

ashs'14

Orlando, Florida

July 28–31



American Society
for
Horticultural Science

2014 Annual Conference Program

Rosen Plaza Hotel
Orlando, Florida



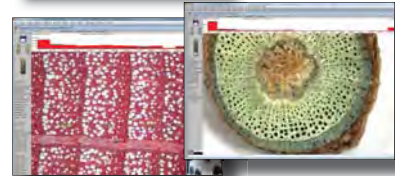
WinSCANOPY™

- Canopy structure and Solar radiation
- Plant canopy health/stress (NDVI)
- Camera, calibrated fisheye lens, self-leveling mount, electronic compass,...



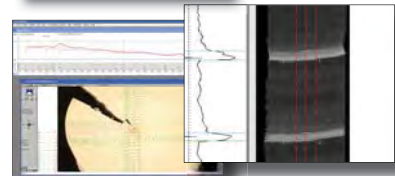
WinCELL™

- Wood-cell structure parameters over annual rings
- Analysis of one or more rings per image
- Data computed on yearly basis in a format compatible with WinDENDRO™



WinDENDRO™

- Tree rings from disks, cores, X-ray films and digital X-ray systems
- Cross-dating graphic, correlation functions, detrending,...
- Wood density and earlywood/latewood boundary



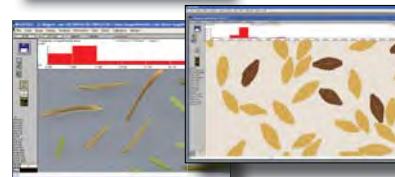
WinFOLIA™

- Leaf morphology
- Leaf shape (Fractals), aspect ratio and form coefficient
- Healthy, diseased and pest damage areas



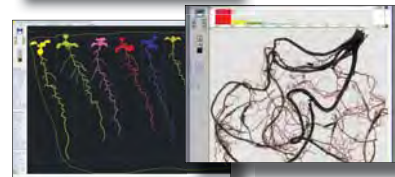
WinSEEDLE™

- Seed and needle morphology
- Counts and classification of seeds and needles
- Healthy, diseased and pest damage areas



WinRHIZO™

- Washed root morphology, topology, link, and architecture
- Automatic analysis of Arabidopsis seedlings
- Healthy, diseased and pest damage areas



WinRHIZO™ Tron

- Morphology, architecture and topology of roots growing in soil
- Roots must be traced manually with a mouse or by touching the screen of a tablet computer



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American Society for Horticultural Science

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July 2014

Dear ASHS 2014 Conference Participants,

Welcome to the 111th ASHS Annual Conference in Orlando, Florida! On behalf of the Board of Directors, ASHS staff, Technical Committee, and volunteers, we welcome you to sunny Florida. We hope these next few days will be filled with information you can use, relaxation and reflection that will inspire your work, as well as good times with colleagues and new friends.

If you are an **undergraduate student**, I hope you feel welcome, meet new colleagues and leave inspired to make a difference in horticultural science. Come to the Service Project on Monday morning, July 28, and meet fellow students. Talk to new people, go on a tour and see how many talks and posters you can review before your head starts to spin! May this conference help you fulfill your dreams.

If you are a **graduate student**, I hope you find colleagues to challenge and collaborate with your research ideas and projects. You are in the perfect spot to meet leaders in horticulture, to network for your dream job and to expand your knowledge. I look forward to meeting you, since one of you will very likely be leading this society 10 years from today.

If you are an **active member**, thank you for attending. With hundreds of abstracts to review and presentations crammed into a few days, it's a busy time, with choices to make every hour! I hope the conference meets your needs. If you have a topic you think should be on the agenda, bring it up to the appropriate Working Group, or talk to me or another Board member. The Society is only as good as we, the active members, make it.

If you are an **emeritus member**, thank you for your continued attendance. You are one of the reasons our Society remains strong. I urge you to reach out to the students here and welcome them, ask what they are interested in and tell them what horticulture means to you.

When you leave the conference this year, I hope you will feel the importance of ASHS, have learned about the new national initiative to promote horticulture, and feel inspired, refreshed and renewed. Remember the value and fulfillment of the Conference begins with you

Sincerely,



Mary Hockenberry Meyer

ASHS President

ASHS Annual Conference

July 28–31, 2014 • Orlando, FL

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Please Note: All information in regard to scheduling for the ASHS–2014 Annual Conference is up-to-date as of the time this program goes to print. During the Conference, check the online program or at the registration desk for any updates.

General Information

Conference Facilities: All conference activities will take place at the Rosen Plaza Hotel, Orlando, Florida, unless otherwise stated. Please check the detailed program and schedule for exact room locations.

Registration: The conference registration desk is located at Registration Counters A/B. Operation hours are:

Sunday, July 27	3:00–6:00 PM
Monday, July 28	7:30 AM–6:00 PM
Tuesday, July 29	7:30 AM–5:00 PM
Wednesday, July 30	7:30 AM–5:00 PM
Thursday, July 31	7:30 AM–3:00 PM

Posters: Posters are located in Ballroom A/B/C.

Set-up:

Sunday, July 27	2:00–5:00 PM
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Viewing hours:

Monday, July 28	9:00 AM–4:00 PM
Monday, July 28	6:00 PM–7:00 PM
Tuesday, July 29	9:00 AM–5:00 PM
Wednesday, July 30	9:00 AM–5:00 PM
Thursday, July 31	9:00 AM–1:45 PM

Note: All posters must be removed between 1:45 PM and 2:30 PM on Thursday, July 31.

Exhibits: Exhibitors are located in Ballroom A/B/C.

Exhibitor move-in:

Sunday, July 27	2:00–5:00 PM
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Exhibitor move-out:

Thursday, July 31	2:00–5:00 PM
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Open to attendees:

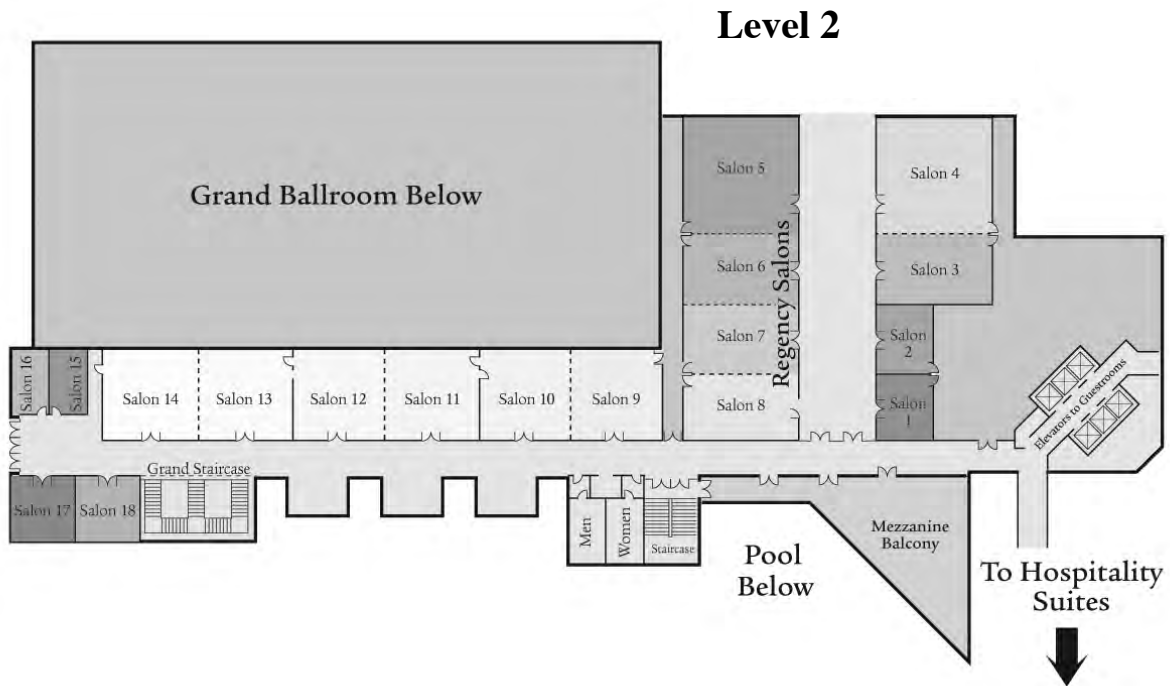
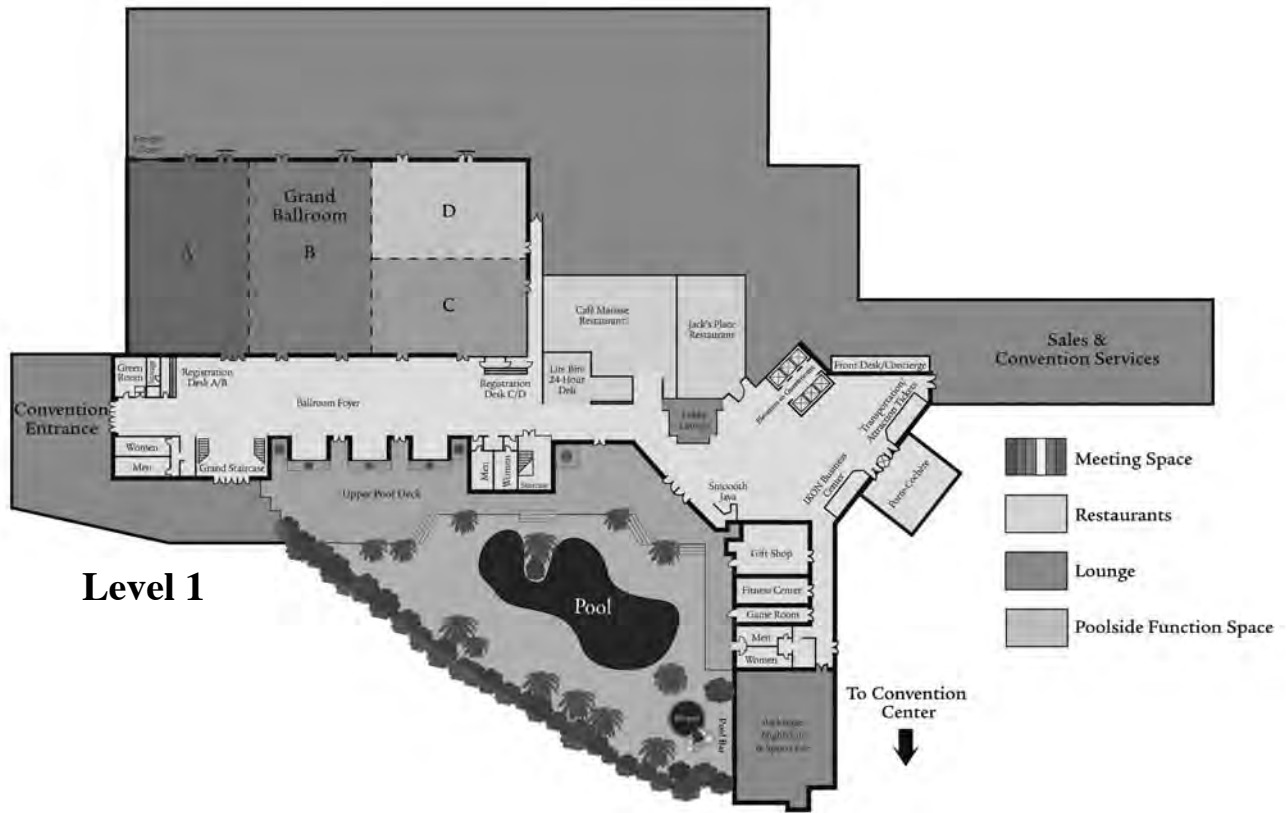
Monday, July 28	9:00 AM–4:00 PM
Monday, July 28	6:00 PM–7:00 PM
Tuesday, July 29	9:00 AM–5:00 PM
Wednesday, July 30	9:00 AM–5:00 PM
Thursday, July 31	9:00 AM–2:00 PM

Speaker Ready Room Hours: The Speaker Ready Room is located in Salon 15.

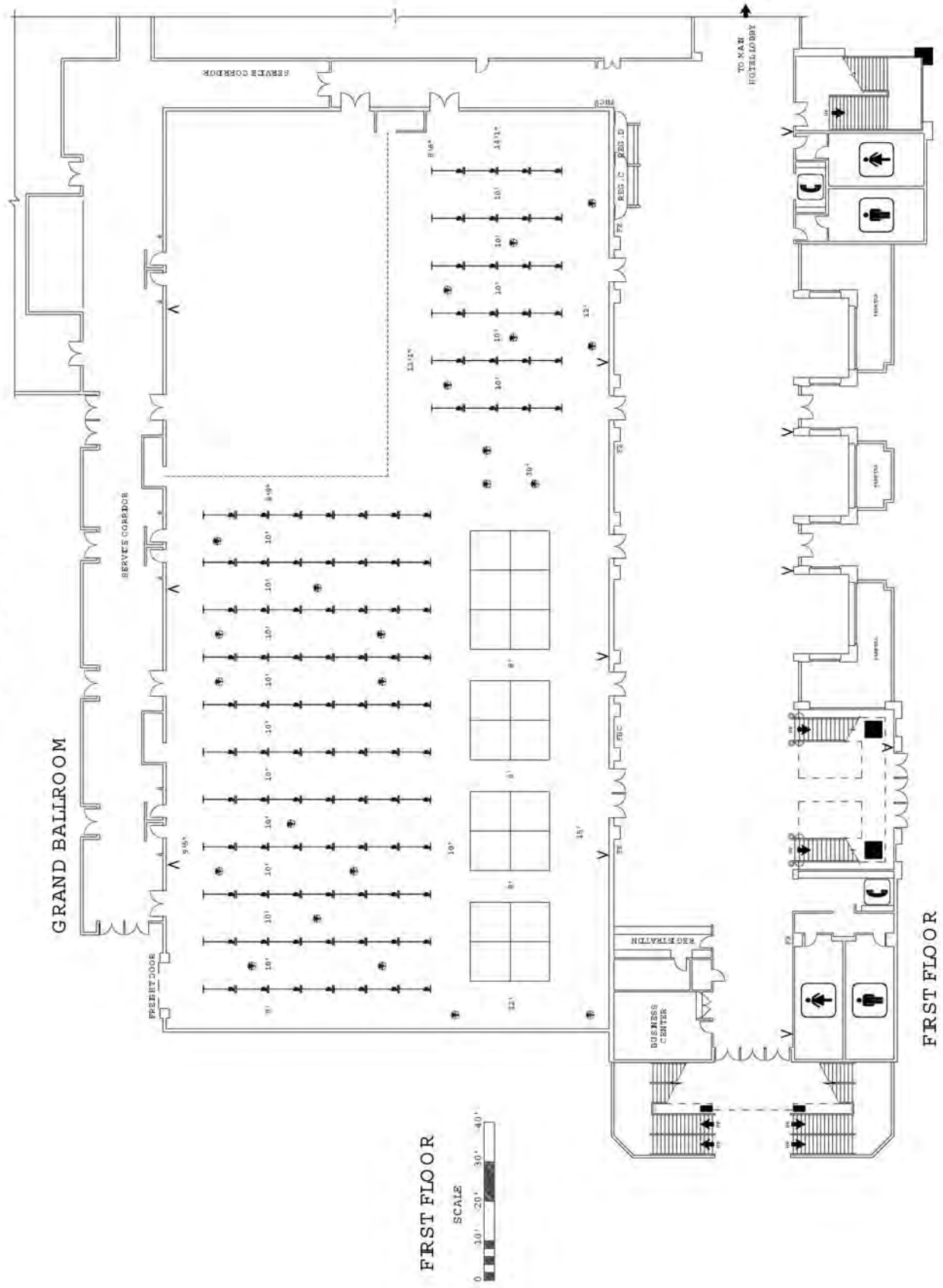
All speakers in Oral, Workshop or Colloquium sessions are required to check in at the Speakers Ready Room at least 24 hours in advance of their presentation.

Sunday, July 27	3:00–7:00 PM
Monday, July 28	7:00 AM–6:00 PM
Tuesday, July 29	7:00 AM–6:00 PM
Wednesday, July 30	7:00 AM–6:00 PM
Thursday, July 31	7:00 AM–2:00 PM

Hotel Map/Floor Plan



Grand Ballroom (Poster and Exhibit Hall)



CONFERENCE AT-A-GLANCE (subject to change)

	7 am	8 am	9 am	10 am	11 am	12 noon	1 pm	2 pm	3 pm	4 pm	5 pm	6 pm	7 pm	8 pm	9 pm
	Tour—Florida Citrus Production Practices: New Possibilities														
	Service Project: Undergraduate Student Activity (6:30-9:30 AM) <i>Departs from Convention Entrance</i>														
	Opening Plenary Session and William A. (Tex) Frazier Lecture Ballroom D														
	Award Recipient Reception (by invitation) Salon 4														
	Root & Bulb Vegetable Crop Germplasm Committee (RBV-CGC) Committee Mtg. Salon 17														
	Colloquium: Recent Advances in Perennial Berry Crop Nutrition and Directions for Future Research Salon 13/14														
	Computer Applications in Horticulture (COMP) WG Bus. Mtg. Salon 2														
	Intellectual Property Rights Issues (IPR) WG Bus. Mtg. Salon 2														
	Herbs, Spices, Horticulture and Medicinal Plants (HSMMP) WG Bus. Mtg. Salon 2														
	Genetics & Germplasm (GG) WG Bus. Mtg. Salon 6														
	Graduate Student WG Bus. Mtg. Salon 6														
	Federal Partners WG Bus. Mtg. Salon 6														
	Environmental Stress Physiology (STRS) WG Bus. Mtg. Salon 6														
	Open Meeting of U.S. Rosaceous Genomics, Genetics and Breeding Executive Committee Salon 18														
	Industry Division Advisory Council (CH) Board Mtg. Salon 18														
	Propagator (PROP) WG Bus. Mtg. Salon 1														
	Roundtable: Standardization of LED Lighting for Horticultural Applications Salon 9/10														
	Workshop: USDA-ARS: Highlights on Citrus Research in Florida Salon 8														
	Workshop: Indigenous Herbal Medicines in Florida and Recent Developments in Cannabis Regulation and Cultivation Salon 11														
	Workshop: Technological Innovations in Smart Device and Computer Usage for Extension and Teaching Salon 12														
	Oral Session: Vegetable Crops Mgt. 2 Salon 5														
	Oral Session: Produce Quality, Safety, & Health Properties Salon 7														
	Undergraduate Student Oral Competition Salon 11														
	Poster Sessions														
	Graduate Student Poster Competition: 2														
	Citrus Crops														
	Genetics & Germplasm 1														
	Nursery Crops														
	Plant Nutrition														
	Economics														
	Mgt														
	Postharvest 1														
	Water, Salinity & Mgt														
	Teaching Methods 1														
	Vegetable Crops Mgt. 1														
	Posters are located in Ballroom A/B/C														
	Oral Session: Vegetable Crops Mgt. 1 Salon 11														
	Oral Session: Fruit Breeding 1 Salon 7														
	Oral Session: Water Utilization & Mgt. 1 Salon 5														
	Oral Session: Propagation Salon 8														
	Workshop: Peer Review of Non-journal Article Teaching or Extension Tools: Should We, Shouldn't We, Could We? Salon 12														
	Research Div. Advisory Council Mtg. Salon 18														
	Crucifer Crop Germplasm Committee Mtg. Salon 17														
	Workshop: Gateways to International Horticulture—Potentials and Challenges Salon 11														
	Workshop: Graduate Student Tool Kit Salon 9/10														
	Workshop: Nickola Ivanovich Navolov: Plant Genetic Resources Pioneer and Hero Salon 8														
	Workshop: Promoting Horticulture: A New National Initiative to Recruit the Next Generation of Horticulture Professionals Ballroom D														
	Oral Session: Temperate Tree Nut Crops & Tropical Horticultural Crops Salon 5														
	Oral Session: Water Utilization & Management 2 Salon 7														
	Undergraduate Student Poster Competition 1 Ballroom A/B/C														
	Pre-conference Events														
	Sunday, July 27														
	8:00 AM-4:45 PM Organic and Urban Farm Tour in Central Florida ... <i>Departs from the Convention Entrance</i>														
	2:00-5:00 PM Exhibitor and Poster Set-upBallroom A/B/C														
	3:00-6:00 PM Registration Open:Registration Counters A/B														
	4:00-5:00 PM Moderator Training SessionSalon 5														
	Monday, July 28														
	Registration: 7:30 AM-6:00 PM														
	Registration Counters A/B7:30 AM-6:00 PM														
	Exhibits Open: Ballroom A/B/C9:00 AM-4:00 PM														
	6:00-7:00 PM														
	Poster Hall Open: Ballroom A/B/C9:00 AM-4:00 PM														
	Hours:														
	Registration:														
	Registration Counters A/B7:30 AM-6:00 PM														
	Exhibits Open: Ballroom A/B/C9:00 AM-4:00 PM														
	6:00-7:00 PM														
	Poster Hall Open: Ballroom A/B/C9:00 AM-4:00 PM														

CONFERENCE AT-A-GLANCE (subject to change)

	7 am	8 am	9 am	10 am	11 am	12 noon	1 pm	2 pm	3 pm	4 pm	5 pm	6 pm	7 pm	8 pm	9 pm	
	Tour—Mosaic Company Phosphate Mine															
	International Division Break/Fast Salon 4															
	Project Leaders: National Strawberry Sustainability Initiative Program Salon 18															
	Break Ballrooms: A/B/C															
	Consumer Horticulture & Master Gardeners (CFMG) WG Bus. Mgt. Salon 2															
	Human Issues in Horticulture (HII) WG Bus. Mgt. Salon 6															
	Plant Biotechnology (BTCH) WG Bus. Mgt. Salon 6															
	Marketing & Economics (MKEC) WG Bus. Mgt. Salon 12															
	Water Utilization & Management (WUM) WG Bus. Mgt. Salon 9/10															
	Workshop: Spotlight on Centers for Innovation in Research & Development Salon 8															
	Workshop: The Role of Qualitative Research to Further the Understanding of the Horticultural Level Experience Salon 13/14															
	Workshop: The Science of Consumer Horticulture Salon 12															
	Oral Session: Growth Chambers & Controlled Environments 1 Salon 5															
	Oral Session: Postharvest 2 Salon 9/10															
	Oral Session: Teaching Methods Salon 7															
	Oral Session: Vegetable Crops Mgt. 3 Salon 11															
	Workshop: Eye Tracking Technology Revolutionizes Horticultural Consumer Research Salon 12															
	Workshop: Irrigation Systems and Current Technologies Available for Use in Vegetable Crop Production Salon 9/10															
	Oral Session: Viticulture & Small Fruits 2 Salon 5															
	Oral Session: Genetics & Germplasm 3 Salon 8															
	Oral Session: Ornamentals/Landscape & Turf Salon 13/14															
	Oral Session: Crop Physiology Salon 13/14															
	Oral Session: Organic Horticulture Salon 11															
	Oral Session: Public Horticulture Salon 7															
	Poster Sessions															
	Crop Physiology, Genetics & Germplasm 4, Growth Chambers & Controlled Environments 2, Ornamental Plant Breeding, Vegetatively Crops Mgt., Posters are located in Ballroom A/B/C															
	Poster Sessions															
	BioEnergy, Floriculture 3, Organic Horticulture 2, Horticulture, Plant Physiology, Growth Chambers & Controlled Environments 2, Viticulture & Small Fruits 3, Posters are located in Ballroom A/B/C															
	Oral Session: Nursery Crops 2 Salon 12															
	Oral Session: Viticulture & Small Fruits 2 Salon 9/10															
	Oral Session: Pomiculture 3 Salon 7															
	Oral Session: Plant Biotechnology 3 Salon 8															
	Oral Session: Environmental Stress Physiology Salon 11															
	Oral Session: Growth Chambers & Controlled Environments 2 Salon 13/14															
	Oral Session: Vegetable Breeding Salon 5															
	Poster Sessions															
	BioEnergy, Floriculture 3, Organic Horticulture 2, Horticulture, Plant Physiology, Growth Chambers & Controlled Environments 2, Ornamental Plant Breeding, Vegetatively Crops Mgt., Posters are located in Ballroom A/B/C															
	ASHS Board of Directors Mtg.															
	Salon 18															
	Post-conference Tour Friday, August 1															
	8:00 AM-5:45 PM															
	Fruit Processing, Marketing and Challenges in the Sunshine State															
	Departs from the Convention Entrance															
	Thursdays, July 31															
	Registration: (Registration Counters A/B)7:30 AM-3:00 PM															
	Exhibits Open: (Ballroom A/B/C)9:00 AM-2:00 PM															
	Poster Hall Open (Ballroom A/B/C)9:00 AM-1:45 PM															

Meetings and Activities of ASHS Committees, Working Groups, and Other Official Bodies

Includes Tours and Special Events (subject to change)

ASHS ADVISORY COUNCIL/BOARD/COMMITTEE MEETINGS

Advisory Councils

Education Division Advisory Council	Wednesday, July 30	8:00–9:00 AM	Salon 18
Extension Division Advisory Council	Tuesday, July 29	4:00–5:00 PM	Salon 18
Industry Division Advisory Council	Monday, July 28	3:00–4:00 PM	Salon 17
International Division Advisory Council	Tuesday, July 29	9:00–10:00 AM	Salon 18
Research Division Advisory Council	Monday, July 28	9:00–10:00 AM	Salon 18

Boards/Committees

Annual Conference Technical Program Committee	Tuesday, July 29	3:00–4:00 PM	Salon 18
ASHS Board of Directors	Thursday, July 31	12:00–5:00 PM	Salon 18
Awards Committee	Tuesday, July 29	8:00–9:00 AM	Salon 17
Certified Horticulturist (CH) Board	Monday, July 28	4:00–6:00 PM	Salon 18
Certified Professional Horticulturist (CPH) Board	Tuesday, July 29	3:00–5:00 PM	Salon 17
Collegiate Activities Committee (CAC)	Wednesday, July 30	9:00–10:00 AM	Salon 18
Consulting Editors	Wednesday, July 30	12:00–1:00 PM	Salon 9/10
Endowment Fund Committee	Tuesday, July 29	11:00 AM–12:00 PM	Salon 17
Fellows Screening Committee	Tuesday, July 29	10:00–11:00 AM	Salon 18
Graduate Student Activities Committee	Tuesday, July 29	9:00–10:00 AM	Salon 17
<i>HortScience</i> Editorial Board	Wednesday, July 30	10:00–11:00 AM	Salon 18
Horticulture Hall of Fame Selection Committee	Tuesday, July 29	2:00–3:00 PM	Salon 17
Horticultural Landmarks Selection Committee	Monday, July 28	3:00–4:00 PM	Salon 18
<i>Journal of the ASHS</i> Editorial Board	Wednesday, July 30	11:00–12:00 PM	Salon 18
Membership Committee	Tuesday, July 29	12:00–2:00 PM	Salon 18
Nominations and Elections Committee	Wednesday, July 30	1:00–2:00 PM	Salon 18
Scholarship Awards Committee	Wednesday, July 30	10:00–11:00 AM	Salon 17
SRASHS Executive Committee	Wednesday, July 30	8:00–10:00 AM	Salon 17
William A. (“Tex”) Frazier Lecture Selection Committee	Wednesday, July 30	11:00 AM–12:00 PM	Salon 17

ASHS WORKING GROUP MEETINGS

All Working Group Chairs & Chairs-Elect Monday, July 28 8:00–9:00 AM Salon 9/10

Education Division

Education Division Advisory Council Wednesday, July 30 8:00–9:00 AM Salon 18

Computer Applications in Horticulture (COMP) Working Group Monday, July 28 12:00–1:00 PM Salon 2

Emeriti (EMER) Working Group Wednesday, July 30 11:00–12:00 PM Salon 1

Graduate Student (GRAD) Working Group Monday, July 28 3:00–4:00 PM Salon 6

History of Horticultural Science (HIST) Working Group Monday, July 28 1:00–2:00 PM Salon 2

Teaching Methods (TCHG) Working Group Tuesday, July 29 12:00–1:00 PM Salon 6

Undergraduate Student (UG) Working Group Tuesday, July 29 5:00–6:00 PM Salon 6

Extension Division

Extension Division Advisory Council Tuesday, July 29 4:00–5:00 PM Salon 18

Commercial Horticulture (CHEX) Working Group Wednesday, July 30 11:00 AM–12:00 PM Salon 2

