected with Huanglongbing. L. Gene Albrigo. CREC, UF. (albrigo@ufl.edu) [C-10]

C – Student Competitions

2:30 Rapid In-Field Diagnosis of Huanglongbing Disease Using Computer Vision. Alireza Pourreza, W. Lee, ABE, UF, and E. Etxeberria, CREC, UF. (apourreza@ufl.edu) (wslee@ufl.edu) (Student Best Oral Presentation Competition Entry) [C-11]

2:45 Selection of a Suitable Method to Determine Boscalid Sensitivity in *Alternaria alternata*, the Causal Agent of Alternaria Brown Spot of Citrus. B. Vega and M. Dewdney, CREC, UF. (byron.vega@ufl.edu) (Student Best Oral Presentation Competition Entry) [C-12]

3:00 Metalized Polyethylene Mulch to Reduce Incidence of Huanglongbing and Improve Growth of New Citrus Plantings. Scott Croxton and P.A. Stansly, SWFREC, UF. (croxtsd@ad.ufl.edu) [C-13]

3:15 Citrus Section Business Meeting: Camile Esmel McAvoy

3:30 Break

D – Production and Harvesting, continued

3:45 Citrus Undercover Production Systems: A New Environment for Disease and Cultural Management of Fresh Fruit. Barrett R. Gruber, B.J. Boman, IRREC, UF, A.W. Schumann, F.G. Gmitter, and J.W. Grosser, CREC, UF. (bgruber@ufl.edu) [C-14]

- 4:00 **Mechanical Harvesting with and without CMNP-The Fort Basinger Experience.** [Fritz Roka](#), B. Ebel, B. Hyman, SWFREC, UF, and T. Spann, California Avocado Commission, Irvine, CA. (fmroka@ufl.edu) [C-15]
- 4:15 **Development of Harvesting Equipment Systems for Higher Density Citrus Grove Architectures.** [Tom Burks](#), N. Aldisory, ABE, UF, B. Castle, CREC, UF, F. Roka, SWFREC, UF, and L. Jones, Gardinier Florida Citrus. (tburks@ufl.edu) [C-16]
- 4:30 **The Status of Mechanical Harvesting.** [Jackie K. Burns](#), CREC, UF. (jkbu@ufl.edu) [C-17]
- 4:45 **End of Afternoon Session**
- 6:00 **Industry Reception** (*Madiera/Indian Shores & Foyer, included in your conference registration*)

Tuesday Morning Session

(10:00 a.m. – 12:00 p.m.) Siesta Key

- 9:50 **Welcome and Introductions:** **Camille Esmel McAvoy**

E – Antimicrobials

- 10:00 **Can WashGard (carnauba wax adjuvant) applications deter phloem feeding insects on woody plants?** [Mahmut Dogramaci](#), C. Campbell, Valent Bio Sciences, L. Osborne and J. Narciso. (Mahmut.Dogramaci@valentbiosciences.com) [18]
- 10:15 **Chemical control of the citrus HLB- the challenges and potential applications.** [Yongping Duan](#) USDA-ARS, USHRL For Pierce, FL; M. Zhang and C.A. Powell, IRREC, IFAS, University of Florida, Fort Pierce, FL. (YongPing.Duan@ARS.USDA.GOV) [19]
- 10:45 **Overview of Bactericide Research Being Conducted on Citrus Greening.** [John Ramos](#), R.G. Shatters, Jr., and E. Stover, USDA, ARS, U. S. Horticultural Research Laboratory, Fort Pierce, FL. (Robert.Shatters@ARS.USDA.GOV) [20]
- 11:15 **The Use of Laser to Enhance Penetration of Antimicrobials into Citrus Leaves.** [E. Etxeberria](#), CREC, UF. (eetxeber@ufl.edu) [C-21]
- 12:00 **End of Program**

In-Service Training Tuesday Afternoon Session

Longboat Key 1

Parallel Session I:

Urban Irrigation and 4R Plant Nutrition

1:15-1:20	Welcome and Introduction	Don Rainey Mike Thomas
1:20-1:45	Using Social Science to put Science into Action: Understanding How to Motivate Homeowners to Increase Outdoor Water Conservation	Liz Felter
1:45-2:05	Basic Calculation of Turfgrass Irrigation Requirements	Kati Migliaccio
2:05-2:35	4Rs and how they fit in with urban work.	Don Rainey
2:35-2:55	Rate:UF Recommendations - Soil testing, sampling and change from Mehlich 1 to Mehlich 3	Kelly Morgan
3:00-3:15	Coffee Break	
3:15-3:45	Source: N Loading research, N Release Curves, Turf Responses	Laurie Trenholm
3:45-4:15	Place: Fertilizer Application and Fate	Gurpal Toor
4:15-4:45	Timing: Overview of Warm-Season Grass Growth and Fertilizer Timing	Laurie Trenholm
4:45-5:00	Questions and Discussion	Don Rainey/Panel

Longboat Key 2

Parallel Session II:

Agricultural Irrigation and 4R Plant Nutrition

1:15-1:20	Welcome and Introduction to Irrigation Systems in Florida	Lincoln Zotarelli
1:20-1:50	Current situation and directions of the agricultural water demands and polices in Florida	Ray Scott
1:50-2:15	Design and management factors that reduce irriga- tion efficiency	Brian Boman

2:15-2:40	Technological advances for irrigation and soil water management in agriculture	Kati Migliaccio
2:40-3:00	Evapotranspiration, irrigation scheduling and nutrient movement	Kelly Morgan
3:00-3:30	Coffee Break	
3:30-5:00	Sections by irrigation system, division in three major groups	See table below
5:00-5:10	Final remarks and directions to GCREC June 4th	Lincoln Zotarelli

Longboat Key 2

Sections by Irrigation System: Seepage Irrigation

3:30-4:00	Effectiveness of Water and Nutrient Management Practices: Water Use, Quality, and Economics	Sanjay Shukla
4:00-4:30	Conversion of seepage to drip irrigation/plastic mulch	Charles Barrett
4:30-5:00	Seepage vs. alternative irrigation systems	Lincoln Zotarelli

Cedarwood 1

Sections by Irrigation System: Drip Irrigation

3:30-4:00	Irrigation Sources, well installation and sizing	Jeff Ullman
4:00-4:30	Basic calculation of irrigation crop irrigation requirements	Kelly Morgan
4:30-5:00	The success history of the drip irrigation academy in north Florida	Bob Hochmuth

Cedarwood 2

Sections by Irrigation System: Overhead Irrigation

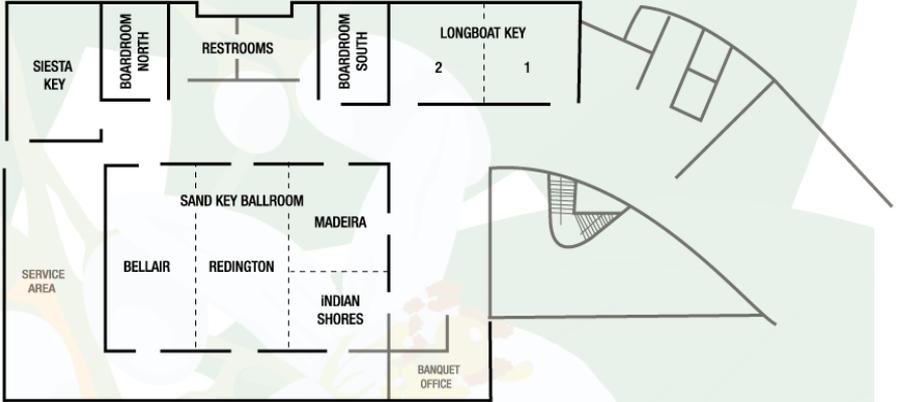
3:30-4:00	Drought tolerance of crops under overhead irrigation management	Diane Rowland
4:00-4:30	Use of soil moisture sensors for irrigation scheduling	Mace Bauer
4:30-5:00	The transition from seepage to overhead irrigation	David Liu

Day 2 - June 4, 2014, Balm, FL.

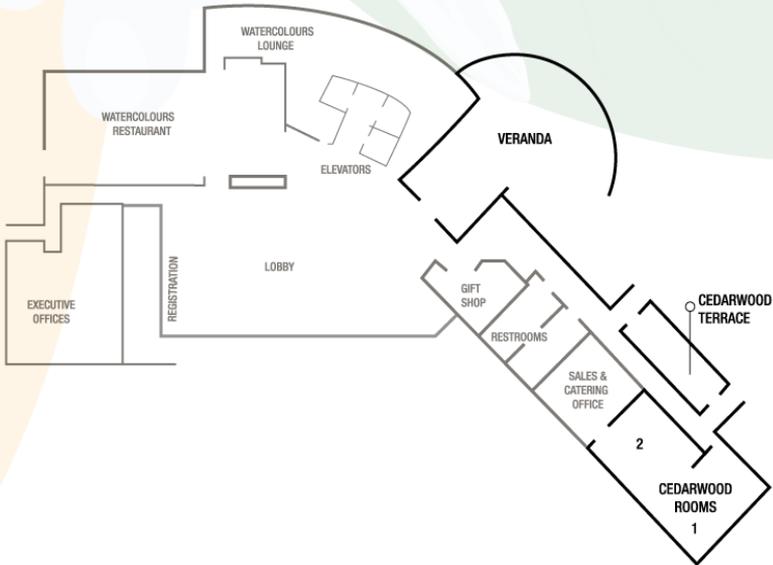
**Agricultural Irrigation and 4R Plant Nutrition In-Service Training
Gulf Coast Research and Education Center, Balm, FL**

Clearwater Beach Marriott Suites Map

MEETING LEVEL SECOND FLOOR



LOBBY LEVEL GROUND FLOOR



Notes



Notes



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