Consumer Horticulture and Master Gardeners (CHMG) Working Group Thursday, July 31 10:00–11:00 AM Salon 2

eXtension (EEXT) Working Group Wednesday, July 30 1:00–2:00 PM Salon 6

Industry Division

Industry Division Advisory Council Monday, July 28 3:00–4:00 PM Salon 17

Intellectual Property Rights (IPR) Working Group Monday, July 28 2:00–3:00 PM Salon 2

Marketing and Economics (MKEC) Working Group Thursday, July 31 12:15–1:15 PM Salon 12

International Division

International Division Advisory Council Tuesday, July 29 9:00–10:00 AM Salon 18

Association of Horticulturists of Indian Origin (AHIO) Working Group Wednesday, July 30 3:00–4:00 PM Salon 1

International Horticultural Consultants (ICON) Working Group Tuesday, July 29 12:00–1:00 PM Salon 2

International Horticulture and Issues (IHI) Working Group Monday, July 28 3:00–4:00 PM Salon 2

Tropical Horticultural Crops (TROP) Working Group Wednesday, July 30 12:00–1:00 PM Salon 2

Working Group of Asian Horticulture (WGAH) Wednesday, July 30 2:00–3:00 PM Salon 1

Members At Large

Federal Partners (FP) Working Group Monday, July 28 4:00–5:00 PM Salon 6

Research Division (commodity)

Research Division Advisory Council	Monday, July 28	9:00–10:00 AM	Salon 18
Citrus Crops (CITR) Working Group	Wednesday, July 30	10:00–11:00 AM	Salon 2
Floriculture (FLOR) Working Group	Tuesday, July 29	6:00–7:00 PM	Salon 6
Fruit Breeding (FRBR) Working Group	Wednesday, July 30	11:00 AM–12:00 PM	Salon 6
Growth Regulators in Fruit and Nut Production (PGR) Working Group	Wednesday, July 30	12:00–1:00 PM	Salon 6
Herbs, Spices, and Medicinal Plants (HSMP) Working Group	Monday, July 28	4:00–5:00 PM	Salon 2
Nursery Crops (NUR) Working Group	Tuesday, July 29	6:00–7:00 PM	Salon 7
Ornamental Plant Breeding (OPB) Working Group	Wednesday, July 30	3:15–4:00 PM	Salon 12
Ornamentals/Landscape and Turf (O/LT) Working Group	Tuesday, July 29	9:00–10:00 AM	Salon 6
Pomology (POM) Working Group	Tuesday, July 29	3:00–4:00 PM	Salon 6
Temperate Tree Nut Crops (NUTS) Working Group	Wednesday, July 30	9:00–10:00 AM	Salon 1
Vegetable Breeding (VGBR) Working Group	Tuesday, July 29	9:00–10:00 AM	Salon 2
Vegetable Crops Management (VCM) Working Group	Tuesday, July 29	2:00–3:00 PM	Salon 6
Viticulture and Small Fruits (VSF) Working Group	Tuesday, July 29	1:00–2:00 PM	Salon 6

Research Division (cross-commodity)

Research Division Advisory Council	Monday, July 28	9:00–10:00 AM	Salon 18
BioEnergy (BioE) Working Group	Wednesday, July 30	2:00–3:00 PM	Salon 2
Crop Physiology (CRPP) Working Group	Wednesday, July 30	8:00–9:00 AM	Salon 6
Environmental Stress Physiology (STRS) Working Group	Monday, July 28	1:00–2:00 PM	Salon 6
Genetics and Germplasm (GG) Working Group	Monday, July 28	2:00–3:00 PM	Salon 6
Growth Chambers and Controlled Environments (CE) Working Group	Monday, July 28	12:00–1:00 PM	Salon 6
Human Issues in Horticulture (HIH) Working Group	Thursday, July 31	10:00–11:00 AM	Salon 6
Invasive Plants Research (INPR) Working Group	Tuesday, July 29	6:00–7:00 PM	Salon 11
Local Food Systems (LOCSY) Working Group	Wednesday, July 30	3:00–4:00 PM	Salon 6
Organic Horticulture (ORGH) Working Group	Wednesday, July 30	10:00–11:00 AM	Salon 6
Plant Biotechnology (BTCH) Working Group	Thursday, July 31	11:00–12:00 PM	Salon 6
Plant Nutrient Management (PNM) Working Group	Wednesday, July 30	9:00–10:00 AM	Salon 6
Plasticulture (PLAST) Working Group	Tuesday, July 29	10:00–11:00 AM	Salon 6
Postharvest (PH) Working Group	Tuesday, July 29	4:00–5:00 PM	Salon 6

Produce Quality, Safety, and Health Properties (QUAL) Working Group	Tuesday, July 29	6:00–7:00 PM	Salon 13/14
Production and Harvest Mechanization (MECH) Working Group	Wednesday, July 30	8:00–9:00 AM	Salon 2
Propagation (PROP) Working Group	Monday, July 28	12:00–1:00 PM	Salon 1
Public Horticulture (PUBHORT) Working Group	Wednesday, July 30	2:00–3:00 PM	Salon 6
Root Growth and Rhizosphere Dynamics (RHIZ) Working Group	Tuesday, July 29	4:00–5:00 PM	Salon 2
Seed and Stand Establishment (SSEST) Working Group	Wednesday, July 30	12:15–1:15 PM	Salon 12
Waste Utilization in Horticulture (WUH) Working Group	Wednesday, July 30	1:00–2:00 PM	Salon 2
Water Utilization and Management (WUM) Working Group	Thursday, July 31	12:15–1:15 PM	Salon 9/10
Weed Control and Pest Management (WCPM) Working Group	Wednesday, July 30	8:00–9:00 AM	Salon 1

SPECIAL EVENTS

APS Tropical Fruit Tasting	Wednesday, July 30	4:00–5:00 PM	Salon 13/14
ASHS Opening Plenary Session and William A. (“Tex”) Frazier Lecture	Monday, July 28	10:00 AM–12:00 PM	Ballroom D
Awards Recipient Reception (by Invitation)	Monday, July 28	12:00–1:00 PM	Salon 4
2014 B.Y. Morrison Lecture	Tuesday, July 29	4:00–5:00 PM	Salon 9/10
B.Y. Morrison Reception	Tuesday, July 29	5:00–6:00 PM	Salon 9/10
Certified Horticulturist Examination	Wednesday, July 30	1:00–5:00 PM	Salon 17
Extension & Industry Division Breakfast	Wednesday, July 30	8:00–10:00 AM	Salon 4
Moderator Training Sessions			
Sunday	Sunday, July 27	4:00–5:00 PM	Salon 5
Monday	Monday, July 28	8:00–9:00 AM	Salon 13/14
Open Meeting of U.S. Rosaceae Genomics, Genetics and Breeding Executive Committee	Monday, July 28	1:00–3:00 PM	Salon 18
Precision Breeding of Muscadine Grapes for Disease Resistance and Seedlessness	Wednesday, July 30	2:00–6:00 PM	Salon 18
Presidential Address and ASHS Annual Business Meeting	Wednesday, July 30	4:00–5:30 PM	Ballroom D
Project Leaders—National Strawberry Sustainability Initiative Program	Thursday, July 31	8:00–10:00 AM	Salon 18
Root and Bulb Vegetable Crop Germplasm Committee (RBV-CGC) Meeting	Monday, July 28	12:00–2:00 PM	Salon 17
Roundtable Discussion on the Standardization of LED Lighting for Horticultural Applications	Monday, July 28	1:45–3:45 PM	Salon 9/10

Scholars Ignite—Student Competition	Tuesday, July 29	6:15–9:15 PM	Salon 12
SR–ASHS Executive Committee	Wednesday, July 30	8:00–10:00 AM	Salon 17
USDA–ARS All Employee Meeting	Tuesday, July 29	6:00–7:00 PM	Salon 9/10
USDA–SCRI Eastern Broccoli Project Working Group Meeting	Thursday, July 31	10:00–12:00 PM	Salon 17
Young or Early Career Faculty and Professional Leadership Symposium/Competition	Tuesday, July 29	6:15–9:15 PM	Salon 8

BREAKFASTS, BREAKS, LUNCHEONS, RECEPTIONS

Breakfasts

Administrators Working Group Breakfast	Tuesday, July 29	8:00–10:00 AM	Salon 4
International Division Breakfast	Thursday, July 31	8:00–10:00 AM	Salon 4

Breaks

Monday	Monday, July 28	9:30–10:00 AM	Ballroom A/B/C
Tuesday	Tuesday, July 29	9:45–10:15 AM	Ballroom A/B/C
Wednesday	Wednesday, July 30	9:45–10:15 AM	Ballroom A/B/C
Thursday	Thursday, July 31	9:45–10:15 AM	Ballroom A/B/C

Luncheons

Pi Alpha Xi Luncheon/Annual Meeting	Tuesday, July 29	12:00–2:00 PM	Salon 4
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Receptions

Student Reception	Wednesday, July 30	5:30–6:30 PM	Pool Side Upper Deck
Welcome Reception	Monday, July 28	6:00–7:00 PM	Ballroom A/B/C

EXHIBITS, POSTERS, REGISTRATION

Exhibits

Open to attendees:	Monday, July 28	9:00 AM–4:00 PM	Ballroom A/B/C
	Monday July 28	6:00–7:00 PM	Ballroom A/B/C
	Tuesday, July 29	9:00 AM–5:00 PM	Ballroom A/B/C
	Wednesday, July 30	9:00 AM–5:00 PM	Ballroom A/B/C
	Thursday July 31	9:00 AM–2:00 PM	Ballroom A/B/C
Exhibitor Set-up	Sunday, July 27	2:00–5:00 PM	Ballroom A/B/C
Exhibitor Move-out	Thursday, July 31	2:00–5:00 PM	Ballroom A/B/C

Poster Hall

Open to attendees	Monday, July 28	9:00 AM–4:00 PM	Ballroom A/B/C
	Tuesday, July 29	9:00 AM–5:00 PM	Ballroom A/B/C
	Wednesday, July 30	9:00 AM–5:00 PM	Ballroom A/B/C
	Thursday July 31	9:00 AM–1:45 PM	Ballroom A/B/C
Poster Set-up	Sunday, July 27	2:00–5:00 PM	Ballroom A/B/C
Poster Removal	Thursday, July 31	2:00–5:00 PM	Ballroom A/B/C

Registration

Hours:	Sunday, July 27	3:00–6:00 PM	Registration Counters A&B
	Monday, July 28	7:30 AM–6:00 PM	Registration Counters A&B
	Tuesday, July 29	7:30 AM–5:00 PM	Registration Counters A&B
	Wednesday, July 30	7:30 AM–5:00 PM	Registration Counters A&B
	Thursday, July 31	7:30 AM–3:00 PM	Registration Counters A&B

STUDENT EVENTS

Graduate & Undergraduate Student Working Group Morning Gatherings	Monday, July 28	8:00–8:30 AM	Smooth Java (Hotel Lobby)
	Tuesday, July 29	8:00–8:30 AM	Smooth Java (Hotel Lobby)
Service Project–Student Activity	Monday, July 28	6:30–9:30 AM	Departs from the Convention Entrance–Rosen Plaza
Student Reception	Wednesday, July 30	5:30–6:30 PM	Pool Side Upper Deck

Graduate

Controlled Environments Student Competition	Wednesday, July 30	6:30–9:45 PM	Salon 9/10
Graduate Student (GRAD) Working Group Business Meeting	Monday, July 28	3:00–4:00 AM	Salon 6
Graduate Student Poster Competition			
Session 1	Monday, July 28	12:15–1:00 PM	Ballroom A/B/C
Session 2	Monday, July 28	1:00–1:45 PM	Ballroom A/B/C
Session 3	Tuesday, July 29	12:15–1:00 PM	Ballroom A/B/C
Session 4	Tuesday, July 29	1:00–1:45 PM	Ballroom A/B/C
Session 5	Wednesday, July 30	12:15–1:00 PM	Ballroom A/B/C
Session 6	Wednesday, July 30	1:00–1:45 PM	Ballroom A/B/C
Scholars Ignite Student Competition	Tuesday, July 29	6:15–9:15 PM	Salon 12

Undergraduate

Association of Collegiate Branches (ACB) Annual Business Meeting	Wednesday, July 30	12:15–1:45 PM	Salon 8
Controlled Environments Student Competition	Wednesday, July 30	6:30–9:45 PM	Salon 9/10

Horticultural Commodity Judging Contest and Plant Identification Contest Set-up	Tuesday, July 29	8:00–10:00 AM	Ballroom D
Horticultural Commodity Judging Contest and Plant Identification Contest	Tuesday, July 29	10:00 AM–1:00 PM	Ballroom D
Horticultural Commodity Judging Plant Identification Written Examination	Tuesday, July 29	10:00 AM–1:00 PM	Ballroom D
Undergraduate Oral Competition	Monday, July 28	12:15–1:45 PM	Salon 11
Undergraduate Poster Competition			
Session 1	Monday, July 28	2:30–4:00 PM	Ballroom A/B/C
Session 2	Tuesday, July 29	2:00–4:00 PM	Ballroom A/B/C
Undergraduate Student (UG) Working Group Business Meeting	Tuesday, July 29	5:00–6:00 PM	Salon 6

TOURS *Tours depart from the Convention Entrance–Rosen Plaza unless otherwise specified.*

Florida Citrus Production Practices: New Possibilities	Monday, July 28	7:00 AM–5:15 PM
Fruit Processing, Marketing and Challenges in the Sunshine State	Friday, August 1	8:00 AM–5:45 PM
Organic and Urban Farm Tour in Central Florida	Sunday, July 27	8:00 AM–4:15 PM
The Mosaic Company Phosphate Mine Tour	Thursday, July 31	7:00 AM–2:30 PM
Three Facets of Public Horticulture	Tuesday, July 29	8:00 AM–5:00 PM

MEETINGS OF AFFILIATED ORGANIZATIONS

American Pomological Society (APS) Annual Business Meeting	Wednesday, July 30	5:00–6:30 PM	Salon 13/14
American Pomological Society (APS) Executive and Advisory Board Meeting	Tuesday, July 29	6:00–9:00 PM	Salon 18
Crucifer Crop Germplasm Committee	Monday, July 28	4:00–6:00 PM	Salon 17
Leafy Vegetable Crop Germplasm Committee Meeting	Monday, July 28	8:00–10:00 AM	Salon 2
Pi Alpha Xi Luncheon/Annual Meeting	Tuesday, July 29	12:00–2:00 PM	Salon 4
Project Leaders—National Strawberry Sustainability Initiative Program	Thursday, July 31	8:00–10:00 AM	Salon 18
Root and Bulb Vegetable Crop Germplasm Committee (RBV–CGC) Meeting	Monday, July 28	12:00–2:00 PM	Salon 17
SR–ASHS Executive Committee Meeting	Wednesday, July 30	8:00–10:00 AM	Salon 17
USDA–SCRI Eastern Broccoli Project Working Group Meeting	Thursday, July 31	10:00 AM–12:00 PM	Salon 17
USDA–ARS All Employee Meeting	Tuesday, July 29	6:00–7:00 PM	Salon 9/10

Graduate Student Poster Competition Schedule

Please note that the Graduate Student Poster Competition Presentation Time may be the same as your scheduled poster presentation time in the ASHS Technical Program. If it is not the same, you must be present at both times.

SESSION 1 Monday, July 28: 12:15–1:00 PM

Ballroom A/B/C

(Poster #)	Paper Title	Name, Email, Affiliation
(002)	Effects of Antitranspirants on Enhancing Temporary Drought Tolerance in Bedding Plants	Suejin Park, separk@mix.wvu.edu, West Virginia Univ.
(004)	Application of 1-MCP and Plastic Film Packaging for Extending Shelf-life of Cluster Type Tomatoes	NaRae Han, nawrae29@naver.com, Chung-Ang Univ.
(006)	Postharvest Heated Fungicide Treatments to Control Citrus Black Spot (<i>Guignardia citricarpa</i>) on Citrus Fruits	Jiaqi Yan, yanj@ufl.edu, Univ. of Florida
(045)	Does Local Label Bias Consumer Taste Bud and Choice Behavior: Evidence of a Strawberry Sensory Experiment	Chenyi He, chenyi0617@gmail.com
(062)	Tomato Yield, Plant and Soil Nitrogen as Affected by High Tunnel and Field Production Systems Under Conventional or Organic Fertility Treatments	May Elfar Altamimi, mtamimi@ksu.edu, Kansas State Univ.
(076)	Challenges and Opportunities in Plant Identification Laboratories	Callie Wagner, cjlw521@msstate.edu
(148)	Growth Responses of Greenhouse Tomato Seedlings to Different Spectra of Supplemental Lighting Are Season-specific in a Northern Climate	Celina Gomez, cgomezva@purdue.edu, Purdue Univ.
(151)	Ratio of Red to Far-Red Light-emitting Diodes Affects Growth and Cell Cycle of Lettuce Plants	Myung-jin Lee, lmj3428@chungbuk.ac.kr, Chungbuk National Univ.
(159)	Pretreatment Effects on Seed Germination: an Interspecific Comparison of Two <i>Nyssa</i> Species	Frank D. Balestri, balestri@iastate.edu, Iowa State Univ.
(206)	Pedigree Relationships in the Univ. of Florida Southern Highbush Blueberry Germplasm	Catherine Cellon, catherinecellon@ufl.edu, Univ. of Florida
(301)	Comparing Water Use Efficiency in South Texas Furrow and Drip Irrigated Cabbage	Corina Fuentes, corinaf321@gmail.com
(311)	Inheritance of Resistance to <i>Elsinoe fawcettii</i> (Citrus Scab) in Citrus	Rachel Odom, ctigress@ufl.edu, Univ. of Florida
(314)	Development of Molecular Markers for Fresh Mandarin Flavors and Colors using a High-throughput Goldengate Assay	Yuan Yu, ymmzyz@ufl.edu, Univ. of Florida, IFAS

SESSION 2 Monday, July 28: 1:00–1:45 PM

Ballroom A/B/C

(Poster #)	Paper Title	Name, Email, Affiliation
(018)	Biochemical and Molecular Processes during Ripening and Over-ripening of Banana (<i>Musa</i> Aaa Cavendish Subgroup) Fruit	Maricruz Ramírez-Sánchez, mramirez16@ufl.edu, Univ. of Florida, FAS
(021)	Glucosinolates are Enhanced by Controlled Application of Abiotic Stresses in Broccoli (<i>Brassica oleracea</i> var. <i>italica</i>) during the Postharvest Storage	Arturo Duarte Sierra, arturo.duarte-sierra.1@ulaval.ca
(124)	What Does the Consumer Say? South Florida Survey on Ornamental Grasses	Nancy Calderone-Ripak, nunziata2@aol.com, Univ. of Florida, FLREC
(160)	Micropropagation of a Selected Clone of <i>Amelanchier alnifolia</i>	Areej Ahmed Alosaimi, are_aj_ahmed@hotmail.com, Univ. of Idaho
(163)	Cutting Type and Hormone Affect Vegetative Propagation of <i>Phlox pulchra</i>	Jeremiah J. DeVore, jjd0016@tigermail.auburn.edu, Auburn Univ.
(191)	Comparative Responses of <i>Glaucium</i> spp. to Salinity Stress	Ahmed O.M. Getlawi, ahmadomer1976@yahoo.com
(194)	Enhancing Drought Tolerance in Common Bean, the Most Widely Consumed Legume	Jesse Traub, traubjes@msu.edu, Michigan State Univ.

Graduate Student Poster Competition Schedule

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(197) Temperature Effect on Seed Germination in Spinach (<i>Spinacia oleracea</i> L.)	Jessica Chitwood, jlchitwo@email.uark.edu, Univ. of Arkansas
(248) Validating Markers Linked to Soluble Solids Content in Octoploid Strawberry	Natalia Salinas-Aponte, salinas@oregonstate.edu, Oregon State Univ.
(249) Softening Rate and Ethylene Fruit Production of Different Flesh Textures of Arkansas Peach and Nectarine Germplasm	Alejandra A. Salgado, asalgado@uark.edu, Univ. of Arkansas
(250) Incorporation of Marker-assisted Breeding (MAB) in the University of Arkansas and Three Other RosBreed Demonstration Peach Breeding Programs	Terrence Frett, tjfrett@email.uark.edu, Univ. of Arkansas
(258) Cybrids Between Dancy Tangerine (<i>Citrus reticulata</i> Blanca) and Grapefruit (<i>Citrus paradisi</i> Mafc.) for Improvement of Citrus Fruit Traits	Aditi D. Satpute, aditisatpute@ufl.edu, Univ. of Florida
(373) Grafting with Hybrid Rootstocks to Increase Tomato Productivity in the Great Plains	Lani Meyer, ljm7788@ksu.edu, Kansas State Univ.

SESSION 3 Tuesday, July 29: 12:15–1:00 PM

Ballroom A/B/C

(Poster #) Paper Title	Name, Email, Affiliation
(036) Local Fertility: Municipal and Industrial Waste as a Source of Organic Matter and Nitrogen, and Its Effect on Vegetable Yields,	Rebecca J. Long, rlong86@hotmail.com, Univ. of Rhode Island
(037) Evaluating Baby-leaf Salad Greens for Spring and Fall Production in Northwest Washington	Charlene Margaret Grahn, charlene.grahn@wsu.edu, Washington State Univ.
(100) Petunia Mutagenesis and Identification of a Self-Fertilizing Mutant for Tilling	Peng Jiang, pjiang@uga.edu, Univ. of Georgia
(101) Productivity of Direct-seeded versus Transplanted and Season-long versus Successional Plantings of Zinnia Cut Flower Field Crops	Yu Gu, ygu2@ncsu.edu, NC State Univ.
(167) Effects of Grafting Methods and Re-rooting on the Growth Characteristics of Grafted Muskmelon Plants	Wenjing Guan, wguan@ufl.edu, Univ. of Florida
(210) Determining the Genotypes for and Genetic Distances between Two Loci Controlling Caladium Leaf Spotting and Main Vein Colors	Zhe Cao, cjun01@ufl.edu, Univ. of Florida
(213) Genetic Study of Serpentine Leafminer Resistance in Valmaine Romaine Lettuce	Ramkrishna Kandel, rkkandel@ufl.edu
(215) Evaluation of Red Cabbage Genotypes for Anthocyanin Content and Quality	Alexandra Amanda Bennett, Alexandra.A.Bennett@gmail.com, Cornell Univ. NYSAES
(216) Exploring Diversity in <i>Brassica</i> Crops for Glucosinolates and Cancer Chemopreventive Bioactivity	Talon M. Becker, tbecker2@illinois.edu
(291) Low-molecular-weight Organic Acids as a Phosphorus Fertilizer Alternative for Vegetable Production in Calcareous Soil Regions	Dagoberto Osorio, dag12683@gmail.com
(331) The Use of Different Plant Growth Regulators in 'Scarlet Royal' Table Grape Production to Determine Postharvest Quality	Victoria Towers, victoriatowers@mail.fresnostate.edu, California State Univ., Fresno

SESSION 4 Tuesday, July 29: 1:00–1:45 PM

Ballroom A/B/C

(Poster #) Paper Title	Name, Email, Affiliation
(025) Detection of Coliforms in Lettuce Plants (<i>Lactuca sativa</i> cv. Black Seeded Simpson) Grown in a Municipal Sludge Compost and Peat	Grisselle Perez-Sanchez, grisselle_p@hotmail.com, Univ. of Puerto Rico, Mayaguez Campus
(129) Management of an Invasive Ornamental: Suppression of <i>Ruellia simplex</i> (Mexican Petunia) by Native Species during Initial Establishment from Seed	Adrienne M. Smith, amsmith@ufl.edu, Univ. of Florida

Graduate Student Poster Competition Schedule

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(170) Development of a Liquid Micropropagation System for <i>Asparagus officinalis</i> L.	Xinyu Chen, xchen04@uoguelph.ca, Univ. of Guelph
(173) Propagation and Growth Parameters of Preselected Pomegranate Cuttings from the USDA-ARS National Clonal Germplasm Repository	John M. Chater, john.chater@email.ucr.edu, Univ. of California, Riverside
(217) Breeding for Improved Germination under Water Stress in the Russian Dandelion	Katrina Hodgson-Kratky, katrina@uoguelph.ca, Univ. of Guelph
(218) QTL Analysis for the Identification of Loci Controlling Antioxidant Capacity in <i>Brassica oleracea</i> L. var. italica	Alicia M. Gardner, agardnr2@illinois.edu, Univ. of Illinois
(219) Collard Landraces Are Novel Sources of Glucoraphanin and Other Aliphatic Glucosinolates	Zachary Stansell, Zachary.Stansell@ars.usda.gov, USDA-ARS
(220) Integrating Genetics and Weed Management	Sarah E. Levy, szz23@wildcat.unh.edu
(261) Selection for Geosmin Production in Table Beet (<i>Beta vulgaris</i> ssp. vulgaris)	Lynn Maher, lcmaher@wisc.edu
(264) Development of SSR and SNP Markers and Association Mapping of Morphological Traits in Cowpea [<i>Vigna unguiculata</i> (L.) Walp.]	Haizheng Xiong, heixiazi2006@sina.com, Univ. of Arkansas
(270) Improving Tolerance to Bacterial Spot of Tomato through Fine Mapping of Two Quantitative Trait Loci	Jian Li, jli59@ufl.edu, Gulf Coast Research & Education Center, Univ. of Florida
(316) Assessing Avocado for Laurel Wilt Resistance, Fruit Quality, and Horticultural Traits for Production in East Central Florida	Cristina Pisani, cpisani@ufl.edu, Univ. of Florida
(319) Banana Fruit Production in More Temperate Climates: Making a Case for Banana Fruit Production in Coastal Alabama	Edgar Vinson, vinsoed@auburn.edu, Auburn Univ.
(337) Tri-trophic Level Interactions of <i>T. urticae</i> and Beneficial Inoculants in Three Strawberry (<i>Fragaria ananassa</i>) Varieties	Amanda McWhirt, almchwhir@ncsu.edu, North Carolina State Univ.

SESSION 5 Wednesday, July 30: 12:15–1:00 PM

BallroomA/B/C

(Poster #) Paper Title	Name, Email, Affiliation
(040) Determining Appropriate Drying Methods and Marketability of Native Central Texas Cut Dried Floral Materials	John Montoya, montoyaj@hawaii.edu
(109) Induction and Characterization of Tetraploids and Octoploids in <i>Impatiens (Impatiens walleriana)</i>	Weining Wang, billwang@ufl.edu, Univ. of Florida
(156) Temporary Low Temperature Accumulates Antioxidant Phenolic Compounds in Kale	Jin-Hui Lee, jhjh@cbnu.ac.kr
(157) Air Anion Improves Lettuce Growth in a Plant Factory	So-Ra, Lee, srlee@chungbuk.ac.kr, Chungbuk National Univ.
(178) Ecophysiological Performance, Growth and Yield of Four Pigeonpea Varieties under Different Planting Dates and Densities in the Southeastern United States	Dafeng Hui, dhui@tnstate.edu, Tennessee State Univ.
(271) Somatic Embryogenesis and Organogenesis of Rare Woody Species in Georgia <i>Stewartia</i> , and <i>Franklinia</i>	Heather J. Gladfelter, hjgladf@uga.edu, Univ. of Georgia
(276) Evaluation of Genotyping by Sequencing in Octoploid Strawberry	Natalia Salinas-Aponte, salinasn@oregonstate.edu, Oregon State Univ.
(277) Rapid Assay of Tissue Specific Promoters in Vitis	Dennis J. Gray, djg@ufl.edu, Univ. of Florida/IFAS
(302) Critical Period for Weed Control in Grafted versus Nongrafted Tomato	Sushila Chaudhari, schaudh@ncsu.edu, North Carolina State Univ.

Graduate Student Poster Competition Schedule

Please note that the Graduate Student Poster Competition Presentation Time may be the same as your scheduled poster presentation time in the ASHS Technical Program. If it is not the same, you must be present at both times.

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|-------|--|---|
| (304) | Effect of Simulated Glyphosate Drift to Four Potato Processing Cultivars | Amanda A. Crook, amanda.crook@my.ndsu.edu |
| (309) | Induced Systemic Acquired Resistance, After Applying Two Oxidant Based Disinfectants to Kidney Beans (<i>Phaseolus vulgaris</i>) Seedlings, Followed by a Bacterial Wilt Disease Inoculation | Vanessa Sandoval, Vanessa.Sandoval@rams.colostate.edu |
| (350) | Excessive Blanking in <i>Pistacia vera</i> cv. 'Pete 1' | Cara J. Allan, callan@ucdavis.edu, Univ. of California, Davis |
| (385) | Strip-Tillage and Row Cover Use in Organic and Conventional Cucurbit Crops | Jennifer Tillman, jtillman@iastate.edu, Iowa State Univ. |

SESSION 6 Wednesday, July 30: 1:00–1:45 PM

BallroomA/B/C

(Poster #)	Paper Title	Name, Email, Affiliation
(054)	Evaluation of Organic Alternatives for Weed Management in Pulasan (<i>Nephelium ramboutan</i> -Ake)	Virgilio Olivera-Olivera, virgilio.olivera@upr.edu
(057)	On-farm Soil Quality Testing in Organic, Integrated, and Conventional Peach Orchard Systems	Esthe Thomsen, ethomse1@gmail.com, Utah State Univ.
(111)	Controlling Flowering of Photoperiodic Ornamental Crops using Light-emitting Diode Lamps: A Coordinated Grower Trial	Qingwu Meng, mengqin1@msu.edu, Michigan State Univ.
(112)	Characterization and Comparison of Lesions from Physiological Disorders on Ornamental Sweet Potato (<i>Ipomoea batatas</i>), Tomato (<i>Solanum lycopersicum</i> var. <i>hirsutum</i> 'Maxifort'), and Interspecific Geranium (<i>Pelargonium</i> x 'Caliente Coral')	Joshua K. Craver, joshuakcraver@gmail.com, Kansas State Univ.
(182)	Changes in Carbohydrate Synthesis during Cold Acclimation in Cranberry (<i>Vaccinium macrocarpon</i>)	Faith Ndlovu, fndlovu@umass.edu, UMass Cranberry Station
(187)	Oil Smoke Point Testing of <i>Camellia oleifera</i>	Charles B. Allen, charlesallen00@gmail.com
(227)	Candidate Genes for Ornamental Traits in Blueberry	Rupesh Gaire, rupesh.gaire1@gmail.com
(235)	Establishment of in Vitro Propagation System and Induction of Autotetraploidy in <i>Monarda fistulosa</i> and <i>M. punctata</i> (Lamiaceae)	Emily L. Moeller, emoeller@uoguelph.ca, Univ. of Guelph
(242)	A Need for Speed: High Throughput Phenotyping for Rhododendron pH Adaptability	Alexander Susko, susko004@umn.edu
(339)	Determination of Cultivar-Specific Threshold Temperatures and Heat Requirements for Prediction of Budbreak, Full Bloom, and Veraison in Wine Grape	Diana M. Zapata, diana.zapatarojas@email.wsu.edu, Washington State Univ.
(347)	Analysis of the Other Half: Root Morphology of a Segregating Backcross Population between <i>Vaccinium corymbosum</i> and <i>v. Arboreum</i>	Hilda Patricia Rodriguez-Armenta, hildap@ufl.edu, Univ. of Florida
(360)	Does Rootstock and Fertilizer Choice Affect Apple Orchard Productivity and Soil Community Ecology?	Ashley A. Thompson, aat1986@vt.edu
(361)	New Rootstocks for Florida Peach Production: Horticultural Evaluation of Two New Rootstocks With Potential Resistance to the Peach Root-Knot Nematode	Mary Ann D. Maquilan, memetmaq@ufl.edu, Univ. of Florida
(365)	Simulation of Light Distribution in 3D Model of 'Gala' Apple Tree	Biyang Shi, shi144@purdue.edu, Purdue Univ.
(388)	Soilless Media Effects on Hot Peppers (<i>Capsicum chinense</i> Jacq.) Growth and Development and Root Colonization by Trichoderma	Luke O. Lee, lollee@umes.edu, Univ. of Maryland Eastern Shore

Guide to Exhibitors

Exhibitor booths are located in Ballroom A/B/C

Open to attendees:

Monday, July 28..... 9:00 AM–4:00 PM

Monday, July 28..... 6:00 PM–7:00 PM

Tuesday, July 29..... 9:00 AM–5:00 PM

Wednesday, July 30 9:00 AM–5:00 PM

Thursday, July 31 9:00 AM–2:00 PM



Booth # 115

APTHQ

C.P. 72

Rivière-du-Loup (Québec) G5R 1G7, Canada

Phone: 418-894-8883

Email: accord@tourbehorticole.com

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Booth #117

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Booth #107

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Phone: +1 (360) 833-8835 ext 203

Mobile: +1 (360) 600-8596

CID Bio-Science is an industry leader in the design and manufacture of scientific instruments for plant physiology research. Our mission is to identify and satisfy the needs of plant researchers by delivering high quality instruments that are innovative, durable and easy to use. To learn more visit us at Booth #107, and don't forget to make arrangements to join us at the "New Innovations in Commercial Horticultural Applications Workshop", Wednesday, July 30 @ 2:30 PM, Salon 11.



Booth #106

Conviron

590 Berry St., Winnipeg, MB, Canada R3H 0R9

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Email: info@conviron.com

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Booth #110

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Booth #109

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Booth #114

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Booth #121

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Booth #103

Florida State Horticulture Society

700 Experiment Station Road
Lake Alfred, FL 33850-2299
Phone: 863-956-1151

Fax: 703-836-2024

E-mail: fshs@fshs.org

<http://fshs.org/>

Established in 1888, The Florida State Horticultural Society is the oldest and largest of its kind with emphasis on research, extension, industry, and student education. In its annual meetings, the society covers a broad range of disciplines aimed at advancing all aspects of Florida horticulture. The society publishes an annual "Proceedings" which contains valuable scientific and extension information presented at the annual meeting. Through our website (www.fshs.org) you can access all our publications including the Proceedings and Newsletters. ASHS members can join our great society for \$25.00 and includes a CD copy of our annual Proceedings. Visit our display for more information and how to become a member.



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Pi Alpha Xi, National Horticulture Honor Society

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Founded in 1923, Pi Alpha Xi (PAX) the national horticulture honor society whose purpose is to recognize high scholarship, foster good relationships among its members, promote the exchange of ideas among members of the profession, and establish relations among students, educators and industry members. Chapters are established at many universities in the United States that offer programs of study in horticulture at the undergraduate and graduate levels. Each year, PAX sponsors a photography contest to recognize the art and science of horticulture.



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**ASHS would like
to thank all of this
year's attendees and
exhibitors for their
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ASHS Fellow



John M. Dole

North Carolina State University

John M. Dole is Professor and Head of the Department of Horticultural Science, NC State University.

John M. Dole was born in Grand Rapids, Michigan, starting a lifelong interest in horticulture and floriculture. He grew up working at a local farm market, growing cut flowers in his garden for sale, and picking fruit for local commercial operations. He received a BS in Horticulture from Michigan State University. He received a PhD in Horticulture from the University of Minnesota and began his first position as Assistant Professor in the Department of Horticultural Science and Landscape Architecture at Oklahoma State University. Dole moved to the Department of Horticultural Science at North Carolina State University, where he eventually became Director of Graduate Programs, Interim Department Head, and Department Head.

Dole has a strong research, teaching, extension, and outreach program. He has authored and co-authored with his students and collaborators 60 refereed journal articles, 14 symposium articles, 69 research abstracts, 20 book chapters, 5 manuals, 18 fact sheets/bulletins, 42 websites and internet publications, and 246 trade journal articles. Most notably he has written six books, including the primary floriculture textbook and industry information guide in the United States, *Floriculture Principles*

and *Species*. His students have received numerous awards including two Kenneth Post Awards for outstanding research papers. To support his research program, Dole has received through the years over \$2.5 million dollars in grants and gifts.

Dole has taught several courses over the years, most notably Greenhouse Management, Floriculture Crop Production, and the graduate-level, Physiology of Flowering. He has advised 21 current and former students at the MHS, MS, and PhD level, and served on 18 other graduate committees. His students have continued on to a variety of industry, public garden, governmental, or academic positions following completion of their graduate programs.

Although Dole has not had a formal outreach appointment, he has strong ties with the industry. He has served as Executive Advisor of the Association of Specialty Cut Flower Growers (ASCFG) since 2001. He is frequently an invited or keynote speaker at a number of national and international industry conferences, including the Ohio Shortcourse, during which times he has presented over 160 talks. He has also provided another 180 lectures to various groups, such as ASCFG, that he works with regularly. His work with the cut flower industry resulted in him receiving the Outstanding Service Award and the Allan M. Armitage Award from ASCFG. He is widely recognized for his significant research, teaching, extension, and outreach contributions to the field of floriculture, most notably in the areas of cut flower production and postharvest handling, and poinsettia physiology and cultivar evaluation.

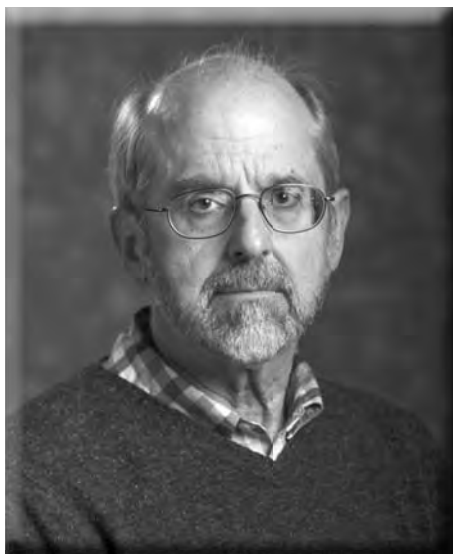
Dole has a notable publication record ranging from over 60 referred journal articles to hundreds of trade journal articles to several books, most noteworthy being co-author of the primary floriculture textbook.

His students have excelled in a variety of industry, public garden, governmental, or academic positions.

An active ASHS member since 1985, Dole has served on a number of ASHS committees, including the Outstanding Researcher Award Committee, the Outstanding Undergraduate Educators Award Committee, and he chaired the Outstanding Graduate Educator Award Committee. He has served as an Associate Editor for *HortTechnology*.

Dole is currently serving on the ASHS Board of Directors as Member-at-Large

ASHS Fellow



Wayne Loescher
Michigan State University

An active ASHS member since 1979, **Wayne Loescher** is involved in several Working Groups: Administrators (ADM), Crop Physiology (CRPP), Environmental Stress Physiology (STRS), Plant Biotechnology (BTCH). He is currently serving as a Consulting Editor for the Journal of the American Society for Horticultural Science.

Loescher shares a bit of his background in horticulture.

“I grew up in Northwest Ohio on a small truck and greenhouse vegetable farm. Went off to Miami University (Ohio) where I majored in math and botany, continued there in graduate school where I linked up with Judy Hunt, a fellow graduate student, and then on to Iowa State University for a PhD in plant physiology and biochemistry. The next stop was a postdoctoral position at ISU in plant breeding in the Agronomy Department. Spent the next two years as a research biologist at the Los Angeles Arboretum, and then on to a position in Horticulture at Washington State University where I remained for 15 years, eventually becoming professor and serving for two plus years as interim chair. After WSU I became chair of Horticulture at Michigan State University, serving in that position for 10 years, and for two years as associate dean for research and graduate studies in the College of Agriculture and Natural Resources. Since then I have been a professor in Horticulture and in the graduate program in Plant Breeding, Genetics, and Biotechnology.”

“I have been very fortunate to have been able to work at these two institutions, both with exceptionally strong plant science programs that have provided many opportunities to team up with some of the very best plant scientists in the world and to attract outstanding graduate students and postdocs. There have also been a number of overseas projects and extensive collaborations, primarily in New Zealand, France, and China. As a plant physiologist and biochemist I’ve worked on a broad range of crops, initially on oats, corn, and sorghum (at ISU), later on woody ornamentals, tree fruits (cherry and apple), vegetables (celery, potato, and beet), and more recently beans, with some work now and then on Arabidopsis. The focus was initially on cell wall metabolism, later on photosynthesis, carbohydrate metabolism and transport, and with a continuing interest on how plants respond to abiotic stresses like nutrient availability, salinity, and drought.”

As a horticultural scientist, Loescher has made major contributions to our understanding of carbohydrate metabolism in fruit trees and other horticultural species, with a focus on assimilate partitioning and sugar alcohol metabolism, transport, and function. His internationally recognized body of work has led him to be regarded as the premier U.S. scientist in this area. His work also has contributed extensively to our understanding of abiotic stress resistance mechanisms. His studies, spanning diverse horticultural species and using a combination of horticultural, physiological, biochemical and molecular approaches, provide a strong bridge between fundamental and applied research. Loescher has authored or co-authored more than 70 publications in plant science and horticultural journals, two of which were chosen as ASHS Outstanding Publications.

ASHS Fellow



Wayne Mackay

University of Florida

Wayne Mackay is Professor and Chair of the Environmental Horticulture Department at the University of Florida, Gainesville. He has contributed significantly to the horticulture industry throughout his 23 years of research, administration and service.

Mackay began his career as an Assistant Professor at the Texas Agricultural Experiment Station in El Paso. As his career at Texas A&M developed, his research efforts culminated in six cold-hardy oleander (*Nerium oleander*) cultivars, two Big Bend bluebonnet (*Lupinus havardii*) cultivars, and two Texas bluebonnet (*Lupinus texensis*) cultivars. In addition, his work was instrumental in the granting of a utility patent for the Big Bend Bluebonnet and the trademark registration for the Texas SuperStar® program.

During his tenure at the Texas A&M Experiment Station in Dallas, Mackay initiated his administrative career. He was tapped to be the Associate Resident Director, where his expertise in handling people and tough situations was immediately recognized. He was wooed away from Texas by the University of Florida to become the Professor and Center Director for the University of Florida, IFAS, Mid-Florida Research and Education Center. This position was unique in that a large pharmacy program was offered at the station including student housing and distance education offerings in other disciplines. In other words, he was the director of a mini-campus for the university. Wayne is now Professor and Chair of the Environmental Horticulture Department on the main campus.

During his career, Mackay also balanced his service contribution to numerous institutions, societies and organizations. He is currently the President Elect for Southern Region-ASHS and Chair of the ASHS Horticulture Administrators Working Group. He has also served ASHS as Professional Tour Coordinator, Section Chair, and Session Moderator. Wayne is also distinguished by his service contributions to the Plant Growth Regulation Society of America, where he has served as President and Executive of the Steering Committee, Session Moderator, Symposium Organizer and member of the Public Relations Committee. Mackay has also provided service to the Tissue Culture Association of America, International Oak Society and to numerous Master Gardener groups across the country.

Election as a Fellow of the Society is the highest honor that ASHS can bestow upon its members. The honor is in recognition of truly outstanding contributions to horticulture and the Society.

ASHS Fellow



Cynthia B. McKenney
Texas Tech University

Cynthia McKenney presently serves as the Rockwell Professor of Horticulture and Associate Chair in the Department of Plant and Soil Science at Texas Tech University where she has been on faculty for 29 years. During that time, she has conducted research on native plants resulting in 8 germplasm releases and 2 plant patents. Given native plants have had little documentation, much of her research efforts have focused on best production and management practices for native plants in semiarid regions. She has been PI or Co-PI on external support totaling over \$3,000,000 and has generated two books and 40 refereed publications.

McKenney has an EdD in Higher Education Administration and has overseen the development and implementation of the distance education program for the department including three online degree programs and four online graduate certificate programs. Given her expertise in higher education, McKenney has served on Dean's Advisory Committees for two institutions of higher education and has been an expert consultant for the agriculture program at the University of Louisiana, Layette. She has received 10 teaching awards and has served on 52 graduate committees.

McKenney has also conducted 32 agricultural workshops. As a member of a transdisciplinary team working on food security in sub-Saharan Africa, she has a new research focus including the production of native fruits and vegetables using a sustainable agroforestry system in Kenya.

McKenney has served ASHS on the Educational Advisory Board, chairing the Teaching Methods Working Group, chairing the Ornamentals and Turf Working group, working on the Outstanding Undergraduate Selection Committee, moderating the Undergraduate Education Oral Section and reviewing manuscripts for both HortScience and HortTechnology.

The first ASHS Fellows were elected in 1965.

ASHS Fellow



Gregory L. Reighard

Clemson University

Gregory Reighard has published more than 550 papers and abstracts and has received numerous awards or honors from his University, professional societies, including the ASHS and his industry. His grant awards total more than \$19 million with \$5 million for his research program. In addition, he has served on national and international editorial boards and scientific committees. He also is a member of the executive committee for Southern Region-ASHS and is also the long-time (~20 years) chair of the peach rootstock section of the NC-140 Regional Working Group and chair of the Peach Section for the International Society of Horticultural Science. His research has been presented at more than 380 professional meetings including 30+ international ones with 160+ of the presentations being invited talks.

Reighard's field research on rootstock testing, peach tree dormancy, bloom delay, crop load management strategies, and adapting mechanical technologies has helped increase peach production in the southeastern United States significantly in the past 15 years. His trademarked Guardian® rootstock is the number one peach rootstock used in the southeastern United States. Seed sales from a licensing agreement have exceeded \$2 million with about 13 years left on the PVP.

Besides being a world authority on *Prunus* sp. rootstocks and peach culture, many of his refereed papers that he is co-authored originated from his genomics research by his graduate students. These gene discoveries in the annotated peach genome are now available for Marker Assisted Breeding to incorporate important horticultural traits and therefore improve peach tree productivity and orchard efficiency. His basic genetics research is now coming to fruition for producers after many years of work in the laboratory and field.

Reighard has been an active ASHS member since 1985 and involved in several Working Groups including: Environmental Stress Physiology (STRS), Pomology (POM), Root Growth and Rhizosphere Dynamics (RHIZ), Seed and Stand Establishment (SSEST), Temperate Tree Nut Crops (NUTS), and Viticulture and Small Fruits (VSF).

In 2006, he received the ASHS Fruit Breeding Working Group Outstanding Fruit Cultivar Award for 'BY520-9' Guardian, peach rootstock.

A call for nominations is issued each Fall and award winners are recognized at the following Annual Conference.

ASHS Fellow



Robert E. Paull

University of Hawaii at Manoa

Robert E. Paull, currently a Professor at the University of Hawaii at Manoa, has this to say about his horticulture career.

“I have been involved for over 30 years in research and teaching, and as a consultant to commercial companies, and national and international programs. This experience has included leadership positions as a convenor of symposium, workshops and college task forces, elected faculty senator, faculty association board member, and as chairman of a University Department with 24 faculty for thirteen years.”

“The area of research interest is in the postharvest handling and storage of tropical fruits, vegetables and ornamentals. The development of an integrated harvest and postharvest handling system requires an evaluation of the whole marketing chain and the determination of the added economic value of each technology under consideration. The research has covered production approaches to improving product quality of tropical fruits, vegetables and ornamentals, insect disinfestation and handling and marketing of these products. This research has led to improvement in production practices, and the postharvest handling and marketing. All the research is done in conjunction and support of local industries and individual growers, shippers and marketers.”

Paull has published numerous books and articles during his career. He received the ASHS Fruit Publication Award for most outstanding paper on fruit crops, for paper “Heat Shock Response in Field Grown, Ripening Papaya Fruit”(JASHS 115:623-631) in 1992. Awards from other organizations include: Fellow of the International Society for Horticultural Science (2014) and SEAsia 2013 - Vientiane, Lao “Special Recognition for Excellent Contribution to Global Postharvest Horticulture” (2013).

Paull joined ASHS in 1979 and is active in several Working Groups.

His instructional contributions include a postharvest physiology course, sharing a graduate course in plant growth and development, and reinvigorating an undergraduate plant physiology course. He has advised 10 MS and 14 PhD students and served on the committees of six more MS and 20 PhD students. Additionally, he found funds to mentor a number of high school scholars during summer periods.

A roster of all ASHS award winners to date can be found on the website

Outstanding Extension Educator



Terence L. Robinson
Cornell University

Terence Robinson (Cornell University Department of Horticulture) works on applied physiology and management of tree fruits for the development and integration of orchard management systems. His effort is critical to the entire Cornell tree fruit production research, and includes pruning and training systems, thinning for crop control, growth regulation, irrigation, rootstock evaluation and overall integration of knowledge into practical management systems for pome and stone fruits. He has led the development of an Integrated Fruit Production program, important to apple industry to be able to improve sustainability and marketability of products.

Robinson collaborates with both fundamental scientists in physiology and genomics and with more applied researchers, extension specialists, growers, and industry suppliers. Recently, he led the adaptation of an online automation of physiological models supporting grower practices in thinning (carbohydrate models of tree sensitivity) and an apple-specific model irrigation. His program is known to be amongst the best and most innovative orchard systems research and extension program in the world.

Robinson is in demand as a lecturer and graduate student advisor in orchard systems. Nationally and internationally he is in great demand as an invited speaker to almost every pome fruit growing state or nation on orchard systems and fruit tree rootstock evaluation. His research has been recognized by the international research community with his multiple elections as the Chair to lead the International Society for Horticultural Science Working Group on Orchard Systems. The International Dwarf Fruit Tree Association, a leading grower organization, awarded him their highest award for contributions to modern fruit growing. His fluency in Spanish has greatly improved the extension of research to many farm workers at all levels who normally do not receive such education. He has significantly raised Cornell's reputation in integrated tree fruit research

Robinson joined ASHS in 1983.

The ASHS Outstanding Extension Educator Award recognizes an educator who has made an outstanding and valuable contribution to horticultural science extension education.

ASHS Career Award

Outstanding Graduate Educator



Kimberly Moore

University of Florida, FLREC

Kimberly (Kim) Moore is a professor of Environmental Horticulture at the University of Florida Fort Lauderdale Research and Education Center (FLREC), where she is referred to as the “go to” person for help in developing distance education classes. Her teaching and research focus is on sustainable production practices for ornamental plants, specifically substrate, fertilizer, and water management.

Her current research is on the use of reclaimed waste water to grow containerized ornamental plants.

She has a strong record in mentoring graduate students and an excellent record of publication in peer-reviewed journals, averaging approximately two articles a year. She has chaired doctoral and master student committees and serves on numerous additional graduate committees.

Moore advises three MS students, three PhD students, and two Doctor of Plant Medicine students in her lab. She teaches four on-line undergraduate courses and two online graduate courses as well as coordinates live environmental horticulture laboratories for students living in the Fort Lauderdale area.

Moore is a graduate of the Sloan Consortium for Online Teaching and a North American Colleges and Teachers Association. She was named NACTA Fellow in June 2011.

Moore joined ASHS in 1990 and has been active in numerous Working Groups and Committees. She currently serves as a Consulting Editor to *HortTechnology*.

The ASHS Outstanding Graduate Educator Award recognizes an educator who has had a distinguished and outstanding graduate education teaching career in horticultural science.

ASHS Career Award

Outstanding Undergraduate Educator



Timothy J. Smalley
University of Georgia

Timothy Smalley has taught Woody Plant Identification and Use, Landscape Horticulture, Nursery Management, Horticultural Professionalism, and a Horticultural Study Abroad course at the University of Georgia (UGA). In his 24 years with UGA, he has received the Departmental Outstanding Teacher Award seven times, including the first year he taught. He received the Agricultural Alumni Teaching and the D.W. Brooks Award for Teaching Excellence, the highest awards given by his college, after only four years of teaching. Smalley was the winner of the inaugural Outstanding Advisor award for his college and chaired the Educational Affairs Action Committee for the most recent college strategic plan. He has received the Teaching Award of Merit awarded by the National Association of Colleges and Teachers of Agriculture. Smalley is one of the few select professors at the university who sits on the weekly UGA Admissions panel of professors that fields questions from potential students and their parents. His commitment to students is evident in that he has garnered almost \$80,000 in scholarships for students.

ASHS asked him to chair the Commodity Liaison Committee, which conducted an extensive nationwide survey to determine industry's opinion of our graduates. As chair, Smalley revitalized the ASHS Collegiate Activities Committee. In addition, he served as an Associate Editor for *HortTechnology* for eight years. At an ASHS meeting, an overture to encourage horticulture departments to cooperate on tours led to University of Tennessee students and professors participating in his tour.

He developed and leads the very popular Art and Gardens of the Grand Tour study abroad class at UGA. Smalley has given numerous talks on the college educational experience including the industry's perception of university horticultural curricula. He has a strong commitment not only to undergraduate education, but also to making that education relevant for students as they move ahead with their careers. Active in industry groups interested in increasing recruiting of high school students for landscaping majors, he has been asked twice to present on Woody Plant Identification to students from over sixty schools at the PLANET national student competition.

Smalley has been an active ASHS member since 1985.

The ASHS
Outstanding
Undergraduate
Educator Award
recognizes an
educator who has
had a distinguished
and outstanding
undergraduate
education
teaching career in
horticultural science.

Outstanding Industry Scientist



Kevin Forney

Fine Americas, Inc.

Kevin Forney is the Technical Services Manager at Fine Americas, Inc. His responsibilities include providing technical direction to Fine Americas' management team concerning current and potential new product development for North and South America; implementing necessary actions for product introductions and technical support; and acting as the point of contact and solution provider for internal and external inquiries regarding the technical performance of Fine Americas' plant growth regulator products.

Forney's professional career has spanned over thirty years in technical services and product development positions with several major agri-business companies, including Arysta Life-Science Corporation, Delta and Pine Land Company, American Cyanamid Company, and Valent USA Corporation.

Forney holds a Master of Science degree in Agricultural Sciences from California State University, Fresno.

The ASHS Outstanding Industry Scientist Award recognizes a horticultural crops scientist working in the private sector who has made outstanding and valuable contributions to horticultural science.

ASHS Career Award

Outstanding International Horticulturist



Edward Ewing (Ted) Carey
International Potato Center (CIP),
Ghana

Edward E. (Ted) Carey is described as someone who “captures what the International Horticulturist award seeks to honor—a noteworthy career that is contributing to the development of new breeding and management techniques concerning sweetpotato in Sub-Saharan Africa and an outstanding teacher and advisor.” He is described as “a true believer in multi-disciplinary research. He is particularly strong in seeking the opinions of farmers and collaborating scientists from national institutions in both his breeding and seed systems work.” Carey “believes in leading from behind, which helps strengthen our collaborators’ sense of ownership and willingness to contribute to joint research endeavors. He is particularly strong in working with younger scientists. He is extremely knowledgeable about sweetpotato and quite willing to question conventional wisdom about its use.”

Carey is currently in Ghana, working as a Regional Sweet Potato Breeder for the International Potato Center. Prior to that, he was an Extension Specialist and a Professor in the Dept. of Horticulture at Kansas State University. His international experiences have taken Carey around the world to Latin America and the Caribbean, Asia, Africa, the United Kingdom, and the Netherlands.

Carey joined ASHS 1980 and is active in numerous Working Groups.

The ASHS Outstanding International Horticulturist Award recognizes an international horticulturist who has made an outstanding and valuable contribution to international horticultural science, education, research and/or outreach.

ASHS Career Award

Outstanding Researcher



James Joseph Luby
University of Minnesota

James Luby is a Professor in the Department of Horticultural Science at the University of Minnesota in St. Paul. He grew up in Wisconsin, received his BS in Agronomy from Purdue University and his PhD in Plant Breeding and Genetics from the University of Minnesota. In 1982, he assumed his current faculty position at the University of Minnesota and direction of the fruit crops breeding program.

He has been involved in the introduction of 26 fruit cultivars including apple, grape, blueberry, strawberry and others. In 2007 he received the ASHS Outstanding Fruit Cultivar Award for 'Honeycrisp' apple.

He has taught courses in fruit production, viticulture, and plant breeding, and advised graduate and undergraduate students

His publication record is outstanding, covering multiple crops and multiple disciplines for over 25 years.

He has a remarkable track record of breeding a number of fruits and berry crops for desirable traits. He has developed and successfully released apple varieties that are being cultivated in not only in the United States but in various South American and European countries as well.

Luby has been active ASHS member since 1983 and was named a Fellow of the Society in 2002.

The ASHS Outstanding Researcher Award recognizes a horticultural crops scientist who has had an outstanding research record on one or more horticultural crops and in one or more areas of horticultural research.

ASHS Publication Awards

Cross-Commodity Publication Award

Identification of Proteins for Salt Tolerance Using a Comparative Proteomics Analysis of Tomato Accessions with Contrasting Salt Tolerance

J. Amer. Soc. Hort. Sci 138(5):382–394

Nveahwiah-Yoho, Peter, Jing Zhou, Marsha Palmer, Roger Sauve, Suping Zhou, Kevin J. Howe, Tara Fish, and Theodore W. Thannhauser

Education Publication Award

Marketing Genetically Modified Organism Carnations by Future Floral Designers: Student-designated Policy Formulation

HortTechnology 23(5):683–688

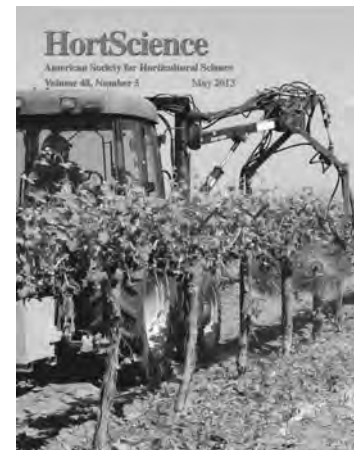
Anderson, Neil O. and Natalie J. Walker

Extension Publication Award

Training System Affects Sweet Cherry Harvest Efficiency

HortScience 48(5):547-555

Ampatzidis, Yiannis G. and Matthew D. Whiting



ASHS Publication Awards

Fruit Publication Award

Screening Antimicrobial Peptides In Vitro for Use in Developing Transgenic Citrus Resistance to Huanglongbing and Citrus Canker

J. Amer. Soc. Hort. Sci. 138(2):142-148

Stover, Ed, Richard R. Stange, Jr., T. Gregory McCollum, Jesse Jaynes, Michael Irej, and Erik Mirkov

Ornamental Publication

Four Hypotheses to Explain Axillary Budbreak after Removal of Flower Shoots in a Cut-rose Crop

J. Amer. Soc. Hort. Sci. 138(4):243-252

Wubs, A. Maaik, Ep Heuvelink, Leo F.M. Marcelis, Robert C.O. Okello, Alisa Shlyuykova, Gerhard H. Buck-Sorlin, and Jan Vos

Vegetable Publication Award

Grafting Improves Tomato Salinity Tolerance through Sodium Partitioning within the Shoot

HortScience 48(7):855-862

Di Gioia, Francesco, Angelo Signore, Francesco Serio, and Pietro Santamaria



ASHS Scholar



Hannah Estabrooks
Montana State University

“Growing up in Northern New Hampshire my mother inspired me with the many plants she propagated and the large garden beds she maintained around my parents’ 24-hour mom-n-pop gas station,” says **Hannah Estabrooks**. “When not helping my mother I was with my best childhood friend, the local golf course pro’s son. We spent endless hours on the course playing golf, searching for golf balls, and building forts.” She adds, “After high school, the fond memories of my childhood led me to take a position at a golf course where I worked as a member of the grounds maintenance crew. The combination of outdoor work, the camaraderie of the crew, seeing sunrise every day, and the opportunity to learn about horticultural practices made for a job that I truly loved.”

“I found the experience so enjoyable that I went on to spend a total of nine summers at five different golf courses. I appreciated seeing the different qualities of each course and how the individual superintendents approached the challenges of maintaining the greens so as to keep both the golfers and the grass happy. After several years I realized that I loved the work that I was involved in but wanted to know more about why we performed many of the tasks, and therefore began the Environmental Horticulture Science program at Montana State University. The program at MSU (Montana State University) offers a wonderfully developed curriculum which I additionally rounded out through certifications, such as becoming a Level II Master Gardener, getting endorsed by the Montana Nursery and Landscape Association (MNLA) as a Certified Plant Professional, becoming a Certified Pesticide Applicator through the Montana Department of Agriculture, and working to welcome incoming students as a College of Agriculture Ambassador. I worked very hard to maintain a solid 4.0 GPA throughout the entire Bachelors program while additionally serving my community through several volunteer programs, such as founding and operating as President of the MSU Turf Club, maintaining the grounds at the local pet shelter, working with Montana 1000 New Gardens in their “Coffee to Compost” recycling effort, and as a receptionist and blood drive greeter for the American Red Cross. Additionally, I was recognized for my efforts several times over the years through awards such as the Mendenhall Award, presented through the Golf Course Superintendent Association of America (GCSAA) as their top national scholar recognition, the MSU Geoff Gamble Leadership Award, the President’s Award for 100 hours of community service, and upon graduation: the Student of the Year from the department of Plant Science and Plant Pathology, and Student of the Year from the College of Agriculture.”

“Over the course of my degree I met many amazing people and greatly expanded my view of the horticultural world. I am now very excited to continue on, working toward a Master of Science from Montana State. My focus will be investigating the possibilities of using transcription factors to increase leaf starch and yield in rice. This is a little known avenue of crop science and has the potential for shedding light on the important pathways of starch synthesis in rice as well as other plants. I am dedicated to the horticultural fields and am excited to make all that can of my Graduate program. I look forward to the opportunities ahead of me as well as becoming a contributor in the world of plant science.”

ASHS Scholar



Megan Lankford
University of Arkansas

Megan Lankford grew up in the rolling hills of upstate New York. She hails from Oxford, a small rural farming village. Her early life was spent with her parents and her older brother hiking the Adirondack Mountains, and canoeing the Finger Lakes. Her deep love of nature and all things green comes from a childhood spent outdoors.

Upon completing high school Lankford decided to spread her wings and moved from her hometown to Joplin, Missouri. It was in Joplin that she met her husband to be—they share a love of animals, nature, hiking, and history. She completed a portion of her undergraduate core curriculum classes at Missouri Southern State University.

Lankford's passion for horticulture began with the inception of her first vegetable garden. As soon as her fingers dug into the deep, rich soil, she was hooked. Each morning she was up with the sun, carefully tending her plants. After the first few weeks she knew that she had found her path in life. There are few things in this world that she enjoys more than caring for plants.

Lankford is currently completing her Bachelor of Science of Horticulture degree at the University of Arkansas in Fayetteville. As a Dale Bumpers Honors College student she is completing her honors thesis examining local food and farming systems, local farmers decisions to sell at a local level, and local farm families. She has served as Vice President and as Garden Manager of the student led organic and sustainable student garden, GroGreen. Lankford will graduate in Spring 2015 and is already employed at the Botanical Garden of the Ozarks. Her future plans include the pursuit of a certificate in Horticultural Therapy.

The ASHS Scholars Award was established by the ASHS Board of Directors for the purpose of recognizing and supporting scholastic achievement and to encourage career development in horticultural science at the undergraduate level.

2014 ASHS Outstanding Undergraduate Horticulture Students



Janos Arnosky
Texas A&M
University



Lauren Arteman
Southern Illinois
University



Hannah Barrett
North Dakota State
University



Nicholas Biebel
Cornell
University



Sarah Blecha
University of
Nebraska-Lincoln



Sarah Brewer
Washington State
University



Megan Buhler
Utah State
University



Victoria Bolden
The Pennsylvania
State University



Melanie Isganitis
Delaware Valley
College



Lindsay Koby
New Mexico State
University



Hannah Estabrooks
Montana State
University



Laura Hayes
University of
Minnesota

2014 ASHS Outstanding Undergraduate Horticulture Students



Cullen McGovern
Colorado State
University



Olivia Meyer
Kansas State
University



Kate Myroup
Illinois State
University



Zachary Noel
University of
Vermont



Kara Pittman
North Carolina State
University



James Rockwell
Virginia Polytechnic
Institute and
State University



**Kara Denee
Salazar**
University of Florida



Bethany Sebesta
University of
Arkansas



Colby Silvert
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Cheryl Boyer
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Xin Zhao

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Richard Heerema
Gail Langellott
Franz Niederholzer
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Juanita Popenoe
William Sciarappa

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Randolph Beaudry

Richard Bell
Rachel Elkins
Cheryl Hampson
Joshua Klein
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Bert Cregg
Wenhao Dai
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Mengmeng Gu
Catherine Neal
Joseph Rothleutner

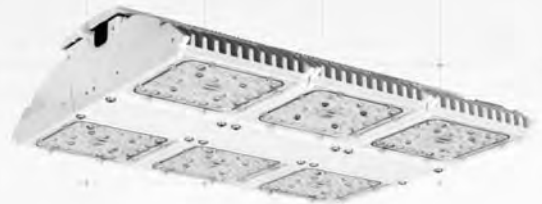
Vegetable Publication Award

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Ramon Arancibia
Rhoda Burrows
Samuel Hutton
Mari Marutani
Bala Rathinasabapathi
Lee Stivers
Ron Garton

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Day-by-Day Program Schedule

Annual Conference of the American Society for Horticultural Science

July 28–31, 2014

Rosen Plaza Hotel, Orlando, Florida

Sunday, July 27, 2014

8:00 AM–4:15 PM Departs from the Convention
Entrance–Rosen Plaza

Organic and Urban Farm Tour in Central Florida

Coordinator: Xin Zhao, zxin@ufl.edu

Tour Cost: \$76 (does not include lunch)

Advance Registration Required.

This field tour offers a great opportunity to learn and discuss organic production and local food systems by visiting diverse organic and urban farms and the local food hub in Orlando and nearby areas. Visit an urban garden in Oviedo, an aquaponics operation with tilapia and certified organic microgreens in Osteen, and a neighborhood market and food hub in Orlando, Florida.

2:00–5:00 PM Ballroom A/B/C

Exhibitor Set-Up

Speaker Ready Room

Salon 15

Hours: **Sunday** **3:00–7:00 PM**

Monday–Wednesday **7:00 AM–6:00 PM**

Thursday **7:00 AM – 2:00 PM**

All speakers in Oral, Workshop or Colloquium sessions are required to check in at the Speakers Ready Room at least 24 hours in advance of their presentation. If presentations (slides, PDF files, Power Points) were uploaded in advance, edits can be made up to 24 hours before the session time. All speakers should review their final presentation to ensure that videos and Power Point presentations were successfully uploaded and running properly. Because of the varying types of computer systems and programs, it is imperative for you to test your presentation in advance using the conference computers. This allows time for any troubleshooting that may need to occur.

2:00–5:00 PM Ballroom A/B/C

Poster Set-Up

All posters being presented at the conference must be set up on Sunday by 5:00 PM.

3:00–6:00 PM Registration Counters A/B

Registration Open

4:00–5:00 PM Salon 5

Moderator Training Session

Moderators: Dennis T. Ray, dtray@email.arizona.edu and
Carl E. Sams, carlsams@utk.edu.

An overview of the processes and duties as a moderator of sessions during the ASHS Annual Conference.

Monday, July 28, 2014

6:30–9:30 AM Departs from the Convention
Entrance–Rosen Plaza

Service Project—Student Activity

Coordinator: Javier Garces, jgarces3@valenciacollege.edu

Students and all ASHS members—join us for some local service work at the ASHS Annual Conference this year. We will be meeting to work at the Edgewood Children's Ranch Community Garden on Monday morning—YES, it is early (6:30–9:30 AM), but we can work when it is cool outside! Come for a light breakfast, meet fellow students and members, and see how you can help with a local horticulture service project.

A note about poster sessions:

The number in parentheses in front of a title refers to that poster's location on a board within the Poster Hall.

—CEU Approved—

Look for this designation for workshops and colloquia that have been approved by the American Society of Agronomy for Certified Crop Advisors to earn continuing education units.

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

7:00 AM–5:15 PM
Departs from the Convention
Entrance–Rosen Plaza

Florida Citrus Production Practices: New Possibilities

Coordinator: Barrett Gruber, bgruber@ufl.edu
Guides/Escorts: Bill Castle, Jude W. Grosser, Arnold Schumann
Tour Cost: \$76 (includes lunch)
Advance Registration Required.

This day-long tour will encompass visits to some of the major citrus-producing regions in the state of Florida (including the central ridge and the eastern flatwoods). In the eastern flatwoods, participants will tour a grapefruit-rootstock trial on bedded groves and experimental trials of high-density and protected cultivation of young grapefruit trees. The tour group will then visit additional experimental plots in the central ridge region: a second genotype block where new rootstocks are being evaluated; and high-density, protected cultivation of young citrus trees.

7:30 AM–6:00 PM
Registration Counters A/B

Registration Open

8:00–8:30 AM
Smooth Java (Hotel Lobby)

Graduate and Undergraduate Student Morning Gathering

Coordinator: Amanda Bayer, bayer10@uga.edu
Why wait until the student events to meet the other graduate and undergraduate students at ASHS this year? Come by and meet them while you grab your morning cup of coffee (or tea) . . . we'll meet in the lobby at Smooth Java! (Across from Lite Bite Express.)

8:00–9:00 AM
Salon 13/14

Moderators Training Session

Moderators: Dennis T. Ray, dtray@email.arizona.edu and
Carl E. Sams, carlsams@utk.edu
Overview of the processes and duties as a moderator of an oral session held during the ASHS Conference.

8:00–9:00 AM
Salon 9/10

Working Group Chairs and Chairs-elect Business Meeting

Mary H. Meyer, Chair

8:00–10:00 AM
Salon 2

Leafy Vegetable Crop Germplasm Committee Meeting

Beiquan Mou, Chair

8:15–10:00 AM
Salon 11

Vegetable Crops Management 1 (Oral Session)

Moderator: Ajay Nair, nairajay@iastate.edu
8:15–8:30 AM
**Tomato Yield and Aerial Pests Populations Affected
by Grafting, Nitrogen Rate and Ratio of NO³:-NH⁴⁺ in
Hydroponic Cultivation**
*Gvozden Domicic Sr., Katja Zanic Sr., Branimir Urlic Jr.,
Smiljana G. Ban, Juan Carlos Diaz-Perez

8:30–8:45 AM
**Soil Organic Matter Solutions for Peri-urban Market
Farms**
*Rebecca N. Brown, Jeff Pieper, Rebecca J. Long

8:45–9:00 AM
**Summer Cover Crops and Plastic Mulch Affect Fall
Lettuce (*Lactuca sativa* L.) Production**
*Ajay Nair, Jennifer Tillman, Raymond Kruse

9:00–9:15 AM
**Water Saving Strategies for Leafy Greens in Southwest
Texas**
*Daniel I. Leskovar, Alma Solis-Perez, Chenping Xu,
Marco Palma

9:15–9:30 AM
**Leaf Gas Exchange and Growth Adjustments in
Reticulates and Inodorus Melons Under Deficit
Irrigation**
*Sat Pal Sharma, Daniel I. Leskovar, Kevin Crosby,
Amir Ibrahim

9:30–9:45 AM
**Monitoring Nutrient Uptake and Growth Patterns
of Onion Crops to Improve Fertilizer and Water
Management**
*Andre S. Biscaro, Michael D. Cahn, Timothy K. Hartz,
Richard F. Smith

9:45–10:00 AM
**Growth and Yield of Chinese Cabbage by Soil
Application of Microbe Complex Fluid**
*Won Bae Kim, Jin Heung Kim, Yong Wook Jin

8:15–10:00 AM
Salon 7

Fruit Breeding 1 (Oral Session)

Moderator: Timothy A. Rinehart, tim.rinehart@ars.usda.gov
8:15 –8:30 AM
**The Evaluation and Release of New Strawberry
Selections for the Eastern Region of the United States**
*William Hlubik, Peter Nitzsche, Jessica Buitrago, Winfred
Cowgill, Gojko Jelenkovic, Daniel Ward

8:30–8:45 AM
**Identifying Sources and Mechanisms for Resistance to
Colletotrichum gloeosporioides in Strawberry**
*Jozer Mangandi, Natalia A. Peres, Vance M. Whitaker

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

8:45–9:00 AM

A Genetic Analysis of Fruit Firmness in Strawberry

*Luis F. Osorio, Vance M. Whitaker

9:00–9:15 AM

Effects of Strawberry Volatiles on Consumer Sensory Responses

*Tomas Hasing, Vance M. Whitaker, Linda Bartoshuk, David G. Clark, Michael L. Schwieterman, Kevin Folta, Thomas A. Colquhoun, Charles A. Sims

9:15–9:30 AM

Validating Microsatellite Markers Linked to Remotancy in Octoploid Strawberry

*Natalia Salinas-Aponte, Daeil Kim, James F. Hancock, Kazim Gunduz, Beatrice Denoyes, Justine Perrotte, Megan M. Mathey, Sonali Mookerjee, Thijs van Dijk, Eric van de Weg, Daniel J. Sargent, Iraida Amaya, Amy F. Iezzoni, Cameron Peace, Chad E. Finn, Nahla Bassil

9:30–9:45 AM

The Application of Precision Breeding for Crop Improvement Is Fully Consistent with the Plant Lifecycle: The Utility of PB for Grapevine

*Dennis J. Gray, Zhijian, T. Li, Jonathan R. Jasinski, Trudi Grant, Manjul Dutt, Sadanand Dhekney

9:45–10:00 AM

Transcriptome Data for Rabbiteye Blueberry (*Vaccinium virgatum* ‘Premiere’) from Tissue and Developmental Timepoints

*Timothy A. Rinehart

8:30–9:30 AM

Salon 5

Water Utilization and Management 1 (Oral Session)

Moderator: Marc van Iersel, mvanier@uga.edu

8:30–8:45 AM

Chlorine Efficacy to Control *Phytophthora Nicotianae* in Solutions Containing Pea Particles or Nitrogen Salts

*Rosa E. Raudales, Paul R. Fisher, Jennifer L. Parke

8:45–9:00 AM

Hydraulic Properties of Peat-based Substrates: The Importance of Hydraulic Conductance

*Marc van Iersel, Sue Dove, James S. Owen Jr.

9:00–9:15 AM

Modeling Water Use of Bedding Plants as a Function of Light Interception

*Peter Otieno Alem, Marc van Iersel, Paul Thomas

9:15–9:30 AM

Scaling Sensor Networks to Estimate Horticultural Crop Water Use in a Watershed in Ecuador

*John D. Lea-Cox, Bruk E. Belayneh, David Kohanbash, Rachel Conrad

8:45–9:45 AM

Salon 8

Propagation (Oral Session)

Moderator: Fang Geng, holliesfgzq@gmail.com

8:45–9:00 AM

Alternative Application of Plant Growth Regulators to Optimize Rooting in Citrus

*Ellen F. Cochran

9:00–9:15 AM

Effects of Culture Media and Plant Growth Regulators on Micropropagation of Hazelnut (*Corylus colurna*) and Willow (*Salix matsudana*)

*Dongxue Shi, Paul E. Read

9:15–9:30 AM

A New Protocol May Help Reveal Pre- and Post-grafting Environment Effects on Early-phase Healing in Grafted Tomato Seedlings

Bizhen Hu, Joshua Blakeslee, Peter P. Ling, Mark A. Bennett, *Matthew D. Kleinhenz

9:30–9:45 AM

In Vitro Apple Shoot Proliferation and Shoot Elongation Using Growth Regulators

*Fang Geng, Renae Moran, Donglin Zhang

9:00–10:00 AM

Salon 18

Research Division Advisory Council Meeting

Patricia R. Knight, Chair (Research Division Vice President); John D. Lea-Cox (Past Research Division Vice President); All Working Group Chairs and Chairs-elect, Research Division

9:00–10:00 AM

Salon 12

—CEU Approved—

Workshop: Peer Review of Non-journal Article Teaching or Extension Tools: Should We, Shouldn't We, Could We?

Sponsor: ASHS Board of Directors

Moderator/Coordinator: Michael A. Arnold, ma-arnold@tamu.edu

The purpose of this workshop is to discuss the development of a peer review system for non-journal article teaching or extension instruments or tools. ASHS is currently conducting surveys of members and targeted non-members in teaching, extension, and outreach positions to determine their interest in using and value associated with the development of a peer review system for the tools and instruments they develop which are not conventional journal article type of scholarly activities.

The American Society for Horticultural Science (ASHS) Board of Directors has formed an exploratory committee tasked with investigating the potential interest from the membership in submitting non-journal article teaching, extension or outreach instruments for peer review, determine if members or non-members are interested in access to and

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

Monday, July 28, 2014

would use such peer reviewed materials in their programs, and if so what would be the perceived value of such a peer reviewed validation of non-journal article scholarly activities. One of the first steps undertaken to this end was to conduct a survey of targeted ASHS members and non-members regarding these questions. A conceptual framework of the proposed peer review system and results of the survey will be presented to the membership. The committee for this project represents a wide diversity of career backgrounds within horticulture. Following the presentation of the general framework and survey results, the committee will serve as a panel discussion group with questions and comments regarding the development of the proposed peer review of teaching and extension instruments provided from the general membership in attendance.

9:00 AM–4:00 PM
Exhibits Open

Ballroom A/B/C

9:00 AM–4:00 PM
Poster Hall Open

Ballroom A/B/C

9:30–10:00 AM
Break

Ballroom A/B/C

10:00 AM–12:00 PM
ASHS Opening Plenary Session and William A. (“Tex”) Frazier Lecture

Ballroom D

Keynote Speaker: Paul Redman, Director, Longwood Gardens
Topic: Public Gardens—Horticulture’s Gateway to the Public
See description on facing page.

12:00–1:00 PM
Computer Applications in Horticulture (COMP) Working Group Business Meeting

Salon 2

Objectives: To study the application of computers in research, extension, and teaching of horticulture.

Kent Kobayashi, Chair; Arthur Villordon, Chair-elect;
Guihong Bi, Secretary

12:00–1:00 PM
Growth Chambers and Controlled Environments (CE) Working Group Business Meeting

Salon 6

Objectives: To provide leadership for horticulturists in the use of growth chambers and controlled environments and to provide a means for cooperative research and teaching among those using or interested in such facilities in their programs.

Gioia D. Massa, Chair; Marc van Iersel, Chair-elect;
Dean A. Kopsell, Secretary

12:00–1:00 PM

Salon 1

Propagation (PROP) Working Group Business Meeting

Objectives: To exchange ideas and information on propagation of horticultural crops and to provide interaction between industry and public institutions interested in propagation of horticultural crops.

Wenhao Dai, Chair; Donglin Zhang, Chair-elect

12:00–2:00 PM

Salon 17

Root and Bulb Vegetable Crop Germplasm Committee (RBV–CGC) Meeting

Chris Cramer, Chair

12:15–1:00 PM

Ballroom A/B/C

Citrus Crops (Poster Session)

The numbers in parentheses refer to the location of the poster within Poster Hall.

(311) Inheritance of Resistance to *Elsinoe fawcettii* (Citrus Scab) in Citrus

*Rachel Odom, José Chaparro

(312) Production and Characterization of Transgenic Citrus Plants Carrying p35 Anti-apoptotic Gene

*Vladimir Orbovic, Milica Calovic, Manjul Dutt, Gary Barthe, Pedro Gonzalez-Blanco, Edgardo J. Etxeberria, Jude W. Grosser

(313) Mature Citrus Transformation to Combat Diseases in Florida

*Hao Wu, Alka Shankar, Michael Peebles, Calvin Hubbard, Vladimir Orbovic, Janice Zale

(314) Development of Molecular Markers for Fresh Mandarin Flavors and Colors Using a High-throughput Goldengate Assay

*Yuan Yu, Chunxian Chen, Jinhe Bai, Anne Plotto, Elizabeth Baldwin, Fred G. Gmitter

12:15–1:00 PM

Ballroom A/B/C

Genetics and Germplasm 1 (Poster Session)

(201) Analysis of Ploidy, Genetic Diversity and Speciation of the Genus *Aronia*

*Samuel G. Obae, Mark H. Brand

(202) Assessment of Genetic Diversity of Sweetpotato (*Ipomoea batatas* L.) In Puerto Rico

*Dimuth Siritunga, Lorraine Rodriguez

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

William A. (“Tex”) Frazier Lecture

Public Gardens: Horticulture’s Gateway to the Public

Monday, July 28, 2014 • 10:00 AM • Ballroom D



Paul Redman
Director,
Longwood Gardens
Kennett Square, PA

The American Society for Horticultural Science welcomes **Paul Redman**, Director of Longwood Gardens in Kennett Square, PA, as this year’s William A. (“Tex”) Frazier lecturer. Redman’s topic is “Public Gardens: Horticulture’s Gateway to the Public.” A brief overview of his presentation follows.

The horticulture profession is at a crucial moment in its evolution as it seeks to remain relevant in the 21st Century. Public gardens in North America have over 70,000,000 visitors each year, including 1,000,000 children and youth participating in K-12 education programs. Public gardens are horticulture’s gateway for connection to the public that can help the horticulture profession to understand and potentially define what horticulture means in the 21st century. Longwood Gardens, located in Chester County, PA, has 1.1 million visitors every year and hosts a variety of mission-based horticultural programs, including plant exploration, research & development, and plant trialing and education programs that are focused upon the development of the next generation of horticultural leaders. Longwood is a microcosm of the greater public garden profession and will demonstrate opportunities for strengthening the relationships for collaboration opportunities with academia and private industry to ensure that this profession does remain competitive and relevant in the 21st century and far beyond.

About Paul Redman

As Director of Longwood Gardens since 2006, Redman oversees all aspects of the 1077-acre display garden, including its 400 full- and part-time employees, more than 700 volunteers, and \$50 million annual budget. Considered one of the world’s great gardens, nestled in Chester County, Longwood now welcomes more than 1 million guests each year. Longwood Gardens was named an ASHS Horticultural Landmark in 2007.

Under Redman’s leadership, Longwood has adopted a culture of planning to maintain responsible growth. Through an immersive and ground-breaking strategic planning process, a renewed direction was set and a visionary site master plan has been developed to guide Longwood’s development for the next 40 years and beyond. Through diversification of its programming, Longwood has increased general attendance more than 25%, and has built a Membership program that alone has increased more than 200% in just six years with more than 50,000 Membership households. Modernizing the organizational structure continues to be a priority for Redman. Early on he established marketing, guest services, and IT departments to build the business. And today, he supports Longwood’s investment in IT infrastructure and emerging technologies, including the debut of online learning this year with rigorous and respected educational programs that now can be experienced worldwide. Redman has continued to evolve Longwood’s global horticultural research and student programs through the establishment of partnerships in China, Singapore, the United Kingdom, and Russia.

Recent honors include the 2012 CEO of the Year by the Chester County Chamber of Commerce, Business & Industry. Redman currently serves on the Board of Directors for the American Public Gardens Association and The Garden Conservancy.

Redman has been working and studying in the field of public horticulture for more than 20 years. He received his Bachelor of Science Degree and Master of Science Degree in Horticulture from Oklahoma State University.

About the Tex Frazier Lecture Series

The Tex Frazier Lecture series was named in honor of William A. (“Tex”) Frazier, an eminent member of the faculty at Oregon State University. The intent of the lecture series is: “to foster and promote reciprocal liaisons between ASHS and other professional groups; to recognize distinguished scholars and to bring their point of view to ASHS members; and to encourage the development of a holistic philosophy within the horticultural science profession so that ASHS members and students can enjoy the benefits of a broader perspective provided by an understanding of the interrelationship of seemingly diverse disciplines.”

Monday, July 28, 2014

(203) Black Raspberry Fruit Composition from Seedling Populations Planted at Multiple Locations

*Penelope Perkins-Veazie, Gina Fernandez,
Christine M. Bradish, Guoying Ma, Joseph C. Scheerens,
Courtney A. Weber, Chad E. Finn, Nahla Bassil, Jill M. Bushakra

(204) Morphological Characterization of Soursop (*Annona muricata* L.) Germplasm Cultivated in Colima, Mexico

Jesús Alberto Ortiz-López, *Jaime Molina-Ochoa,
Miguel Ángel Manzanilla-Ramírez,
Luis Martín Hernández-Fuentes, John E. Foster

(205) Characterization of Naturalized Cacao Populations in Puerto Rico

Stephanie Cosme, *Brian Irish, Taras Oleksyk,
Dapeng Zhang, Ricardo Goenaga

(206) Pedigree Relationships in the University of Florida Southern Highbush Blueberry Germplasm

*Catherine Cellon, Rodrigo Amadeu, Patricio Munoz,
James W. Olmstead

(207) The Phylogeny of the North American Plums (*Prunus* spp.)

*Dario J. Chavez, José Chaparro

12:15–1:00 PM

Ballroom A/B/C

Graduate Student Poster Competition (Session 1)

Please see the full schedule of competition times starting on p. 16.

12:15–1:00 PM

Ballroom A/B/C

Nursery Crops (Poster Session)

(082) Measuring the Effect of Hand Protection on Worker Effort When Moving Small Container Plants

*Scott Langlois

(083) Improving Spray Quality and Disease Control with a Laser-guided Air-assisted Sprayer for Multi-row Nursery Production

Diana Cochran, *Amy F. Fulcher, Heping Zhu

(084) Impact of Cyclic Irrigation Timing on Plant Growth and Daily Water Use in Eastern Redbud Grown in a Pot-in-Pot Container Nursery

Susmitha Nambuthiri, *Robert L. Geneve, Dewayne L. Ingram

(085) Growth and Root Characteristics of Trees in Three Northern Nursery Production Systems

*Catherine Neal, Amy Papineau, Daniel Lass, Hongli Wei

(086) Container Plant Species Water Use

*Tom Yeager, Jeff Million

(087) Root Zone Temperatures and Growth Responses of River Birch (*Betula nigra*) in Five Above-ground Pot Production Systems

*Amy Papineau, Catherine Neal

(088) Early Rooting Response of Choke Cherry Seedlings to a Commercial Extract of the Marine Alga *Ascophyllum nodosum*

Joanne E. MacDonald, Elizabeth Mills, *Will Neily,
Jeffrey Norrie

(089) Changes in Chemical and Physical Properties of Soilless Potting Mixes Amended with Composted Dairy Manure of Varying Maturities

Anne J. Knerr, *Robert R. Tripepi

(090) In Vitro Propagation, Not Plant Growth Regulators or Pruning, Increases Branch Number, Canopy Density, and Visual Plant Quality in *Clethra alnifolia* ‘Hummingbird’

Whitney M. Yearly, *Amy F. Fulcher

(091) Characterizing Spray Penetration Following Insecticide Application in Dense and Sparse Oakleaf Hydrangea ‘Alice’

*Amy F. Fulcher, Whitney M. Yearly, Heping Zhu

(092) Development of Shoot Architecture of *Ligustrum japonicum* Thunb. in Response to Soil Moisture

Dilma Daniela Silva, *Richard C. Beeson Jr.

(093) Physical and Chemical Properties of Peat-based Substrate as Affected by Volcanic Cinder Amendment

*Archana Pant, Hye-Ji Kim

12:15–1:00 PM

Ballroom A/B/C

Plant Nutrient Management 1 (Poster Session)

(281) Morphological Response of Eucalyptus Seedlings to Phosphorus

Fanghua Niu, *Donglin Zhang, Zhihui Li, Marc van Iersel

(282) Utilization of Manure to Energy Co-products as a Fertilizer Source

*Mark Reiter, Sara Reiter, Jane Corson-Lassiter

(283) Effects of No-tillage and Improved Fertilizer Management on Corn Yield and Soil N₂O Emission in Middle Tennessee

Qi Deng, *Dafeng Hui, Junming Wang, Tigist Jima,
Stephen Iwuzo, Chih-Li Yu, David Smart, Suping Zhou,
Chandra Reddy, Sam Dennis

(284) *Camellia oleifera* Abel Utilized Phosphorus from Aluminum-bound Phosphate

*Jun Yuan, Xiaofeng Tan, Donglin Zhang

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

(285) Influence of the Composition and Nitrogen Concentration of Fertilizer Solution on the Growth and Tissue Nutrient Content of ‘Goha’ Strawberry

Jong Myung Choi, Hei Soo Lee, *Chiwon W. Lee

(286) Steel Slag Affects pH and Si Content of Container Substrates

*James Altland, Wendy Zellner, James C. Locke

(287) The Characteristic of Seasonal Nitrogen Absorption and Distribution in Pear Trees from N Fertilizers Applied at Different Growing Stages

Haibo Jiang, *Caixia Dong, Yangchun Xu, Peng Zhao, Changwei Shen

(288) Quantification of Nutrients Lost during Annual Pruning, Leaf Abscission, and Fruit Harvest in Pear Trees

Qiaowei Chen, Shuo Wang, Jie Wang, Yangchun Xu, *Caixia Dong

(289) Mineral Composition of Macronutrients in Shoots of Blackberry Plants Under Nutritional Deficiencies

*Filipe Bittencourt Machado Souza, Rafael Pio, Gregory L. Reighard, Viviane Amaral Toledo Coelho, Caio Morais de Alcântara Barbosa

(006) Postharvest Heated Fungicide Treatments to Control Citrus Black Spot (*Guignardia citricarpa*) on Citrus Fruits

*Jiaqi Yan, Pamela D. Roberts, Megan M. Dewdney, Cuifeng Hu, Macselynia Hossain, Mark A. Ritenour

(007) Microbial Biocontrol of Postharvest Papaya Diseases

*Robert E. Paull, Nancy Jung Chen

(008) Modulation of 1-MCP Efficacy in Mango and Papaya Fruit by Quarantine Hot Water Treatment

Jorge A. Osuna-Garcia, *Jeffrey K. Brecht, Donald J. Huber, James H. Lee, Kim Cordasco, Md. Golam Ferdous Chowdhury

(009) Shelf Life and Quality of High Tunnel and Open-field Tomatoes

*Helena Pontes Chiebao, Lani Meyer, Cary Rivard, Eleni D. Pliakoni

(010) Small-scale Storage of Horticultural Crops in Bangladesh

*Amrita Mukherjee, Michael S. Reid, Ronald E. Voss

(011) Commercial Scale Hydrocooling of Fresh Market Strawberry

*Steven A. Sargent, Adrian D. Berry, Jeffrey K. Brecht

12:15–1:00 PM

Ballroom A/B/C

Postharvest 1 (Poster Session)

(001) DA Meter Readings and Chlorophyll Content on the Blushed and Unblushed Sides of Nine Apple Cultivars

*Xingfeng Shao, Yosef Al Shoffe, Franziska C. Doerflinger, Haiyan Gao, Jacqueline F. Nock, Christopher B. Watkins

(002) Effects of Antitranspirants on Enhancing Temporary Drought Tolerance in Bedding Plants

*Suejin Park, Sarah A. Mills, Youyou Moon, Nicole L. Waterland

(003) Effects of Modified Atmospheres Packaging, Oxygen Permeable Films and Storage Temperatures on the Quality of Minimally Processed Jicama (*Pachyrhizus erosus*)

*Ana Caren Rivera Rangel, Ma Estela Vázquez-Barrios, Dulce Rivera Pastrana, María Sofía Arvizu-Medrano, Rossana Saavedra-García, Edmundo Mercado-Silva

(004) Application of 1-MCP and Plastic Film Packaging for Extending Shelf Life of Cluster Type Tomatoes

Geon Ho Bak, *NaRae Han, Jongkee Kim

(005) Effect of Wax Coatings on Postharvest Quality and Shelf Life of Mango (*Mangifera indica* L.) cv. ‘Manila’

Dalia Vázquez-Celestino, Humberto Ramos, Edmundo Mercado-Silva, Ma Estela Vázquez-Barrios, Dulce M. Rivera-Pastrana, *Rossana Saavedra-García

12:15–1:00 PM

Ballroom A/B/C

Water Utilization and Management (Poster Session)

(297) Influence of White Plastic and Water Replacement Rates on Pomegranate Orchard Phenology, Fruit Yield, and Quality

Donald J. Makus, *James E. Ayars, Dong Wang

(298) A Low Cost, Arduino-based System for Monitoring and Controlling Substrate Water Content

*Rhuanito Soranz Ferrarezi, Sue Dove, Marc van Iersel

(299) An Overview of Woody Plants in ASABE Standard S623: Determining Urban Landscape Plant Water Demand

Richard C. Beeson Jr., Dennis R. Pittenger, Brent Mecham, *Roger Kjelgren

(300) Relationship Between Temporal Patterns of Soil Moisture and Microclimatic Conditions in Plasticulture Grown Poblano Pepper Under Tensiometer-scheduled Irrigation

*Timothy Coolong, Susmitha Nambuthiri

(301) Comparing Water Use Efficiency in South Texas Furrow and Drip Irrigated Cabbage

*Corina Fuentes, Juan Enciso, Shad D. Nelson, Rafael Lopez, Luis Ribera, Juan R. Anciso

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Monday, July 28, 2014

12:15–1:45 PM

Salon 11

Undergraduate Student Oral Competition (Oral Session)

Moderator: Nathan C. Phillips, nate.phillips@mtsu.edu

12:15–12:30 PM

Induction of Somatic Embryos in Five Varieties of *Hibiscus sabdariffa*

*Kenya Emanuel, Thomas W. Zimmerman

12:30–12:45 PM

Assessment of Extracellular Enzymes Produced by Fungi Isolated from Muscadine Grapes

*Laura E. Poplawski, Dennis J. Gray, Robert N. Trigiano

12:45–1:00 PM

Genetic Characterization of Eastern Filbert Blight-resistant Hazelnut Seedlings from Turkey, Latvia, and Lithuania

*Kaitlin Morey, Megan Muehlbauer, Josh Honig, John M. Capik,
Thomas J. Molnar

1:00–1:15 PM

Influence of Vesicular–Arbuscular Mycorrhizae on Growth, Development, and Nutrient Absorption of Sunflower

*Caitlin LaComb, Corrie P. Cotton, Fawzy M. Hashem,
Lurline E. Marsh

1:15–1:30 PM

Manipulating Flowering Time in Citrus Using a TAL- based Effector Switch

*Katie L. Rogers, Vicente J. Febres, Gloria A. Moore

1:30–1:45 PM

In Situ Vernalization: A Novel Method for Accelerated Biennial Vegetable Crop Seed Production

*Lauren Brzozowzki, Irwin Goldman

1:00–1:45 PM

Ballroom A/B/C

Fruit Breeding (Poster Session)

(246) Verticillium Wilt Resistance Varies within Ploidy Levels in Strawberry (*Fragaria* spp.)

*Lise L. Mahoney, Kelly Vining, Andrew R. Jamieson,
Thomas M. Davis

(247) Characterization of Crispy Selections of the Arkansas Blackberry Breeding Program

*Alejandra A. Salgado, John R. Clark, Terrence Frett

(248) Validating Markers Linked to Soluble Solids Content in Octoploid Strawberry

*Natalia Salinas-Aponte, James F. Hancock, Kazim Gunduz,
Beatrice Denoyes, Eric van de Weg, Daniel J. Sargent,

Iraida Amaya, Megan M. Mathey, Amy F. Iezzoni,
Cameron Peace, Chad E. Finn, Nahla Bassil

(249) Softening Rate and Ethylene Fruit Production of Different Flesh Textures of Arkansas Peach and Nectarine Germplasm

*Alejandra A. Salgado, John R. Clark, Paul Sandefur,
Terrence Frett, Cameron Peace

(250) Incorporation of Marker-assisted Breeding (MAB) in the University of Arkansas and Three Other RosBREED Demonstration Peach Breeding Programs

*Terrence Frett, John R. Clark, Cameron Peace, Ksenija Gasic,
Nahla Bassil, Jonathan Fresnedo, Alejandra A. Salgado,
Paul Sandefur, David H. Byrne, Thomas Gradziel

(251) Pedigree Based QTL Analysis (PBA) for Fruit Traits in the University of Arkansas Peach Breeding Program

*Terrence Frett, Alejandra A. Salgado, John R. Clark, Sujeet
Verma, Paul Sandefur, Jonathan Fresnedo, Ksenija Gasic,
Marco Bink, Eric van de Weg, Cameron Peace

(252) Functional Allele Validation for Bacterial Spot [*Xanthomonas arboricola* pv. *pruni* (Xap)] Fruit Resistance in Peach [*Prunus persica* (L.) Batsch]

*Terrence Frett, John R. Clark, Burton H. Bluhm,
Brant Smith, Alejandra A. Salgado, Paul Sandefur, Cameron
Peace, Ksenija Gasic

(253) Evaluation of Peach x Almond Hybrids for Fungal Gummosis Resistance

*Daniel A. Mancero-Castillo, Thomas Beckman, J.X. Chaparro

(254) Identifying Sand Pear Cultivar S-genotypes Using Gene Chips

Nan Jiang, *Xiaofeng Tan, Lin Zhang, Donglin Zhang,
Hong-xu Long

(255) ‘Gem’: A New Precocious, Productive Pear Cultivar

*Richard L. Bell, Tom van der Zwet, Steven P. Castagnoli,
Todd Einhorn, Janet D. Turner, Robert Spotts, Gary A. Moulton,
Gregory L. Reighard, William W. Shane

(256) Marker-Assisted Seedling Selection in Sour Cherry for Fruit Color and Cherry Leaf Spot Resistance

*Fransiska R.A. Basundari, Travis Stegmeir, Audrey Sebolt,
Amy F. Iezzoni

(257) Selection of SSR Markers for the Identification of Zygotic Seedlings in Citrus Rootstock

*Emily E. Becks, Rachel Odom, José X. Chaparro

(258) Cybrids between Dancy Tangerine (*Citrus reticulata* Blanca) and Grapefruit (*Citrus paradisi* Mafc.) for Improvement of Citrus Fruit Traits

*Aditi D. Satpute, Jude W. Grosser, Qibin Yu, Chunxian Chen,
Peng Ling, Fred G. Gmitter, Melinda Grosser, Christine D. Chase

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1:00–1:45 PM

Ballroom A/B/C

Graduate Student Poster Competition (Session 2)

Please see the full schedule of competition times starting on p. 16.

1:00–1:45 PM

Ballroom A/B/C

Growth Chambers and Controlled Environments 1 (Poster Session)

**(147) Creating Novel Basil (*Ocimum basilicum*) Flavors
and Aromas with Light-emitting Diodes**

*Sofia D. Carvalho, Michael L. Schwieterman,
Thomas A. Colquhoun, Kevin M. Folta

**(148) Growth Responses of Greenhouse Tomato Seedlings
to Different Spectra of Supplemental Lighting Are
Season-specific in a Northern Climate**

*Celina Gomez, Cary A. Mitchell

**(149) Evaluation of Light-emitting Diode and Metal
Halide Supplemental Lighting for Greenhouse Bibb
Lettuce Production in the Midwest United States**

*Natalie R. Bumgarner, Johann Buck

**(150) End-of-day Manipulation of Phytochrome and
Cryptochrome Using Light-emitting Diodes Has
Limited Effect on Bedding Plant Seedling Stem
Elongation**

*Wesley Randall, Roberto G. Lopez

**(151) Ratio of Red to Far-Red Light-emitting Diodes
Affects Growth and Cell Cycle of Lettuce Plants**

*Myung-jin Lee, Myung-Min Oh

**(152) Effect of Different Supplemental Lighting Lamps on
Growth and Quality of Succulent Plants**

*Sang Yong Nam, Jin Hee Kim, Soon-il Soh

1:00–1:45 PM

Ballroom A/B/C

Marketing and Economics (Poster Session)

**(044) Are Consumers Willing to Pay Price Premiums for
Newly Developed East Coast Broccoli Varieties?**

Xiaoli Fan, Miguel Gómez, *Thomas Björkman

**(045) Does Local Label Bias Consumer Taste Bud and
Choice Behavior: Evidence of a Strawberry Sensory
Experiment**

*Chenyi He, Zhifeng Gao, Charles A. Sims, Xin Zhao

**(046) Cost Estimation of Establishing a Cider Apple
Orchard in Western Washington**

Suzette P. Galinato, R. Karina Gallardo, *Carol A. Miles

**(047) An Interactive Decision Support Tool to Estimate
the Economic Feasibility of Organic Apple Production**

H. German Rodriguez, Jennie H. Popp, *Curt R. Rom,
Heather Friedrich, Jason McAfee, Freeman Luke

**(048) Berry Production: Using Interactive Budgeting
Tools to Assess Costs, Revenues, and Risks**

H. German Rodriguez, Jennie H. Popp, *Curt R. Rom,
Heather Friedrich, Freeman Luke

**(049) Economic Considerations of Producing Organic
Strawberries Under Two Different Production Systems**

H. German Rodriguez, *M. Elena Garcia, Donn T. Johnson,
David Dickey

1:00–1:45 PM

Ballroom A/B/C

Organic Horticulture 1 (Poster Session)

**(058) Response of Blackberry Cultivars to Fertilizer
Source in an Organic Fresh Market Production System**

*Javier Fernandez-Salvador, Bernadine C. Strik, David R. Bryla

**(059) Performance of Eight Strawberry Cultivars in
Organically Managed High Tunnels for Fall and
Spring Production in North Carolina**

*Sanjun Gu, John Beck, Aaron Moore, Der Xiong

**(060) Yield of Organically Grown Mango as Affected by
Soil Applications of a Biostimulant Alga Extract**

*J. Pablo Morales-Payan

**(061) The Production of Organic Vegetables in the
Southeastern United States in Reference to Sod-based
Rotation and Strip versus Conventional Tillage**

*Peter C. Andersen, Chris Bliss, Brent V. Brodbeck,
Cheryl L. Mackowiak, Stephen M. Olson, David L. Wright,
James J. Marois

**(062) Tomato Yield, Plant, and Soil Nitrogen as Affected
by High Tunnel and Field Production Systems Under
Conventional or Organic Fertility Treatments**

*May Elfar Altamimi, Rhonda Janke

**(063) Organic Heirloom Tomato Response to Surface-
applied High Poultry Compost Level**

*Lurline E. Marsh, Fawzy Hashem, Corrie P. Cotton,
Brett D. Smith

**(064) Yield of Tomato Cultivars Grown in the Organic
Management in the U.S. Virgin Islands**

*Dilip Nandwani, Shamali Dennery, Vanessa Forbes,
Thomas Geiger

**(395) Effect of Organic Amendments and Inorganic
Fertilizers on Agronomic Traits and Yield of Corn**

Francisco Radillo-Juárez, *Jaime Molina-Ochoa,
Sergio Aguilar-Espinosa, Maria del Rocío Flores-Bello,
Juan Socorro Martínez-Pérez, John E. Foster

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Monday, July 28, 2014

1:00–1:45 PM

Ballroom A/B/C

Propagation 1 (Poster Session)

(159) Pretreatment Effects on Seed Germination: An Interspecific Comparison of Two *Nyssa* Species

*Frank D. Balestri, William R. Graves

(160) Micropropagation of a Selected Clone of

Amelanchier alnifolia

*Areej Ahmed Alosaimi, Robert R. Tripepi

(161) Rooting of Adult Stem Cuttings of *Cupressus sempervirens* L. ‘Stricta’

*Yujie Yang, Donglin Zhang, Jinying Dong, Xiaoling Jin, Zhihui Li

(162) Hormones Improved Rooting of *Zelkova serrata* Softwood Stem Cuttings

Jinying Dong, Yujie Yang, He Li, Xiaoling Jin, *Donglin Zhang

(163) Cutting Type and Hormone Affect Vegetative Propagation of *Phlox pulchra*

*Jeremiah J. DeVore, Amy N. Wright, Raymond Kessler Jr., Donald J. Eakes

(164) Plant Regeneration through Protocorm-like Bodies Induced from Leaf and Petiole Explants of *Pinellia ternata*, an Important Medicinal Plant

Shufang Fan, Xuemin Wang, Dawei Jian, *Jianjun Chen

(165) Seed Provenance and Substrate as Significant Factors on *Picea abies* (L.) Karst. Production

*Laura M.R. Rinaldi, Annarita Leva, Luigi Paolo D’Acqui

1:00–1:45 PM

Ballroom A/B/C

Teaching Methods 1 (Poster Session)

(070) Increasing IPM Awareness through Customized Educational Workshops

*Tamlá Blunt, Carol O’Meara, Mary Small, Jean D. Reeder

(071) A Comparison of the Effectiveness of Eight Types of Learning Activities When Teaching “Organic Farming Systems” to Horticulture and Non-horticulture Majors

*Rhonda R. Janke, May Elfar Altamimi, Carolyn D. Tanner

(072) How To: Best Methods to Present Research Information to a Public Audience

*Rosa Kim Bevington, Kurt D. Nolte, Channah M. Rock, Robert Wilson III

(073) Adapting Extension Agritourism Training for Undergraduate Education

*Michelle L. Infante-Casella, Brian Schilling, William Bamka, Stephen J. Komar, Jack Rabin, William Hlubik

(074) Using Innovative Technologies to Create a Custom Learning Environment

*Tim Rhodus

(075) Establishing a New Graduate Program in a Multidisciplinary Campus

Eleni D. Pliakoni, Candice Shoemaker, *Rhonda R. Janke, Cary Rivard

(076) Challenges and Opportunities in Plant Identification Laboratories

*Callie Wagner, Judson LeCompte, Guihong Bi, Richard L. Harkess

1:00–1:45 PM

Ballroom A/B/C

Vegetable Crops Management 1 (Poster Session)

(367) The DSS GeScoN for Managing Irrigation and N Fertilization in Vegetable Crops: Application in Processing Tomato Crop in Southern Italy

Antonio Elia, *Giulia Conversa

(368) Eggplant (*Solanum melongena* L.) Plant Growth and Fruit Yield as Affected by Drip Irrigation Rate

*Juan Carlos Diaz-Perez, Touria E. Eaton

(369) Evaluation of Selected Black Seeded Bean (*Phaseolus vulgaris* L.) for Flavonol and Triterpens Content in Nuevo León, México

*Eleazar Reyes-Barraza, Rigoberto Rosales-Serna, Janet A. Gutiérrez-Urbe, Sergio Serna-Saldivar, Delia Serna-Guerrero

(370) On-farm Evaluation of Fresh Market Tomato Cultivars for Summer Field Production

*James W. Shreffler, Lynn P. Brandenberger, Brian A. Kahn, Danielle R. Williams

(371) Grafted Vegetable Transplants for Earliness and Productivity during Northern Field Seasons

*Meriam Karlsson

(372) Bioclimatic Modeling of Crisphead Lettuce Phenology as a Tool for Planning Seeding and Harvest

*Gaetan Bourgeois, Sylvie Jenni, Danielle Choquette

(373) Grafting with Hybrid Rootstocks to Increase Tomato Productivity in the Great Plains

*Lani Meyer, Ravin Poudel, Helena Pontes Chiebao, Ari Jumpponen, Karren A. Garrett, Jason J. Griffin, Eleni D. Pliakoni, Megan Kennelly, Cary Rivard

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1:00–2:00 PM

Salon 6

**Environmental Stress Physiology (STRS)
Working Group Business Meeting**

Objectives: To promote basic and applied research on the physiology of horticultural crops with primary emphasis on crop physiological responses to environmental stresses, specifically including temperature, water, and air pollution stresses.

Lloyd Jones, Chair; Genhua Niu, Chair-elect

1:00–2:00 PM

Salon 2

**History of Horticultural Science (HIST)
Working Group Business Meeting**

Objectives: To exchange information and promote interest in the history of horticultural technology and science.

Jules Janick, Chair; David Karp, Secretary

1:00–3:00 PM

Salon 18

**Open Meeting of U.S. Rosaceae Genomics,
Genetics and Breeding Executive
Committee**

Presiding: J.D. Swanson

1:45–3:30 PM

Salon 5

**Vegetable Crops Management 2
(Oral Session)**

Moderator: Rose Ogutu, rogotu@desu.edu

1:45–2:00 PM

Vegetables Pest Management Strategies in North Florida

*Muhammad Haseeb, Tavia Gordon, Gohar Umar, Bobby Phillips

2:00–2:15 PM

Hollow Heart in Triploid Watermelons

*Gordon C. Johnson, Donald Seifrit

2:15–2:30 PM

**High Tunnel, Early Spring Production of Five Varieties
of Tomato Using Three Different Trellising Systems**

*Rose Ogutu

2:30–2:45 PM

**Yield and Economic Considerations for Planting Density
of Sweet Corn (*Zea mays*)**

Kyle Schmitt, *Jonathan R. Schultheis, Christopher C. Gunter,
Ronnie Heiniger, S. Gary Bullen

2:45–3:00 PM

**Variety Evaluation of Compact Growth Habit Tomatoes
with Jointless Pedicels for the Florida Mature-green
Fresh Market**

*Aline Coelho Frasca, Monica Ozores-Hampton, John W. Scott,
Craig Stanley, Eugene McAvoy

3:00–3:15 PM

**Soil Management to Improve the Sustainable
Productivity of Winter Fresh Market Vegetable Crops in
Miami–Dade County**

*Qingren Wang, Teresa Olczyk, Yuncong Li

3:15–3:30 PM

Mechanical Thinning versus Hand Thinning in Lettuce

*Guangyao (Sam) Wang, Khaled M. Bali, Jiangang Liu,
Kelly Thorp, Qingquan Chu

1:45–3:45 PM

Salon 9/10

**Roundtable Discussion on the
Standardization of LED Lighting for
Horticultural Applications**

Moderator: Erik S. Runkle

Based on the technology advancement and market growth of LEDs, there is increasing need for standardizations for LED lighting applications in greenhouses and controlled-environment growth rooms. Participants consist of leading producers of LEDs, growers, researchers, and other interested stakeholders. The topics of discussion include:

1. Testing LED component test, revising or extending the existing standard, IES LM-80 to include photon flux related content LED lamp and luminaire test, revision or extending the existing standard, IES LM-84 to including horticultural lighting system performance test.
2. Performance Requirement Energy saving measures, lighting distribution, and spectrum requirements.
3. Safety: Eye Safety, others.

1:45–3:45 PM

Salon 11

—CEU Approved—

**Workshop: Indigenous Herbal Medicine
of Florida and Recent Developments in
Cannabis Regulation and Cultivation**

Sponsor: Herbs, Spices, and Medicinal Plants (HSMP) Working Group

Moderator/Coordinator: Hideka Kobayashi,
hideka.kobayashi@kysu.edu

Consumers increasingly continue to pursue healthy lifestyles as they become more informed about health and environment. Nearly 40% of Americans use contemporary and alternative medicine in their everyday lives for various ailments or overall well-being, and herbal medicine is once again gaining in popularity. Nowadays, many consumers opt for self-medication, including medical marijuana and native plant species. While cultivation of cannabis (*Cannabis sativa* L.) for recreation and self-medication are still illegal in most states in the U.S., researchers at government and academic institutions in authorized states now can grow hemp, opening the door to research opportunities. The aim of this workshop is to inform participants of herbal medicinalism in Florida and recent developments in cannabis regulation and research.

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

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1:45–2:05 PM

A Dozen Native Medicinal Plants of the Deep South

*Susan Marynowski

2:05–2:25 PM

The Movement to Medicinal Cannabis

*Lyle Craker

2:25–2:45 PM

Organic Hemp Research at Kentucky State University

*Michael K. Bomford, Kirk W. Pomper

2:45–3:05 PM

Hemp Construction in the United States and Efforts to Grow the Raw Material Here

*Jeanine M. Davis

3:05 PM

Silent Auction

1:45–3:45 PM

Salon 12

—CEU Approved—

Workshop: Technological Innovations in Smart Device and Computer Usage for Extension and Teaching

Sponsor: Computer Applications in Horticulture (COMP) Working Group

Moderator/Coordinator: Kent D. Kobayashi, kentko@hawaii.edu

The goal of this workshop is to familiarize the audience with leading-edge applications of smart devices and computers for extension and teaching.

With ever-changing developments in smart devices, computers, software, and high technology, one's professional development calls for keeping abreast of advanced horticultural applications. In this workshop, four speakers will share their experiences involving innovative applications that use smart devices and computers for extension and teaching. The audience will learn about a customizable mobile website for floriculture training information, a website on greenhouse production and management for greenhouse operators, software tools for developing and delivering online courses and high quality images, and assignments involving students creating websites to develop their web technology skills.

1:45–2:05 PM

Back Pocket Grower—A Customizable Training Website for Mobile Devices

*Paul R. Fisher, Rosanna Freyre, Bruce MacKay

2:10–2:30 PM

e-GRO—Electronic Grower Resources Online

*Brian Krug, Brian E. Whipker, Roberto G. Lopez

2:35–2:55 PM

Tools for Enhancing the Development and Delivery of Online Courses

*James McConnell

3:00–3:20 PM

Using Web-based Assignments to Enhance Student Learning and Productivity

*Hye-Ji Kim

1:45–3:45 PM

Salon 8

—CEU Approved—

Workshop: USDA–ARS: Highlights on Citrus Research in Florida

Sponsor: Federal Partners Working Group

Coordinator: Penelope Perkins-Veazie, penelope_perkins@ncsu.edu

The purpose of this workshop is to highlight the type of work done in federally funded U.S. laboratories. An important component of United States agriculture is the U.S. Department of Agriculture (USDA), which is made up of 66 agencies. The Agricultural Research Service (ARS) is one of these agencies, and its role is to do long-term fundamental work that addresses agricultural problems of current priority and maintain continuity for further problems (such as germplasm maintenance, long-term production practices, etc.) that cannot be addressed by public or private universities. In this workshop, research done at the USDA–ARS Horticulture Research laboratory in Fort Pierce, Florida, is highlighted to demonstrate the coordination and collaboration needed to address the citrus commodity, including greening disease and products from citrus waste.

1:45–2:10 PM

Effect of Greening or Hunaglongbing (HLB) Disease on Orange Fruit and Juice Flavor

*Elizabeth Baldwin

2:10–2:35 PM

Estimation of Relative Abundance of 16S rDNA of *Candidatus Liberibacter asiaticus* by Comparison to Host Cytochrome Oxidase DNA in Orange Juice

*Jinhe Bai, Elizabeth Baldwin, Wei Zhao

2:35–3:00 PM

The Pharmacokinetics and Health Benefits of Orange Peel Compounds

*John A. Manthey, Elizabeth Baldwin, Jinhe Bai

3:00–3:25 PM

Transmission of *Candidatus Liberibacter asiaticus* to 16 Citrus Cultivars by Asian Citrus Psyllids in a Greenhouse Study

*Greg McCollum

2:00–3:00 PM

Salon 6

Genetics and Germplasm (GG) Working Group Business Meeting

This Working Group provides a forum for plant breeders, geneticists, botanists, general horticulturists, and others interested in collecting, preserving, evaluating, distributing, and/or using germplasm in or for research or teaching programs.

C. Thomas Chao, Chair; Stan Hokanson, Chair-elect

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

2:00–3:00 PM

Salon 2

Intellectual Property Rights (IPR) Working Group Business Meeting

Objectives: To provide a forum that will promote the exchange of information and discussion of issues concerning the protection of intellectual properties.

Amelie Aust, Chair; Todd West, Chair-elect; Tim Bourne, Secretary

2:00–3:45 PM

Salon 7

Produce Quality, Safety, and Health Properties (Oral Session)

Moderator: Byron Shock, byron.shock@oregonstate.edu

2:00–2:15 PM

Surface Irrigation Systems That Deliver Bacteria to Vegetable Crops

*Byron Shock, Clinton C. Shock

2:15–2:30 PM

Survival of *E. coli* on Onions during Curing

*Clinton C. Shock, Jose Maria Pinto, Harry Kreeft, Byron Shock

2:30–2:45 PM

Detection and Characterization of *Salmonella* spp. and Correlation with Microbial Indicators in North Carolina Tomato Production Environments

*Diane Ducharme, Chris Gunter, Penelope Perkins-Veazie, Lee-Ann Jaykus, Otto Simmons III, Eric Brown, Insook Son, Jie Zheng, Rebecca Bell

2:45–3:00 PM

Survival of Microorganisms Isolated from Fresh Produce and Production Fields and Inoculated into Pesticide Solutions

*Hidemi Izumi, Kosuke Kitada, Izumi Iwasaki

3:00–3:15 PM

The Five-year Anniversary of the Arizona Leafy Green Marketing Agreement: What Works and What Doesn't

*Kurt D. Nolte, Channah M. Rock

3:15–3:30 PM

Exogenous Methyl Jasmonate Treatment Increases Glucosinolate Biosynthesis and Quinone Reductase Activity in Kale Leaf Tissue

*Kang Mo Ku, John A. Juvik

3:30–3:45 PM

Exploring Plant–UV Interactions with Greenhouse Tomatoes: Stress, Flavor, and Phytochemicals

*Michael Dzakovich, Cary A. Mitchell

2:00–6:00 PM

Salon 13/14

—CEU Approved—

Colloquium: Recent Advances in Perennial Berry Crop Nutrition and Directions for Future Research

Sponsor: Viticulture and Small Fruits (VSF) Working Group

Moderator/Coordinator: David R. Bryla, brylad@onid.orst.edu

Coordinator: Bernadine C. Strik, bernadine.strik@oregonstate.edu

The objective of the colloquium is to bring together leaders in the field of berry crop nutrition to discuss recent research on the topic and provide guidance for future investigations required to address new industry challenges, such as expanding production into non-traditional growing regions and to increase protection of water sheds and natural resources.

Many advances in research have been made recently on plant and soil nutrition of berry crops. The information is essential for developing new or improved nutrient management practices for these crops and plays a vital role in enhancing fruit production and quality, protecting soil and water resources, reducing fertilizer usage, and maintaining or improving competitiveness of the small fruit industry in the marketplace. Speakers specializing in nutrition of blueberry, blackberry, cranberry, raspberry, and strawberry will present their recent research findings, offer advice on nutrient management, and provide new ideas for future research. The covered topics will include dynamics of soil nutrient supply and loss; uptake, assimilation, and partitioning of plant nutrients; soil and plant tissue standards for accurate assessment of nutrient requirements; new and efficient methods of fertilizer application; and soil amendments to enhance crop nutrition. The colloquium will offer attendees an opportunity to learn more about the physiology and management of nutrients in these important horticultural crops and a chance to participate at the end of the presentations in a panel discussion on directions and plans for new research. The outcomes should be particularly useful to new faculty and students interested in research and consulting work in crop nutrition.

2:00–2:15 PM

An Introduction to Regional Nutrient Management of Berry Crops

*David R. Bryla

2:15–2:45 PM

Understanding the Physiological Response of Perennial Strawberry to Nitrogen Limitations and Developing Nutrient Management Practices to Improve Plant Growth and Productivity

*Marvin P. Pritts

2:45–3:15 PM

Uptake and Partitioning of Nutrients in Blackberry and Raspberry and Evaluating Plant Nutrient Status for Accurate Assessment of Fertilizer Requirements

*Bernadine C. Strik, David R. Bryla

3:15–3:45 PM

Nutrient Assimilation in Southern Highbush Blueberry and Implications for the Field

*Rebecca L. Darnell, Jeffrey G. Williamson

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3:45–4:15 PM

Fertilizer and Soil Management Practices for Improving the Efficiency of Nutrient Uptake and Use in Northern Highbush Blueberry

*David R. Bryla, Bernadine C. Strik

4:15–4:45 PM

Target Compost Analytical Values for Application to Highbush Blueberry

*Dan M. Sullivan

4:45–5:15 PM

Cranberry Nutrient Management in Southeastern Massachusetts: Balancing Crop Production Needs and Water Quality

*Carolyn J. DeMoranville

5:15–6:00 PM

Panel Discussion, Q&A

2:30–4:00 PM

Ballroom A/B/C

Undergraduate Student Poster Competition (Session 1)

Sponsor: Collegiate Activities Committee

(134) Influence of Seaweed Extract and Vesicular–Arbuscular Mycorrhizae on Growth and Development of Bell Pepper

*Cadien K. Beckford, Corrie P. Cotton, Fawzy M. Hashem

(135) Growth and Morphology of Greenhouse Bell Pepper Transplants Grown Under Supplemental LEDs and HPS Lighting

Ricardo Hernández, Chieri Kubota, *Jose P. Santana

(136) Effect of Cultivar on Growth and Strobile Production in Hops (*Humulus lupulus*) in Central Florida

Brian J. Pearson, *Richard M. Smith

(137) Nutritional Quality Parameters in Kale Cultivars Are Higher Under Narrow-band LED Light than Under Fluorescent/Incandescent Light

*Heather D. Lowery, Dean A. Kopsell, Carl E. Sams

(138) Viability and Colonization of Vesicular Arbuscular Mycorrhiza on Tomato and Cowpea Roots

*Chelsea Y. Grainger, Fawzy M. Hashem, Lurline E. Marsh, Luke O. Lee, Brett D. Smith

(139) Nutritive and Quality Traits of Colored Sweet Mini-peppers

*Katrina Benzrihem, Ben Nichols, Steven A. Sargent, Bala Rathinasabapathi

3:00–4:00 PM

Salon 6

Graduate Student (GRAD) Working Group Business Meeting

Objectives: To provide a formal organization for Graduate Students in ASHS to support programs and issues facing graduate students in horticulture.

Amanda Bayer, Chair; Zachary Brym, Chair-elect

3:00–4:00 PM

Salon 18

Horticultural Landmarks Selection Committee Meeting

Patricia Holloway, Chair; Martin Stone, Esmaeil “Essie” Fallahi, Richelle Stafne, Rose Ogutu, Mary Lewnes Albrecht (Archivist/Historian)

3:00–4:00 PM

Salon 17

Industry Division Advisory Council Meeting

Jeffrey Norrie (Industry Division Vice President), Chair All Working Group Chairs and Chairs-elect, Industry Division

3:00–4:00 PM

Salon 2

International Horticulture and Issues (IHI) Working Group Business Meeting

Objectives: To provide a forum for the exploration, discussion, and exchange of information on global issues of vital concern to horticulturists in all divisions and disciplines; to provide a potential mechanism through concerted action for input into decision and policymaking processes at the national and international levels.

Rich Pratt, Chair; Dilip Nandwani, Chair-elect, Marikis Alvarez, Secretary

4:00–5:00 PM

Salon 6

Federal Partners (FP) Working Group Business Meeting

Objectives: To provide a network for horticultural professionals who work for national and federal governments. To provide linkages to university and industry colleagues to promote exchange of ideas, common research goals, and multilevel approaches to large and/or complex issues affecting horticulture and food security.

Penelope Perkins-Veazie, Chair

4:00–5:00 PM

Salon 2

Herbs, Spices, and Medicinal Plants (HSMP) Working Group Business Meeting

Objectives: To promote and encourage scientific research and education on herbs, spices, and medicinal plants, emphasizing botanical, cultural,

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environmental, genetic, harvesting, physiochemical, processing, and pharmacological aspects of these plants.

Valtcho Jeliakov, Chair; Gary Stutte, Chair-elect

4:00–5:15 PM

Salon 5

Temperate Tree Nut Crops and Tropical Horticultural Crops (Oral Session)

Moderator: Megan Muehlbauer, meganmu@eden.rutgers.edu

4:00–4:15 PM

Physiology of Fruit Growth as a Function of Heat in Commercial *Pistacia vera* Species

*Cara J. Allan, Louise Ferguson

4:15–4:30 PM

Flow Volume and Carbohydrate Composition of Late Winter Xylem Sap Influences Subsequent Crop Load in Pecan

*Bruce W. Wood

4:30–4:45 PM

Genetic Diversity of *Anisogramma anomala* and Its Implications for Breeding Eastern Filbert Blight Resistant Hazelnuts

*Megan Muehlbauer, Thomas J. Molnar, Josh Honig, Kaitlin Morey, Ning Zhang

4:45–5:00 PM

Floral Morphology of Seven *Mangifera* Sp.

*Noris Ledesma, Richard J. Campbell, Scott Zona, Julio Figueroa Sr., Henry W. Poor

5:00–5:15 PM

High Tunnel Green Papaya Production in Southern Virginia

*Reza Rafie, C. Mullins, T.J. Nartea

4:00–5:30 PM

Salon 7

Water Utilization and Management 2 (Oral Session)

Moderator: Craig Ramsey, craig.l.ramsey@aphis.usda.gov

4:00–4:15 PM

Improved Foliar Physiology and Drought Tolerance for Two Legumes after Application of Magnetized, Chelated Iron Fertilizer Application

*Craig Ramsey, Steven E. Newman

4:15–4:30 PM

A New Automated Irrigation System Reduces Irrigation Consumption and Leachate in a Commercial Nursery Production Facility

*Edward Bush, Jeff Beasley, Maureen Thiessen

4:30–4:45 PM

Using Scaled Sensor Networks to Estimate Green Roof Stormwater Runoff

Olyssa Starry, Whitney Griffin, Bruk E. Belayneh, David Kohanbash, *John D. Lea-Cox

4:45–5:00 PM

Scaling Sensor Networks for Scheduling Irrigations in a Commercial Pot-in-Pot Nursery

*Bruk E. Belayneh, David Kohanbash, John D. Lea-Cox

5:00–5:15 PM

Why is the Irrigation Running in the Rain?

*Liz A. Felter, Michael D. Dukes, Paul F. Monaghan

4:00–6:00 PM

Salon 18

Certified Horticulturist (CH) Board Meeting

Fred T. Davies, Chair; Kerrie Badertscher, Steve Carver, Janet C. Cole, Terry Ferriss, George Fitzpatrick, Mary Lamberts, Douglas C. Needham, Karen Panter, Kay Phelps, Susan Steinberg

4:00–6:00 PM

Salon 17

Crucifer Crop Germplasm Committee

Presiding: Mark W. Farnham

4:00–6:00 PM

Salon 11

Workshop: Gateways to International Horticulture—Potentials and Challenges

Sponsor: Working Group of Asian Horticulture

Moderator: Hye-Ji Kim, hkim2@hawaii.edu

Coordinators: Shengrui Yao, yaos@nmsu.edu and Mengmeng Gu, mgu@tamu.edu

Increasing trends in transcontinental travels, commerce, and trade; an easier access and availability to digital information; and a greater level of cooperation among governments and institutions in agriculture have lead to increased opportunities in international horticulture in the past few decades. Today, opportunities in international horticulture are abound and varied, ranging from access to plant germplasm for crop improvement, human nutrition, or medicinal purposes; adoption of cultural practices for best crop production and pest management practices followed elsewhere; access to new and automated technologies available for horticulture crop production and postharvest; and the exchange of knowledge and information in research and education as well as international employment opportunities. The eagerness and willingness to work and collaborate at an international platform involves either relocating to a different country or indirectly working with people and institutions from a different country. These opportunities then come with their challenges that can range from those being scientific in nature, unintentionally introducing a potentially invasive plant species or a potential pest problem, monetary challenges (such as lack of adequate funding or inadequate knowledge on sources of funding), or socio-cultural challenges that could involve language

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barriers, dealing with regulations and strategies different from ones' home country or targeting a different market population. The workshop will highlight some of the potentials and challenges of international horticulture research, teaching and outreach.

4:00–6:00 PM

Salon 9/10

Workshop: Graduate Student Tool Kit

Sponsor: Graduate Student Working Group

Moderator/Coordinator: Amanda Bayer, bayer10@uga.edu

Coordinator: Zachary Brym, zack.brym@usu.edu

The objective of this workshop is to provide graduate students information to help them succeed and excel in graduate school.

The journey through graduate school takes hard work and ingenuity, but tips and tricks from the Graduate School Tool Kit Workshop can help you succeed and excel. This interactive workshop will provide insight and advice on a variety of topics from preparing for publication and the job market to practical tips for making the most of your time in graduate school. One of the greatest opportunities to avoid some of the common pitfalls is to learn from those that have been successful. Our faculty presenters will provide expertise on various topics including job application materials, poster and presentation tips, and communicating science. A graduate student panel of experienced students from various universities will also offer their perspectives on succeeding in graduate school and will answer attendee questions. Learn how to make the most out of your graduate school experience along with how to prepare yourself for success on the job market.

4:00–4:30 PM

Professional Skills to Help You Succeed in Graduate School

*Kent D. Kobayashi

4:30–5:00 PM

Developing a Reputation, CV, and Portfolio for a Successful Career

*Roberto G. Lopez

5:00–5:30 PM

Creative Writing Tips to Help You Get Published

*John D. Lea-Cox

5:30–6:00 PM

Graduate Student Panel

*Amanda Bayer

4:00–6:00 PM

Salon 8

—CEU Approved—

Workshop: Nikolai Ivanovich Vavilov: Plant Genetic Resources Pioneer and Hero

Sponsor: History of Horticultural Science (HIST) Working Group

Moderator/Coordinator: Jules Janick, janick@purdue.edu

The objective of this workshop is to celebrate the life and career of N.I. Vavilov and to bring into focus the enduring impact of Vavilov on Genetics, Plant Breeding, and Horticulture.

Nicolai Ivanovich Vavilov (1873–1943), one of the pioneers of 20th century plant breeding, is best known for seminal work in identifying centers of origins and diversity for cultivated plants. Vavilov studied genetics with William Bateson from 1913–14 at the John Innis Horticultural Institute. In 1921, he was chosen by Vladimir Lenin to head the Branch of Applied Botany in Petrograd (St. Petersburg) and rose to be the Director of the All-Union Institute of Agriculture in Leningrad, where he oversaw agricultural research for the entire country. By 1934, Vavilov established more than 400 research institutes and experiment stations with a staff of 20,000. His efforts established the Soviet Union as a world leader in genetics and plant breeding in the 1920s and early 1930s. Vavilov carried out an extensive series of expeditions worldwide, including the United States, to collect germplasm; and he created the world's largest repository, over 250,000 seed accessions.

4:00–4:30 PM

Nicolai Ivanovich Vavilov: Plant Geographer, Geneticist, Martyr of Science

*Jules Janick

4:30–5:00 PM

Molecular Mechanisms and the Laws of Homologous Variation

*Kevin Folta

5:00–5:30 PM

Vavilovian Centers of Diversity: Implications and Impacts

*Kim E. Hummer

5:30–6:00 PM

Vavilov's Centers of Crop Origins versus Centers of Diversity: Why Does That Distinction Matter?

*Gary Paul Nabhan

4:00–6:00 PM

Ballroom D

Workshop: Promoting Horticulture: A New National Initiative to Recruit the Next Generation of Horticulture Professionals

Sponsor: ASHS Board of Directors

Moderator/Coordinator: Mary H. Meyer, meyer023@umn.edu

Horticulture offers one of the most satisfying and rewarding careers, with an increasing number of people needed in the future, yet young people today are often unaware of the opportunities and diversity in this engaging field. The National Initiative plans to change this. ASHS, along with Longwood Gardens, AmericanHort, American Horticultural Society, National Junior Horticultural Association, and American Public Gardens Association have announced a National Initiative to promote horticulture. Over 150 industry, academic, public gardens and horticultural associations have agreed with the proposal to increase the awareness and advocacy of horticulture. This workshop will discuss the initiative, the firm selected for the work being done this year along with practical ideas of what academia, public gardens, and industry can do to recruit the next generation of horticulture professionals. Discussion will allow time for all participants to share thoughts and ideas.

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4:00–4:15 PM

Discussion with All Speakers

4:15–4:30 PM

The Need for a National Promotion of Horticulture

*Mary H. Meyer

4:30–4:45 PM

Ideas from Academia

*John M. Dole

4:45–5:00 PM

Ideas from Public Gardens

*Paul Redman

5:00–5:15 PM

Ideas from Industry

*Craig Campbell

5:15–6:00 PM

Discussion with all the speakers

6:00–7:00 PM

Ballroom A/B/C

Welcome Reception/Exhibits Open

Tuesday, July 29, 2014

7:30 AM–5:00 PM

Registration Counters A/B

Registration Open

8:00–8:30 AM

Smooth Java (Hotel Lobby)

Graduate and Undergraduate Student Morning Gathering

Coordinator: Amanda Bayer, bayer10@uga.edu

Why wait until the student events to meet the other graduate and undergraduate students at ASHS this year? Come by and meet them while you grab your morning cup of coffee (or tea) . . . we'll meet in the lobby at Smooth Java! (Across from Lite Bite Express.)

8:00–9:00 AM

Salon 17

Awards Committee Meeting

William J. Lamont Jr., Chair; Fred T. Davies, Dewayne L. Ingram, Paul W. Bosland, Mary H. Meyer

8:00–9:15 AM

Salon 8

Plant Biotechnology 1 (Oral Session)

Moderator: Cai-Zhong Jiang, cjiang@ucdavis.edu

8:00–8:15 AM

A HD-ZIP Transcription Factor Regulates Flower Senescence via Ethylene and ABA Cross-talks in Petunia

Xiaoxiao Chang, Linda Donnelly, Michael S. Reid,
*Cai-Zhong Jiang

8:15–8:30 AM

Identifying Genes Involved in Pollination-induced Corolla Senescence in Petunia

*Michelle L. Jones, Shaun R. Broderick

8:30–8:45 AM

Over-expression of an ABA Biosynthesis Gene (NCED) with a Stress-inducible Promoter Improves Drought Tolerance in Petunia (*Petunia xhybrida*)

Alejandro Estrada, Michael S. Reid, *Cai-Zhong Jiang

8:45–9:00 AM

Expression and of Putative Lipoxygenase (LOX) Genes Relative to LOX-dependent Aroma Volatile Emissions in Apple Fruit

*Randolph Beaudry, Carolina Contreras, Jin Ho Kang, Daniela Urbina

9:00–9:15 AM

Response of Iron Regulated-transporter Genes (IRT) to Iron Deficiency in *Populus tremula* L.

Danqiong Huang, *Wenhao Dai

8:00–9:30 AM

Salon 5

Pomology 1 (Oral Session)

Moderator: Shengrui Yao, yaos@nmsu.edu

8:00–8:15 AM

Date Palm Cultivation in Saudi Arabia: Current Status and Future Prospects for Development

*Khalid Al-Redhaiman

8:15–8:30 AM

Applications of ReTain Reduce Ovule Senescence and Improve Fruit Set in Sweet Cherry

Matthew Whiting, *Lu Zhang

8:30–8:45 AM

Assessing the Pistil's Role in Sweet Cherry Cultivars Exhibiting Variable Fruit Set

*Lu Zhang, Matthew Whiting

8:45–9:00 AM

Developing a Robust, Predictive Model for Sweet Cherry (*Prunus avium* L.) Flowering, Comparing Eastern Oregon and Mesic Nordic Climates

*Clive Kaiser, Leonard Coop, Mekjell Meland

9:00–9:15 AM

Changes in Not-from-concentrate 'Wonderful' Pomegranate Juice through Pilot Plant Pressing,

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

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Ultrafiltration, and HTST Pasteurization and Storage

*John C. Beaulieu, Steven W. Lloyd, Jeanne M. Lea,
Michael A. Watson, Maureen A. Tully, Casey C. Grimm,
Karen L. Bett-Garber, Rebecca E. Stein-Chisholm

9:15–9:30 AM

Vitamin C Content of Jujube Fruit and Its Changes during Fruit Development and Processing

*Shengrui Yao

8:00–9:45 AM

Salon 7

Consumer Horticulture and Master Gardeners (Oral Session)

Moderator: Pamela J. Bennett, bennett.27@osu.edu

8:00–8:15 AM

Selection of Horticultural Crops for a Small-scale Integrated Farm System in the Tropical Environment of Guam

*Mari Marutani

8:15–8:30 AM

The Extension Master Gardener National Committee: History, Structure, and Status

*Pamela J. Bennett, Terri James, Lelia Scott Kelly,
Gail Langelotto, David Moen, Toby Day, Peter Warren,
Mark Bridgen, Karen Jeannette

8:30–8:45 AM

Implementing the eXtension Ask an Expert Program with Master Gardener Volunteers

*Pamela J. Bennett, Denise Johnson

8:45–9:00 AM

Developing and Implementing a Community Garden at Tennessee State University

*Arvazena E. Clardy, Dharmalingam Pitchay

9:00–9:15 AM

WSU Master Gardener Online Training

*Nicole Martini

9:15–9:30 AM

An Analysis of Gardening Interest among Students Involved in a School Gardening Project

*Bobby Fletcher Jr., Janet Fox, Melissa Cater

9:30–9:45 AM

SproUTing Growers: A Train-the-Trainer Program for Extension Professionals Working with Beginning Growers of Specialty Crops

*Annette L. Wszelaki, Mary A. Rogers, David W. Lockwood,
Faith Critzer, Megan Bruch, Alice Rhea

8:00–9:45 AM

Salon 13/14

Ornamental Plant Breeding (Oral Session)

Moderator: Zhanao Deng, zdeng@ufl.edu

8:00–8:15 AM

Breeding and Introduction of Hardy Perennials and Shrubs at Star Roses and Plants

*Michele Scheiber, Emily Alff, Michael Dobres

8:15–8:30 AM

Polyploid Initiation in Hawaii Tree Species

*David Lingenfelter, Ken W. Leonhardt

8:30–8:45 AM

Relationships among Caladium Species: New Insights from Cytological and Molecular Marker Analyses

*Zhanao Deng, Zhe Cao, Mike McLaughlin

8:45–9:00 AM

Interspecific and Intergeneric Hybridization in Baptisia and Thermopsis

*Susan M. Hawkins, John M. Ruter, Carol D. Robacker

9:00–9:15 AM

Induction, Regeneration and Characterization of Tetraploids in Caladium

Xiaodong Cai, Shixiao Xu, *Zhanao Deng

9:15–9:30 AM

Identification of Partial Resistance to Black Spot in an Incomplete Diallel Diploid Rose Population

*Q. Dong, D.H. Byrne, K. Ong, X. Wang

9:30–9:45 AM

Clone Variation and Taxon Discrimination of Distylium Using ISSR Markers

*Yujie Yang, Josh Kardos, Donglin Zhang, Zhihui Li,
Matt Dirr, Xiaoling Jin

8:00–10:00 AM

Salon 4

Administrators Working Group Breakfast

To provide a forum for department and government administrators to meet to consider and discuss common problems and responsibilities and to share ideas that may enhance administrative abilities.

John Peterson, Chair; Wayne Mackay, Chair-elect

8:00–10:00 AM

Salon 11

—CEU Approved—

Workshop: Climate Change and the Role of Plasticulture to Help Mitigate the Impact on the Production of Vegetables and Berries

Sponsor: Plasticulture Working Group

Coordinator: Juan Carlos Diaz-Perez, jcdiaz@uga.edu

Plasticulture technologies have allowed significant increases in yield

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and quality of fruits and vegetables all over the world. Benefits of plasticulture technologies can be attributed in part to their ability to modify the crop microenvironment. Increased temperatures and irregular temperatures patterns due to climate change may result in reduced crop yields and quality, increased utilization of irrigation water, and augmented incidences of insects and plant diseases. This workshop will discuss research and current and potential applications of plasticulture technologies intended to maximize yield and quality, as well as to mitigate the impact of climate change, particularly the effects of increased temperatures on the production of vegetables and berries.

8:00–8:20 AM

Row Covers are a Weather Risk Management Tool in Plasticulture Strawberries

*Barclay Poling

8:20–8:40 AM

High Tunnel Production of Organic Strawberry in Northern Florida: Opportunities and Challenges

*Xin Zhao, Zack Black, Jason Neumann

8:40–9:00 AM

Plasticulture and Protected Agriculture: Current Status and Prospects for the Sahellian Region of West Africa

*Edward E. Carey, Laurent Stravato, Koussao Some

9:00–9:20 AM

Shading Nets Reduce Heat Stress and Incidence of Phytophthora Blight (Caused by *Phytophthora capsici*) and Fruit Yield in Bell Pepper (*Capsicum annum L.*)

*Juan Carlos Diaz-Perez

8:00–10:00 AM

Salon 12

Workshop: Two-minute Teaching Tips

Sponsor: Teaching Methods (TCHG) Working Group
Coordinator: Cynthia Haynes, chaynes@iastate.edu

Objectives: Provide innovative ideas on improving teaching to interested ASHS members. Discuss teaching tips with attendees.

Want some ideas on how to improve your teaching? Watch the members of the Teaching Methods Working Group briefly present some of their favorite teaching tips. Each presenter will have 2–3 minutes to share their favorite tip and how it has worked with their students. At the end of the session, attendees can ask questions and discuss these teaching tips and others with the group.

8:00–12:00 PM

Salon 9/10

—CEU Approved—

Colloquium: The Importance of Light Quality for High Value Plant Products

Sponsors: Controlled Environments (CE) Working Group*
Floriculture (FLOR), Quality, Safety, and Health Properties (QUAL), and Vegetable Crops Management (VCM) Working Groups

Moderator/Coordinator: Gioia D. Massa, gioia.massa@nasa.gov

Objectives: The light environment is one of the most influential abiotic factors impacting quality of specialty crops. This colloquium will cover recent advancements in the applications of advanced lighting technologies in specialty crop production systems. Speakers will focus on impacts in specialty production systems including vegetables, floriculture and other ornamentals, and bio-pharmaceuticals. Attendees will be introduced to the benefits of using color-selected phosphor fluorescent lamps, narrow-band light emitting diodes (LEDs), wavelength filters, and reflective technologies and how they can be applied to horticultural research and commercial production. This colloquium will follow on from a very successful workshop on LED lighting held in 2007.

Light is one of the most important environmental stimuli affecting plant growth and development; moreover, growers can now easily manipulate light quality in controlled growing environments. Opportunities now exist to apply different lighting technologies to increase the value of specialty crops. Technologies such as advancements in color-selected phosphor fluorescent lamps, narrow-band light emitting diodes, wavelength filters, and reflective materials allow for the specific control of light quality to eliminate spectra outside the photosynthetic action spectrum or provide unique wavelengths to maximizing efficiency or increase desired qualities. Optimizing and customizing the light spectrum and intensity may have dramatic impacts on plant growth and development, physiology, and energy fluxes within metabolic pathways, all impacting crop quality. Topics will cover increasing yield, quality, and specialized plant characteristics.

8:00–8:05 AM

Introduction to the Colloquium

*Gioia D. Massa

8:05–8:35 AM

Light Control of Consumer-desired Traits in High-value Produce

*Kevin M. Folta, Sofia D. Carvalho, Thomas A. Colquhoun

8:35–9:05 AM

LED Light Impacts on Specialty Crops

*Tessa H. Pocock

9:05–9:35 AM

LEDs Create a Less Stressful Light Environment and Increases in Higher-energy Blue Wavelengths will Increase Production of Nutritionally Important Metabolites in Specialty Vegetable Crops

*Dean A. Kopsell, Carl E. Sams, Robert C. Morrow

9:35–10:05 AM

Developing Photosynthetic, Photomorphogenic, and Photoperiodic LED Lighting Applications for Floriculture Crop Production

*Roberto G. Lopez, Erik S. Runkle

10:05–10:25 AM

Break

10:25–10:55 AM

The Potential of LEDs in Plant-based Bio-pharmaceutical Production

*Joey Norikane

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

10:55–11:15 AM

LED: the New Fast-track to Growth: Recipe Development and Practical Applications in Horticulture—Part 1: Global Examples LED Recipes and Development

*Esther Hogeveen van Echtelt

11:15–11:35 AM

LED: the New Fast-track to Growth: Recipe Development and Practical Applications in Horticulture—Part 2: North American Developments

*Abhay Thosar

11:35 AM–12:00 PM

Group Discussion

8:00 AM–5:00 PM

Departs from the Convention Entrance–Rosen Plaza

Three Facets of Public Horticulture

Coordinator: Carolyn W. Robinson, cwrobinson@auburn.edu

Tour Cost: \$139 (includes one way transportation, lunch and admission to Disney's Animal Kingdom Park). Advance Registration Required.

This Public Horticulture tour will showcase three diverse sites. Our first site is the University of Central Florida (UCF) Arboretum. The UCF Arboretum seeks to generate research, education, and outreach within the university to increase understanding of ecology and conservation of natural resources. Our second site is Harry P. Leu Gardens. Leu Gardens was donated to the City of Orlando in 1961 and is currently run by the city and aided by the Friends of Harry P. Leu Gardens, a non-profit organization. Our last site of the day is Disney's Animal Kingdom, which features both plants and animals. Zoo horticulture has the challenge of keeping plants looking great despite guests and the animals that want to devour them. Return to the hotel is on your own at your determined departure time. Shuttle times and rates are available from the hotel concierge. This is arranged in this way as the tour includes the admission to Disney's Animal Kingdom. Therefore, you can stay as long as you would like to enjoy all that the park has to offer.

9:00–10:00 AM

Salon 17

Graduate Student Activities Committee Meeting

Kent Kobayashi, Chair; Bala Rathinasabapathi, Guihong Bi, Juan Carlos Melgar, Andrew Koeser, Amanda Plante, Dayton Wilde

9:00–10:00 AM

Salon 18

International Division Advisory Council Meeting

Esmail "Essie" Fallahi (International Division Vice President), Chair; All Working Group Chairs and Chairs-elect, International Division

9:00–10:00 AM

Salon 6

Ornamentals/Landscape and Turf (O/LT) Working Group Business Meeting

Objectives: To study woody (ornamental and native) herbaceous and turf materials with emphasis on plant adaptability, selection, and maintenance requirements and to provide a vehicle for arboreta, botanic gardens, and the landscape industry (architects and contractors) to become more closely allied to ASHS.

Andrew Koeser, Chair

9:00–10:00 AM

Salon 2

Vegetable Breeding (VGBR) Working Group Business Meeting

Objectives: To promote the exchange of information on breeding procedures, screening techniques, and other areas of specific interest to vegetable breeders, to encourage the exchange of germplasm among vegetable breeders, and to maintain current lists of vegetable variety names and descriptions.

Michael Mazourek, Chair; Kevin Crosby, Chair-elect, Sam Hutton, Secretary

9:00 AM–5:00 PM

Ballroom A/B/C

Exhibits Open

9:00 AM–5:00 PM

Ballroom A/B/C

Poster Hall Open

9:45–10:15 AM

Ballroom A/B/C

Break

9:45–11:45 AM

Salon 8

Fruit Breeding 2 (Oral Session)

Moderator: Chunxian Chen, Chunxian.Chen@ars.usda.gov

9:45–10:00 AM

Assessment of Long-term Peach Evaluation Data Reveals Fruit Trait Distribution and Selection Tendencies

*Chunxian Chen, William R. Okie

10:00–10:15 AM

Heritability and Phenotypic Correlations in Peach

*Timothy P. Hartmann, David H. Byrne, Seth C. Murray

10:15–10:30 AM

Harnessing the Power of RosBREED: Development, Validation, and Application of DNA Tests for Predicting

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

Tuesday, July 29, 2014

Peach Fruit Quality, Disease Resistance, and Other Valuable Traits for Rosaceae Tree Fruit

*Paul Sandefur, Terrence Frett, Alejandra A. Salgado, Liane Bahr Thurow, Ksenija Gasic, John R. Clark, Cameron Peace

10:30–10:45 AM

Identification of QTL Underlying Soluble Solids Content and Titratable Acidity in Sweet Cherry (*Prunus avium* L.)

*Yunyang Zhao, Umesh Rosyara, Amy F. Iezzoni, Cameron Peace, Matthew Whiting, Amit Dhingra, Nnadozie Oraguzie

10:45–11:00 AM

Identification of QTL Underlying Powdery Mildew and Bacterial Canker Infection in Sweet Cherry (*Prunus avium* L.)

Yunyang Zhao, Josephine Udodirim Mgbechi-Ezeri, Kenneth B. Johnson, Umesh Rosyara, Amy F. Iezzoni, Cameron Peace, Amit Dhingra, *Nnadozie Oraguzie

11:00–11:15 AM

Interspecific Crosses in *Ziziphus* Species

*Noemi Tel-Zur, Armine Asatryan

11:15–11:30 AM

Relationships of Apple Rootstock Mediated Nutrient Concentrations in Leaves and Fruit of Gala Apples

*Gennaro Fazio, Terence Lee Robinson

11:30–11:45 AM

Selecting *Verticillium* Wilt-resistant Olive Genotypes by Classical Breeding

*Carlos Trapero, Concepcion M. Díez, Luis Rallo, Francisco J. López-Escudero, Diego Barranco

10:00–11:00 AM

Salon 18

Fellows Screening Committee Meeting

Penelope Perkins-Veazie, Chair; Emily Hoover, Caula Beyl, Tim Davis, Bruce Schaffer, Scott NeSmith, Mary Peet, James A. Flore, Duane Greene, Mary H. Meyer

10:00–11:00 AM

Salon 6

Plasticulture (PLAST) Working Group Business Meeting

Heightened environmental awareness and recent advances in plasticulture technology are catalyzing all kinds of new approaches in horticultural production around the world. The purpose of the Working Group is to encourage and facilitate the mutual exchange of ideas and information concerning the use of plastics in various aspects of horticultural research, extension, education, and industry. This is accomplished by promoting plastics science and technology, by providing a forum for the exchange of plasticulture ideas and information, and by encouraging innovation.

Juan Carlos Diaz-Perez, Chair; Wesley L. Kline, Chair-elect; Carol A. Miles, Secretary

10:00–11:45 AM

Salon 5

Genetics and Germplasm 1 (Oral Session)

Moderator: Joanne A. Labate, joanne.labate@ars.usda.gov

10:00–10:15 AM

Faster and Cheaper Microsatellite Projects with Plants

*Bryan J. Peterson, William R. Graves

10:15–10:30 AM

Delayed Wilt Symptoms Caused by *Verticillium dahliae* as a Resistance Characteristic in Iceberg Lettuce (*Lactuca sativa*)

*German Sandoya, Krishna V. Subbarao, Ryan J. Hayes

10:30–10:45 AM

Genomic Diversity of Four Closely Related Wild Tomato Species as Revealed by Genotyping-by-sequencing

*Joanne A. Labate, Larry D. Robertson, Susan R. Strickler, Lukas A. Mueller

10:45–11:00 AM

Tomato Rootstock Resistance to Bacterial Wilt (*Ralstonia solanacearum*): Effects of Genotype and Cold Stress on Epidemic Profile

*Jonathan P. Kressin, Emily J. Silverman, Frank J. Louws, Dilip R. Panthee

11:00–11:15 AM

Evaluation and Characterization of a Genetically Diverse Musa Germplasm Core Subset

*Brian Irish, Julie Sardos, Nicolas Roux, Ricardo Goenaga

11:15–11:30 AM

Genetic Diversity of Suksdorf's Desert Parsley [*Lomatium suksdorfii* (S. Watson) J.M. Coult. & Rose] in the Columbia Gorge

Theodore J. Kisha, *Barbara C. Hellier

11:30–11:45 AM

External Morphology Analysis and Intraspecific Variations among Habitats of *Allium victorialis* var. *platyphyllum* in Korea

*Won Bae Kim, Ki Oug Yoo

10:00 AM–1:00 PM

Ballroom D

The Horticultural Commodity Judging Contest and Plant Identification Contest

The Horticultural Commodity Judging Contest and Plant Identification Contest are held at each ASHS Annual Conference. Undergraduate students and ACB member clubs compete by rating the quality of horticultural commodities, identifying a large number of plants, many from out of their region, and by taking a general examination of horticultural knowledge.

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

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10:15 AM–12:00 PM

Salon 11

Plant Nutrient Management 1 (Oral Session)

Moderator: T. Casey Barickman, cb2407@msstate.edu

10:15–10:30 AM

Plant–Microbe Partnerships in the Southern Highbush Blueberry Rhizosphere: The Case of Iron Nutrition

*Gerardo H. Nunez, James W. Olmstead, Rebecca L. Darnell

10:30–10:45 AM

Controlled Release N Fertilizer for Irrigated Arid-land Vegetable Crops: A Decade of Research

*Charles A. Sanchez, Eric Ellison, Terry Tindall

10:45–11:00 AM

Soil Surfactant Increases Nutrient Use Efficiency and Yield of Potato Grown on Sandy Soil in Florida

*Guodong Liu, David Dinkins, Moshe Doron

11:00–11:15 AM

Machine that Bands Compost Shows Promise in Sweet Corn (*Zea mays* L.) and Tomato (*Lycopersicon lycopersicum*)

*William B. Evans, Haile Tewolde, Sarah Reynolds, Tom Way

11:15–11:30 AM

The Effect of Biochar on Root Growth of Large Crabgrass

*Karen A. Mitchell, Janna Beckerman, Anjali Iyer-Pascuzzi, Jeff Volenec, Kevin D. Gibson

11:30–11:45 AM

Effect of Foliar Application of Micronutrients (Zn & B) on Vegetative and Reproductive Growth of Mango (*Mangifera indica* L.) var. Langra

*Malik Ferdosi

11:45 AM–12:00 PM

Effect of Organic and Inorganic Fertilizers on Growth, Yield and Fruit Quality of Eggplant (*Solanum melongena* L.)

*Rajendra P. Maurya, Lekia Skeete, Jeff St. A. Chandler

10:15 AM–12:00 PM

Salon 7

Pomology 2 (Oral Session)

Moderator: Zachary Brym, zack.brym@usu.edu

10:15–10:30 AM

The Use of 1-Aminocyclopropane-1-carboxylic Acid and System-Cal™ for Post-bloom Thinning of Apples

*Esmail "Essie" Fallahi, Duane Greene, Bahar Fallahi

10:30–10:45 AM

Effects of Pollen Source and Seed Number on Fruit Set, Fruit Quality, and Flower Initiation of Apple

*Khalil R. Jahed, Peter M. Hirst

10:45–11:00 AM

Evaluating Scaling Relationships of Branching Structure and Biomass Partitioning in Managed Orchard Fruit Species

*Zachary Brym

11:00–11:15 AM

Functional Characterization and Identification of Single Nucleotide Polymorphisms in KRP4 and KRP5, Two Negative Regulators of Cell Production in Apple

*Anish Malladi, Lisa K. Johnson

11:15–11:30 AM

Performance of Geneva Rootstocks Trained to Four Production Systems with Two Initial Tree Types

*Terence Lee Robinson, Stephen A. Hoying, Mario Miranda-Sazo, Michael J. Fargione

11:30–11:45 AM

Spur versus Whole-tree Regulation of Apple Flowering

*Mokhles A. ELsysis, Peter M. Hirst

11:45 AM–12:00 PM

Root Pruning Reduces Vigor in High-density d'Anjou Pear Orchards

*Matthew Arrington, Aritz Kerman, Mateus Da Silveira Pasa, Todd Einhorn

10:15 AM–12:15 PM

Salon 13/14

Hot Topic Workshop: Advancing Worldwide Research, Education, and Outreach with Massive Open Online Courses—How Does It Work?

Sponsor: ASHS Education Division

Moderator/Coordinator: Sandra B. Wilson, sbwilson@ufl.edu

Objectives: 1) To provide insight in creating and managing MOOCs that can be used worldwide to disseminate research, teaching and extension expertise. 2) To address acceptance of MOOCs for degree credit, institutional and instructional benefits, and the overall educational quality of a MOOC learning experience.

Online technology is transforming the way top universities teach and how we can interact with the world in the same virtual classroom. As an educational technology company that partners with leading universities and organizations to offer massive open online courses (MOOCs) for free, Coursera's mission is to connect the world to a great education to foster learning without boundaries. Based on sound pedagogical foundations, their technology enables student's to master new concepts quickly and effectively in a global community of thousands rather than hundreds. The Coursera platform currently supports over 21 million student enrollments in 571 courses representing 190 countries (www.coursera.org). In this workshop, speakers will provide insight from their personal experiences in creating and managing certified MOOCs in economic food issues, sustainable energy, and agricultural land management with enrollment ranging from 10,000 to 22,000 initial students in a single session.

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

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10:15–10:55 AM

“Me and My MOOC”—An Online University of Florida Class in Global Sustainable Energy

*Wendell Porter

10:55–11:35 AM

A Mooc Point: Collision or Collaboration

*Rebecca Miles

11:35–12:15 PM

Sustainable Agricultural Land Management, an Agricultural Course Offering with Coursera.org

*George J. Hochmuth, Shay Potts

10:15 AM–12:15 PM

Salon 12

—CEU Approved—

Workshop: ASHS meets SWD: A New Pest of Small and Stone Fruits

Sponsor: Viticulture and Small Fruits Working Group

Moderator/Coordinator: Jimmy Klick, klickj@hort.oregonstate.edu

Objectives: 1) Educate students, technicians, extension agents and faculty about this new invasive pest, Spotted Wing Drosophila (SWD), to facilitate their communications with the industry and public. 2) Provide hands-on experience to learn identification and detection of SWD. 3) Provide management options for SWD.

A new invasive pest of small and stone fruit crops has been causing economic damage in North America and Europe. The spotted wing drosophila (SWD), *Drosophila suzukii*, is a vinegar fly that infests ripe fruit. The biology, life cycle, global impact, management, and current and future research will be discussed. A hands-on education session on adult and larval identification and monitoring will facilitate communication to the audience. This workshop will provide crucial knowledge to students, technicians, extension agents, and faculty that do research, consult, and work in any aspect related to small and stone fruit crops.

10:15–10:45 AM

Spotted Wing Drosophila: A Major Threat to Small and Stone Fruit Production in the United States

*Ash Sial

10:45–11:05 AM

SWD in Florida: Monitoring, Alternative Hosts, Management, and Outreach

*Lindsay Iglesias, Teresia Nyoike, Oscar Liburd

11:05–11:25 AM

Hands-on Teaching: Identifying and Monitoring SWD Adults and Larvae

*Jimmy Klick, Lindsay Iglesias

11:25–11:40 AM

Managing SWD Using Reduced Spray Strategies

*Jimmy Klick, Denny Bruck, Wei Qiang Yang

11:40–11:55 AM

Comparing Pesticide Delivery Methods for SWD Control

*Wei Qiang Yang, Lynell Tanigoshi, Vincent Hebert

11:55–12:15 PM

Integrating Alternative SWD Management Practices

*Cesar Rodriguez-Saona, John Abraham, Aijun Zhang

11:00 AM–12:00 PM

Salon 17

Endowment Fund Committee Meeting

Chris Gunter, Chair; Rich Marini, Marietta Loehrlein, Astrid Volder, Paul E. Read, Carl E. Sams, Paul Thomas, Brian Trader, John L. Griffis Jr., Curt R. Rom, Mary H. Meyer, David Hensley, Michael W. Neff

12:00–1:00 PM

Salon 2

International Horticultural Consultants (ICON) Working Group Business Meeting

Objectives: To discuss the credentials and accreditation of international consultants and sources of information, backstopping, teamwork, training, experience, and communications necessary for effective employment as an international consultant in either the private or public sector, and to develop a directory of international horticultural consultants in ASHS and their sources of information.

Mary Beth Henry, Chair; Carl Motsenbocker, Chair-elect

12:00–1:00 PM

Salon 6

Teaching Methods (TCHG) Working Group Business Meeting

Objectives: To provide information and an area of interaction among educators at all levels and extension personnel interested in teaching, with emphasis on teaching procedures, effective use of photographic equipment and materials, and lists of source materials.

Cynthia Haynes, Chair; Brian Trader, Chair-elect; Kent Kobayashi, Secretary

12:00–2:00 PM

Salon 18

Membership Committee Meeting

Mark Uchanski, Chair; Matthew Taylor, Tim Rhodus, Carol Lovatt, Meredith Melendez, Thomas Molnar, Casey Seals, Raju Manchakkal Thupran, Yiqun Weng, Mary H. Meyer, Michael W. Neff

12:00–2:00 PM

Salon 4

Pi Alpha Xi Luncheon—Annual Meeting

Prepayment and preregistration required.

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

12:15–1:00 PM

Ballroom A/B/C

**Environmental Stress Physiology
(Poster Session)**

(190) Electrical Potentials in ‘W. Murcott’ Tangor Trees in Response to Salinity Stress

Jaecy Alexandra Koryzma-Zepp, Pilar M. Gil, *Bruce Schaffer

(191) Comparative Responses of *Glaucium* spp. to Salinity Stress

*Ahmed O.M. Getlawi, Mohamed Shahba, Harrison Hughes

(192) Screening *Glaucium* spp. for Drought Resistance with Emphasis on the Contributing Physiological Characters and Overall Performance

*Ahmed O.M. Getlawi, Mohamed Shahba, Harrison Hughes

(193) Effect of Flooding Duration and Portion of the Roots Submerged on Physiology, Growth, and Survival of Papaya (*Carica papaya* L.)

Gustavo Rodríguez, *Bruce Schaffer, Ana I. Vargas, Carmen Basso

(194) Enhancing Drought Tolerance in Common Bean, the Most Widely Consumed Legume

*Jesse Traub, James D. Kelly, Wayne H. Loescher

(195) Auxin and Indol Acetic Acid Oxidase Activity during Sweetpotato Storage Root Initiation

Xiang Wang, Bandara Gajanayake, Jeffrey L. Main, Lori Grelen, K. Raja Reddy, *Ramon A. Arancibia

(196) Switchgrass Germination and Growth as Affected by Soil Salinity

*Hanan Isweiri, Limei Wang, Sarah Wilhelm, Yaling Qian

(197) Temperature Effect on Seed Germination in Spinach (*Spinacia oleracea* L.)

*Jessica Chitwood, Michael R. Evans, Curt R. Rom, Beiquan Mou, Dennis Motes, Jianbing Ma, Haizheng Xiong, Ainong Shi

(198) Initial Evaluation of Spinach Collections for Drought Tolerance

Caleb Knepper, *Beiquan Mou

(199) Abscisic Acid Impacts Tomato Fruit Quality by Increasing Carotenoids and Soluble Sugars and Decreasing Organic Acids

*T. Casey Barickman, Dean A. Kopsell, Carl E. Sams

(200) Exogenous Foliar and Root Applied Abscisic Acid Increases the Influx of Calcium into Tomato Fruit Tissue and Decreases the Incidence of Blossom-end Rot

*T. Casey Barickman, Dean A. Kopsell, Carl E. Sams

12:15–1:00 PM

Ballroom A/B/C

**Genetics and Germplasm 2
(Poster Session)**

(208) Analysis of Floral Transcriptomes of *Lonicera macranthoides* ‘Jinculei’ and Its Wild Type

*Xiaoming Wang, Zhongquan Qiao, Yongxin Li, Neng Cai, Huijie Zeng, Xiangying Wang, Jianjun Chen

(209) Developing Molecular Marker Resources for Pecan

Charles Rohla, *Will Chaney

(210) Determining the Genotypes for and Genetic Distances between Two Loci Controlling Caladium Leaf Spotting and Main Vein Colors

*Zhe Cao, Zhanao Deng

(211) Possible Ancestor of Japanese Persimmon (*D. kaki* Thunb.) Existing in Yunnan Province and Northern Vietnam

*Keizo Yonemori, Shinya Kanzaki, Akihiko Sato, Hoa Tran, Yong Yang, Renzi Wang, Zhengrong Luo

(212) Toward Understanding Genotype x Environment Interactions in Black Raspberry (*Rubus occidentalis* L.)

*Jill M. Bushakra, Christine M. Bradish, Courtney A. Weber, Joseph C. Scheerens, Michael Dossett, Mary Peterson, Gina Fernandez, Jungmin Lee, Nahla Bassil, Chad E. Finn

(213) Genetic Study of Serpentine Leafminer Resistance in Valmaine Romaine Lettuce

*Ramkrishna Kandel, Huangjun Lu, Gregg Nuessly, Heather McAuslane

(214) Resistance to *Phytophthora rubi* in Wild North American Red Raspberry Germplasm

*Michael Dossett, Tom Forge, Carol Koch, Chaim Kempler

(215) Evaluation of Red Cabbage Genotypes for Anthocyanin Content and Quality

*Alexandra Amanda Bennett, David Christopher Manns, Anna Katharine Mansfield, Phillip Griffiths

(216) Exploring Diversity in *Brassica* Crops for Glucosinolates and Cancer Chemopreventive Bioactivity

*Talon M. Becker, John A. Juvik

12:15–1:00 PM

Ballroom A/B/C

**Graduate Student Poster Competition
(Session 3)**

Please see the full schedule of competition times starting on p. 16.

Tuesday, July 29, 2014

12:15–1:00 PM

Ballroom A/B/C

Ornamentals/Landscape and Turf 1 (Poster Session)

(118) Ornamental Annuals and Perennials Differ as Insect Attractors

Bethany Harris, Kris Braman, *Svoboda V. Pennisi

(119) Initial Landscape Evaluation of Daylily Cultivars for Rust Resistance

*Eugene K. Blythe, Cecil Pounders, Michael Anderson

(120) River Birch (*Betula nigra*) Growth and Root Extension from Three Production Systems during Landscape Establishment

*Catherine Neal, Amy Papineau, Daniel Lass

(121) Soil Water Content Affects Decomposition of Plantable Biocontainers for Landscape Use

*Svoboda V. Pennisi, Mussie Habteselassie, Bethany Harris

(122) Establishment of Roses in High Soil Moisture Conditions

*Pamela Collins, Geoff Denny

(123) Comparisons of Species Diversity of Intensive Green Roofs between Honolulu, USA, and Guangzhou, China

*Wei Liu, Nian Liu, Chunhua Guo, Hye-Ji Kim

(124) What Does the Consumer Say? South Florida Survey on Ornamental Grasses

*Nancy Calderone-Ripak, Kimberly Moore, Sandra B. Wilson, Gary W. Knox, Zhanao Deng

(125) National Ornamental Grass Trials 2014

*Jane Rozum, Mary H. Meyer, James E. Klett

12:15–1:00 PM

Ballroom A/B/C

Plant Nutrient Management 2 (Poster Session)

(290) Struvite as a P Fertilizer Source for Irrigated Vegetables on Calcareous Soils

*Charles A. Sanchez, Dan Froelich, Trudy Naugler Klassen

(291) Low-molecular-weight Organic Acids as a Phosphorus Fertilizer Alternative for Vegetable Production in Calcareous Soil Regions

*Dagoberto Osorio, Ken Mix

(292) Influence of Leaching Fractions of Fertigation on Soil Chemical Properties and Plant Growth during Hot Pepper Plug Seedling Production

Jong Myung Choi, *Chiwon W. Lee

(293) The Effects of a Soar Peach Micronutrient and Biostimulant Program on Peach Yield in South Georgia

*Eric Waldo

(294) Effects of Fertilizer Rate and Media Formulation on Vertical Growth and Basal Shoot Production of Transplanted Tissue-cultured Plugs of *Dracaena* ‘Ruth Luka’

*John L. Griffis Jr., Malcolm M. Manners, Adam D. Caple, Kheng T. Cheah, Andrew F. Kawabata

(295) Using Heat Unit Models to Predict N Release from Controlled Release Fertilizers for Vegetable Production

Eric Ellison, *Charles A. Sanchez, Terry Tindall

(296) Controlled Release Fertilizers Affect Croton Production

*Sueyde Oliveira, Simone Mello, Keigo Minami, Paul R. Fisher, Marcela Vieira

12:15–1:00 PM

Ballroom A/B/C

Postharvest 2 (Poster Session)

(012) Soluble Solids Content and Firmness Determination in Intact Peach Fruit cv. ‘Aurora 1’ Using Near-infrared Spectroscopy (NIR)

Paloma A.M. Nascimento, Livia C. Carvalho, Luís C. Cunha Jr., *Gustavo H.A. Teixeira

(013) Peach Fruit Ripening and Quality Changes as Affected by High Carbon Dioxide Treatment before Cold Storage

Han Jun Lee, Seung Hyun Han, *Sooyeon Lim, Eun Jin Lee

(014) Proteases Associated with Programmed Cell Death and Watersoaking in Ethylene-treated Immature Cucumber Fruit

Jin Su Lee, *Donald J. Huber, Eduardo C. Vallejos, Brandon M. Hurr

(015) Sample Handling Affects Accuracy of HS-SPME GC for the Study of Volatile Aroma Compounds in Apple Tissue

Guadalupe Isela Olivas, *Javier Molina-Corral, Miguel Espino-Díaz, David Sepulveda, Carla Gutiérrez

(016) Volatiles Production from Isoleucine in Fresh-cut Apple, Using Alginate Coatings as the Holding Matrix

Guadalupe Isela Olivas, *Miguel Espino-Díaz, Gloria Velasco, Javier Molina-Corral, David Sepulveda, Gustavo A. González-Aguilar

(017) Effect of Alginate Edible Coatings Formulated with Linoleic Acid on the Aroma and Quality of Fresh-cut Golden Delicious Apple Wedges

Guadalupe Isela Olivas, Gloria Velasco, Javier Molina-Corral,

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

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*Miguel Espino-Díaz, David Sepulveda,
Gustavo A. González-Aguilar

(018) Biochemical and Molecular Processes during Ripening and Over-ripening of Banana (*Musa* AAA Cavendish Subgroup) Fruit Exhibit Characteristics of Programmed Cell Death

*Maricruz Ramírez-Sánchez, Donald J. Huber,
Eduardo C. Vallejos, Karen Kelley

(019) Acute Suppression of Ripening and Negation of a Respiratory Climacteric in Midclimacteric Tomato Following Short-term Application of 1-MCP Under Hypobaric Hypoxia

Xiaoqing Dong, *Donald J. Huber, Jing-Ping Rao, James H. Lee

(020) Preliminary Physicochemical Characterization of Genomically Diverse Georgia Grown Bananas during Postharvest Ripening

Floyd M. Woods, *Gabriela Hernandez, E. Greg Fonsah,
Raymond Kessler Jr., Elina D. Coneva, Joseph M. Kemble,
Kalidas Shetty, D. Camille Crosby, Michael Barnhill

(021) Glucosinolates Are Enhanced by Controlled Application of Abiotic Stresses in Broccoli (*Brassica oleracea* var. *Italica*) during Postharvest Storage

*Arturo Duarte Sierra, Paul Angers, Dominique Michaud,
Charles F. Forney, Joseph Arul

12:15–1:00 PM

Ballroom A/B/C

Viticulture and Small Fruits 1 (Poster Session)

(327) Improved Productivity of Chambourcin Grape Grafted to Seven Rootstocks

*Martin L. Kaps

(328) Deficit Irrigation Strategies and Wine Grape Cold Hardiness

*Krista C. Shellie

(329) Frontenac Response to Training System and Leaf Removal Treatments

*Brittany Korynta Olson, Harlene Hatterman-Valenti,
Collin P. Auwarter

(330) Delay of Bud Break on ‘Edelweiss’ Grapevines with Multiple Applications of Amigo Oil and NAA

Benjamin A. Loseke, *Paul E. Read

(331) The Use of Different Plant Growth Regulators in ‘Scarlet Royal’ Table Grape Production to Determine Postharvest Quality

*Victoria Towers, Sonet Van Zyl

(332) Early Primocane Yield Data of Advanced Thorny and Thornless Primocane-fruiting Blackberry Selections at Kentucky State University

*Kirk W. Pomper, Jeremiah Lowe, Sheri B. Crabtree,
John G. Strang, John R. Clark

1:00–1:45 PM

Ballroom A/B/C

Floriculture 1 (Poster Session)

(094) Color Expression, Pigment Composition, and Related Gene Transcription in Double Coloring Petals of Cut Roses

*Wan Soon Kim, Seul Ki Lee

(095) Optimum Substrate Moisture Content Improves Quality of Impatiens and Coleus

Xinxin Li, *Hye-Ji Kim

(096) Growth and Development of Canna Lily ‘Erimine’ Liners Treated with Flurprimidol or Paclobutrazol

*Michael Maurer, Adam Summerville

(097) Co-effectiveness of Supplemental Lighting and Irrigation in Conjunction with Compensation for Midday Depression of Photosynthesis of Cut Roses

*Wan Soon Kim, Liyun Shi

(098) Response of Chrysanthemums to Various Day–Night Air Temperature Differences/Drops and Root Zone Temperatures at the Same Daily Integrated Temperature

*Xiuming Hao, JingMing Zheng, Celeste Little

(099) Nutrient Status of Cosmos (*Cosmos bipinnatus*) in Response to Mycorrhizal Treatment

*Marietta Loehrlein

(100) Petunia Mutagenesis and Identification of a Self-fertilizing Mutant for Tilling

*Peng Jiang, Yihua Chen, James Gegogaine, Dayton Wilde

(101) Productivity of Direct-seeded versus Transplanted and Season-long versus Successional Plantings of Zinnia Cut Flower Field Crops

*Yu Gu, Julia Kornegay, John M. Dole

1:00–1:45 PM

Ballroom A/B/C

Graduate Student Poster Competition (Session 4)

Please see the full schedule of competition times starting on p. 16.

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

1:00–1:45 PM

Ballroom A/B/C

Local Food Systems (Poster Session)

(031) Survival Analysis and Detection of Human Pathogens for Organic Strawberry Production in Tennessee

*Himabindu Gazula, Yibing Yan, Sarabjit Bhatti, Fur-Chi Chen, Suping Zhou

(032) New Market Opportunities for Dry Beans (*Phaseolus vulgaris*): Are NW WA Heirloom Varieties More Productive?

Kelly A. Atterberry, *Carol A. Miles, Brook Brouwer

(033) What's Hop'pening in Northwest New Mexico? Hops (*Humulus lupulus*) Trials Summary 2009 to 2014

*Kevin Lombard, Katie McCarver, Franklin Jason Thomas, Ram Acharya, Todd Bates

(034) Hoophouses for Health: Building the Good Food Infrastructure

*Laura Haselhuhn, Dru Montri, Adam Montri, Gillian Cobb, Bridget K. Behe

(035) Resources Required by Different Types of Food Hubs

*Kevin Duerfeldt, Cynthia Haynes, Jennifer Boussetot

(036) Local Fertility: Municipal and Industrial Waste as a Source of Organic Matter and Nitrogen, and Its Effect on Vegetable Yields

*Rebecca J. Long, Edwin M. Fava, Angela R. Possinger, José A. Amador, Rebecca N. Brown

(037) Evaluating Baby-leaf Salad Greens for Spring and Fall Production in Northwest Washington

*Charlene Margaret Grahn, Carol A. Miles, Chris Benedict, Tom Thornton

(038) Growing Growers in the Kansas City Metropolitan Area

*Molly Fusselman, Candice Shoemaker, Marlin Bates, Alicia Ellingsworth, Lala Kumar, Katie Nixon, Laura Christensen, Cary Rivard

1:00–1:45 PM

Ballroom A/B/C

Propagation 2 (Poster Session)

(166) Development of a Pre-screening Method for Storage of Grafted Cucurbitaceae Seedlings

*Karla Patricia Garcia, Chieri Kubota

(167) Effects of Grafting Methods and Re-rooting on the Growth Characteristics of Grafted Muskmelon Plants

*Wenjing Guan, Xin Zhao

(168) Shoot Forcing and Rooting of Stem Cuttings of *Morus* (Mulberry) Species

Kyle Roberson, *John E. Preece, Jenny Smith

(169) Clonal Propagation of Guayule through Cuttings

Adam Spanier, Joy Hought, Cole Steen, Valerie H. Teetor, *Dennis T. Ray

(170) Development of a Liquid Micropropagation System for *Asparagus officinalis* L.

*Xinyu Chen, David Wolyn

(171) Growth of Christ Thorn (*Euphorbia milli* var. *Splendens*) Slips in Different Substrates

*Jaime Molina-Ochoa, Oscar Rebolledo-Domínguez, Abel González-Torres, John E. Foster, Arnoldo Michel-Rosales, Francisco Radillo-Juárez

(172) Yield Performance and Bean Quality Traits of Cacao Propagated by Somatic Embryogenesis and Grafting

*Ricardo Goenaga, Mark Guiltinan, Siela Maximova, Ed Seguíne

(173) Propagation and Growth Parameters of Preselected Pomegranate (*Punica granatum*) Cuttings from the USDA–ARS National Clonal Germplasm Repository

*John M. Chater, Donald Merhaut, John E. Preece

(174) In Vitro Culture of Immature Peach Embryos

*Filipe Bittencourt Machado Souza, Rafael Pio, Gregory L. Reighard, Edvan Alves Chagas, Moacir Pasqual

(175) Effects of Indole-3-butyric Acid, Silver Nitrate, and Management on the Rooting and Stimulation of Active Growth of Hybrid Hazelnuts (*Corylus americana* x *C. avellana*) Stem Cuttings

*Ronald Scott Revord

1:00–1:45 PM

Ballroom A/B/C

Teaching Methods 2 (Poster Session)

(077) Smart Devices and Apps Help Support Research, Extension, and Teaching

*Kent D. Kobayashi, Teresita D. Amore

(078) Promoting Horticulture in the United States—A National Study and Action Plan

Marnie Conley, John M. Dole, Mary H. Meyer, Douglas C. Needham, Michael W. Neff, *Brian Trader

(079) Assessing Student Learning from an Experiential Hydroponics Production Module in a Greenhouse Management Course

*Joshua K. Craver, Kimberly A. Williams

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

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(080) A Pilot Study of College Students' Experiences with an Educational Game to Learn Difficult Plant Science Concepts

*Kathryn S. Orvis, Neil Knobloch, Cecilia Espinoza Morales, Lisa Keefe, Bryan Hains, Shen-Kuen 'Jack' Chang

(081) A Proactive Model for Recruiting Students into Agriculture Disciplines

*Caula A. Beyl, Anna F. Adams

1:00–1:45 PM

Ballroom A/B/C

**Tropical Horticultural Crops
(Poster Session)**

(315) Genetic Diversity of Papaya Ring Spot Virus in Puerto Rico

*Dimuth Siritunga, Cristina Zambrana, Rocio Marquez, Lorraine De Jesus Kim, David Jenkins

(316) Assessing Avocado for Laurel Wilt Resistance, Fruit Quality, and Horticultural Traits for Production in East Central Florida

*Cristina Pisani, Mark A. Ritenour, Ed Stover, Randy C. Ploetz, Osman A. Gutierrez, Anne Plotto, David Kuhn

(317) Development and Biochemistry of Timbiriche (*Bromelia hemisphaerica* Lam.) Fruits

*Edilberto Avitia-Garcia, Luis Alonso Valdez-Aguilar, Ana Maria Castillo-González, Maria T. Colinas-Leon

(318) Response of Grafted Varieties Watermelon on Cucurbit Rootstock in Dry Tropic Conditions

*José Martín Pinto Briceño, C.a. López Martínez, Javier Farias-Larios, Jose Gerardo Lopez Aguirre, J.C. Torres-Sanchez, F.a. Garcia-Lopez

(319) Banana Fruit Production in More Temperate Climates: Making a Case for Banana Fruit Production in Coastal Alabama

*Edgar Vinson, Elina D. Coneva, Joseph M. Kemble, Floyd M. Woods, Penelope Perkins-Veazie, Greg E. Fonsah, Jeff L. Sibley

(320) Lessons Learned in Conservation Tillage Vegetable Systems in the Sub-tropics and Tropics

Danielle D. Treadwell, *Stuart Weiss, Elide Valencia, Kenneth Beamer

(321) The Guam Plant Extinction Prevention (GPEP) Program for Saving Rare Plants in Guam

*James McConnell

(393) Propagation of the Fruit Crop *Artocarpus altilis* by Root Cuttings of Various Lengths and Diameters

*J. Pablo Morales-Payan

1:00–1:45 PM

Ballroom A/B/C

**Vegetable Crops Management 2
(Poster Session)**

(374) Nutritionally Important Pigments in Baby Chinese Kale Are Higher Under Narrow Band LED Light than Under Fluorescent/Incandescent Lighting in Controlled Environments

*Dean A. Kopsell, Carl E. Sams, Robert C. Morrow

(375) Compost for High Tunnel Tomato Production

Kate Marshall, Susan Erich, *Mark Hutton, Mark Hutchinson, Ellen Mallory

(376) Effect of Compost Application Rates on High Tunnel Tomato Yield

*Mark Hutton, Mark Hutchinson, David Handley

(377) Antioxidant Content of Pepper Grown in Recycled Waste

*George Antonious

(378) Biostimulants Effects on Bell Pepper (*Capsicum annuum*) Plant Growth, Fruit Yield, and Incidence of Fruit Disorders

*Juan Carlos Diaz-Perez, Jesus Bautista, Nelida Bautista, Alberto Alvarado Chavez

(379) Sucker Control of Tomato Seedlings by Fatty Alcohol Application

*Tomomi Eguchi, Chieri Kubota

(380) An Investigation of Weed Suppression Using Various Pre-emergent Herbicide Treatments on a Direct-seeded, Field Grown Leaf Lettuce 'Green Salad Bowl' Crop

*Kathryn Fontenot, Ron E. Strahan, Charles E. Johnson, J. Beasely

1:00–1:45 PM

Ballroom A/B/C

**eXtension and International Horticultural
Consultants (Poster Session)**

(065) Use of Non-traditional Data Management Tools for Extension Impact Reporting

*Jared Hoyle, James McCurdy, Cheryl R. Boyer

(066) Using Online Learning Modules as a Tool for Delivering Complex Information to SCRI Stakeholders

Matt Chappell, *Paul Thomas, John D. Lea-Cox, Marc van Iersel, Lauren Crawford, Bruk Belayneh, John Majsztzik, William Bauerle, Taryn Bauerle, Dennis King, David Kohanbash, Erik Lichtenberg, Andrew Ristvey

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(067) Reach, Engagement, and Impact of eViticulture and the eXtension Grape Community of Practice

*Eric Stafne, Rhoda L. Burrows, Matthew W. Fidelibus, Lane Greer, Paul Jenkins, Kevin Ker, Michelle Moyer, Patricia A. Skinkis, Hans Walter-Peterson

(068) Infographics: Revealing Complex Data Quickly and Clearly

*Wendy V. Hamilton

(069) Exploring Opportunities for International Engagement in Horticulture

*Mary E. Henry

1:00–2:00 PM

Salon 6

Viticulture and Small Fruits (VSF) Working Group Business Meeting

Objectives: To study the improvement, production, propagation, and culture of small fruit and grape crops, to perform services for the Society and the general public in the area of small fruits and grapes, and to exchange current information on recent research findings and educational and industry problems.

Nahla Bassil, Chair; Rebecca Harbut, Chair-elect

1:45–3:00 PM

Salon 5

Viticulture and Small Fruits 1 (Oral Session)

Moderator: Sanliang Gu, sanliang@csufresno.edu

1:45–2:00 PM

Bird Management in Fruit Crops: Economic, Consumer, and Biological Perspectives

*Catherine Lindell, Stephanie A. Shwiff, Paul D. Curtis, Philip H. Howard, Karen M.M. Steensma, George M. Linz, Jason R. Boulanger, Nikki Lynn Rothwell, Juliet E. Carroll, Chi-Ok Oh, Colleen L. Burrows, Mark A. Longstroth, Clive Kaiser, David P. Lusch, Shayna L. Wieferrich, Heidi M. Henrichs, Deanna Leigh, Megan E. Shave, Rachael A. Eaton, Zachary B. Herrnstadt, Aaron M. Anderson

2:00–2:15 PM

Comparison of Growing Degree Hours Based on Hourly Average Temperatures with Growing Degree Days Based on Daily Minimum and Maximum or Average Temperatures to Interpret Heat Summation

*Sanliang Gu, Adnan Sabuwala, Hemant Gohil

2:15–2:30 PM

A Comparison of Non-destructive Imaging and Destructive Load Cells for Grape Yield Estimation

*Stephen T Nuske, Luis Sanchez

2:30–2:45 PM

Grafted Blueberries: An Option for Mechanical Harvest?

*Bruno Casamali, Rebecca L. Darnell, Jeffrey G. Williamson

2:45–3:00 PM

Harvest Method and Packing Line Impact on Rabbiteye [*V. virgatum* (syn. *V. ashei*)] Blueberry Cultivars Brightwell and Powder Blue

*Erick Smith, Renee Holland

1:45–3:15 PM

Salon 7

Local Food Systems and Human Issues in Horticulture (Oral Session)

Moderator: Gail M. Hansen de Chapman, ghansen@ufl.edu

1:45–2:00 PM

Healthy, Local Food for All: Joining SNAP Education and Agroecology

*Kelly Young, Traci Armstrong Florian, Jessica Davenport, Marina Acosta

2:00–2:15 PM

Assessing the Strengths and Weaknesses of Polk County Food Systems Security

*Mary E. Henry, Whitney M. Fung

2:15–2:30 PM

The EARTH (Education And Resiliency Through Horticulture) Program after Four Years

*Cynthia Haynes, Kevin Duerfeldt

2:30–2:45 PM

Effects of Horticultural Therapy on Cancer Patients' Psychological Well-being in Different Therapeutic Environments

Hui-Mei Chen, *Hung-Ming Tu

2:45–3:00 PM

An Investigation of How Perceptions of Florida-friendly Landscapes Could Influence Acceptance and Agreement Between Homeowners and Home Owner Association Boards

*Gail M. Hansen de Chapman, Laura A. Sanagorski, Paul F. Monaghan, Esen A. Momol, Claire E. Lewis, Taylor B. Clem

3:00–3:15 PM

School Garden-based Pulse Biology and Nutrition Education to Increase Consumption of Targeted Foods in K–12 Students

Kelly A. Atterberry, *Carol A. Miles, LeeAnne Riddle, Susan Kerr, Drew Betz, Janice Rueda

1:45–3:15 PM

Salon 8

Plant Nutrient Management 2 (Oral Session)

Moderator: Rania Basyouni, rania.basyouni@okstate.edu

1:45–2:00 PM

Could Leaf SPAD Values (Chlorophyll Index)

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Compliment Nitrogen, Phosphorus, Potassium, Calcium, Sulfur, Magnesium, and Iron Nutrient Status in Romaine Lettuce (*Lactuca sativa*)

*Dharma Pitchay, Grija Vijayan, Robert Mikkelsen, Juan Carlos Diaz-Perez

2:00–2:15 PM

The Use of Nondestructive Sensors to Assess Nitrogen Needs of Greenhouse Plants

*Rania Basyouni, Bruce L. Dunn, Carla Goad

2:15–2:30 PM

Prediction of Pore Water Electrical Conductivity Using Real Dielectric and Bulk Electrical Conductivity in Soilless Substrates

*Rhuano Soranz Ferrarezi, Peter Otieno Alem, Marc van Iersel

2:30–2:45 PM

Leaf Growth and Nutrient Element Uptake by Adventitious Roots of Collards in Hydroponic Solution of Variable Composition

*Jonathan N. Egilla, Rose Ogutu, Isabelle Nyirakabibi

2:45–3:00 PM

Determining Variability within Leaf Analysis and Reflectance Sensor Sampling Methods

*Bruce L. Dunn, Stephen Stanphill, Carla Goad

3:00–3:15 PM

Boron and Salinity Stress Interaction and Effects on Grafted and Ungrafted Tomato Plants

*Francesco Di Gioia, Donato Buttaro, Angelo Signore, Francesco Serio, Pietro Santamaria

1:45–3:45 PM

Salon 12

—CEU Approved—

Workshop: A Research Update on the Use of Rootstocks in Fruit and Vegetable Crop Production

Sponsor: Root Growth & Rhizosphere Dynamics (RHIZ) Working Group

Moderator/Coordinator: Xin Zhao, zxin@ufl.edu

The objective of this workshop is to foster rootstock evaluation and breeding to serve sustainable production of grafted fruit and vegetable crops.

Grafting as a unique and effective tool has been widely used in fruit and vegetable production for improving crop health and productivity. Although the application of vegetable grafting is still limited in the United States, interest in grafted vegetables to address site-specific production challenges has been increasing recently. This workshop will serve as a forum to discuss the advances in rootstock development and the role of rootstock use in sustainable crop production. Research progress will be presented on rootstock selection and breeding for citrus and peach production to enhance resistance/tolerance to biotic and abiotic stresses and to improve the overall production systems with

regard to tree vigor and fruit yield and quality. A research update on watermelon and tomato grafting will also be provided with the emphasis on fruit quality and composition as affected by rootstocks, rootstock-scion interactions on Tomato mosaic virus resistance, assessment of a diverse range of rootstock-scion combinations, and grafted tomato production under different planting densities.

1:45–2:05 PM

Categories of Citrus Rootstocks and Their Effects on Tree Size, Yield, Fruit Quality, Adaptation and Disease Resistance

*Jude W. Grosser, Fred G. Gmitter

2:05–2:25 PM

Rootstock Influence on the Performance of Peach Scions and Overall Tree Survival in the Southeastern United States

*Thomas G. Beckman, José X. Chaparro

2:25–2:45 PM

Effect of Rootstocks on Watermelon Quality and Composition

*Penelope Perkins-Veazie, Richard L. Hassell

2:45–3:05 PM

Effects of Different Tomato Mosaic Virus Resistance in Grafted Tomato Scions and Rootstocks

*Erin Roskopf, Jason Hong, Nancy Kokalis-Burelle, Chieri Kubota, Scott Adkins

3:05–3:25 PM

Toward More Effective Selection of Tomato Rootstock and Scion Varieties for Use in US Soil-Based Production, Including Organic

Bizhen Hu, Jennifer B. Moysenko, Stephanie Short, Sonia D. Walker, *Matthew D. Kleinhenz

3:25–3:45 PM

Grafted Tomato Production Under Different Planting Densities

*Xin Zhao, Zack Black, Jason Neumann

1:45–3:45 PM

Salon 11

Workshop: Nuts and Bolts of Postharvest Shipping Around the World

Sponsor: Postharvest (PH) Working Group

Moderator/Coordinator: John C. Beaulieu, John.Beaulieu@ars.usda.gov

Today, consumers demand fresh, local, regional, national, tropical, and exotic produce to be on the grocer's shelf, 365 days a year. Local and national sourcing of "in-season" produce is often simple and uncomplicated in comparison to importation of peak production of high quality produce, aligned with low domestic production. There are several important aspects regarding the successful acquisition of imported perishables arriving safely and in optimum quality to the grocer's display case. In this workshop we will present a logistical

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overview of the intricacies and postharvest problems often encountered with international cargo shipments of fresh produce. Focus will be on ship and air freight of containers routinely moved in/out and through international ports. Four speakers will discuss strategies and fundamental concepts required to facilitate meaningful research and technologies needed to ensure safe and expedient delivery of fresh produce to and from international ports to the marketplace. In addition to important postharvest and engineering aspects for proper cooling and shipping, key regulatory issues and logistical/legal aspects will also be addressed. The workshop will include both university and corporate level in-depth analysis and real-world research with international corporate cases used to illustrate the nuts and bolts required for successful, timely produce delivery, and satisfied consumers.

1:55–1:55 PM

Introductory Remarks

*John C. Beaulieu

1:55–2:20 PM

Harvesting, Shipping & Handling Concerns in International Perishable Shipping

*Mary Lu Arpaia

2:20–2:45 PM

Conducting Transportation Research

*Jeffrey K. Brecht

2:45–3:10 PM

International Shipping & Container Technologies—Latin America/United States

*Mark Girardin

3:10–3:45 PM

Interaction of the Custom and Border Protection, Quarantine Treatments and APHIS Requirements, and Food Safety Modernization Act in International Shipping

*Jean Pierre Emond

1:45–3:45 PM

Salon 13/14

—*CEU Approved*—

Workshop: Production Water Impact on Produce Safety and Ways to Reduce Risks

Sponsor: Produce Quality, Safety, and Health Properties (QUAL) Working Group

Moderator/Coordinator: Annette L. Wszelaki, annettew@utk.edu

Water is a critical part of fruit and vegetable production, but it can also introduce microbial food safety risks to the crops. Since maintaining the safety of produce is critical to the survival of the produce industry, it is important to understand the risks associated water used during production as well as ways to minimize these risks on the farm. This workshop will highlight both research that helps us define produce safety risks as well as research and extension focused on how to minimize risks. Understanding how to prioritize the implementation of produce safety practices that reduce the most significant risks is important to farm viability and consumer health.

1:45–2:10 PM

Microbial Risk Assessment During Flooding Events: Focus on LGMA Metrics and the Presence/Absence of Indicator Microorganisms and Human Pathogens

*Eduardo Gutierrez-Rodriguez

2:10–2:35 PM

Transfer and Survival of Organisms to Cantaloupe and Lettuce from Surface Irrigation Water in the Southeast

*Annette L. Wszelaki

2:35–3:00 PM

Survey of Mid-Atlantic Farms for Foodborne Pathogens in Tomatoes, Leafy Greens, Irrigation, Water, and Soil

*Wesley L. Kline

3:00–3:25 PM

Irrigation Water Remediation: Treatment Options

*Chris Gunter

3:25–3:45 PM

Resources for Growers: Decision Trees for Prioritizing Produce Safety Risk Reduction Strategies on the Farm

*Gretchen Wall

2:00–3:00 PM

Salon 17

Horticulture Hall of Fame Selection Committee

Cary Mitchell, Chair; John R. Clark, William J. Lamont Jr., Fred T. Davies, Dewayne Ingram, Chiwon W. Lee, Mary H. Meyer, Mary Lewnes Albrecht

2:00–3:00 PM

Salon 6

Vegetable Crops Management (VCM) Working Group Business Meeting

Objectives: To promote research and extension of a systems approach to production and utilization of vegetables.

Ajay Nair, Chair; Mathieu Ngouajio, Secretary

2:00–3:45 PM

Salon 9/10

Genetics and Germplasm 2 (Oral Session)

Moderator: German Sandoya, gsandoya@ucdavis.edu

2:00–2:15 PM

Construction of SSR Profile Database for Cultivar Identification of Apple and Their Applicability to Distinctness Examination in Korea

*Jee-Hwa Hong, Yong-Sham Kwon, Keun-Jin Choi

2:15–2:30 PM

A Comparison of Genome-wide SNP Markers in Octoploid Strawberry Between the Affymetrix IStraw90

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- Axiom® Array and a Targeted Sequencing Approach**
*Sujeet Verma, Marcio Resende Jr., Matias Kirst, Nahla Bassil, Eric van de Weg, Vance M. Whitaker
- 2:30–2:45 PM
A Comparative Genetic Diversity Analysis of Big-bracted Dogwoods
*Robert Mattera III, Josh Honig, Jennifer Vaiciunas, John M. Capik, Thomas J. Molnar
- 2:45–3:00 PM
Autopolyploid Induced Sterility in the African Tulip Tree (*Spathodea campanulata*)
*Ken W. Leonhardt
- 3:00–3:15 PM
Morphological and Physio-chemical Characterization of Five Canistel Accessions at the Subtropical Horticulture Research Station in Miami, Florida
*Hamide Gubbuk, Tomas Ayala-Silva, David Kuhn, Michael Winterstein, Andrea Salas
- 3:15–3:30 PM
Characterization and Evaluation of Five Jaboticaba Accessions at the Subtropical Horticulture Research Station in Miami, Florida
*Tomas Ayala-Silva, Hamide Gubbuk, David Kuhn, Michael Winterstein, Andrea Salas, Sadiye Gozlekci
- 3:30–3:45 PM
Diversity of Anti-cancer Activity among a Subset of the USDA Apple Germplasm Core Collection
*Matthew D. Thompson, Cecil Stushnoff
- 2:00–4:00 PM Ballroom A/B/C
Undergraduate Student Poster Competition (Session 2)
Sponsor: Collegiate Activities Committee
- (140) **The Effects of Control Release Fertilizer Packets on Nutrient Leaching**
*Angie Fleurissant, Stewart Reed, Krish Jayachandran
- (141) **Teaching Elementary Age Students about Sustainable Food Production through a Successful Local School–University Student Club Partnership**
*Deanna Bayo, Sam Hart, Brandi Sadler, Kristin Balko, Xin Zhao
- (142) **Iowa State University Heritage Tree Program: Preserving the Genetic Heritage of Iowa State’s Award-winning Campus**
*Jonathan D. Mahoney, Frank D. Balestri, William R. Graves
- (143) **Evaluation of (*Synsepalum dulcificum*) Growth and Productivity in Response to Media Formulation**
*Carly M. Schall, Nathan C. Phillips, Song Chui
- (144) **Interaction of e-Brassinolide and Unicanzole on the Salt Stress in Two Cultivars of Sweet Potato**
*Devi Prasad V. Potluri, Ashvi Patel
- (145) **Effects of Nutrient Salt Formulations and 6-Benzylaminopurine on Micropropagation of Blue Moon Wisteria**
*Nathan Jahnke, Todd West
- (146) **Preliminary Identification of Molecular Markers Associated with Precocity in Mangaba Tree**
*Marina F. Vitória, Ana S. Ledo, Ana Veruska Cruz Silva
- 3:00–4:00 PM Salon 18
Annual Conference Technical Program Committee Meeting
Dennis T. Ray, Co-Chair; Carl E. Sams, Co-Chair; Marita Cantwell, Anita Azarenko, Brian Trader, Dean A. Kopsell, Jozsef Raesko, Maria Jenderek, Eugene K. Blythe, J. Pablo Morales-Payan, Mary H. Meyer, Michael W. Neff
- 3:00–4:00 PM Salon 6
Pomology (POM) Working Group Business Meeting
Objectives: To assist the planning and development of research, extension, and teaching programs in pomology and to serve the current and future needs of the fruit industry.
Anish Malladi, Chair; Desmond Layne, Chair-elect; Gregory Peck, Secretary
- 3:00–5:00 PM Salon 17
Certified Professional Horticulturist (CPH) Board Meeting
Terry Ferriss, Chair; Mike Orzolek, John Abbott, Deborah Ellis, Gary Bachman, Robert Mazalewski
- 3:15–4:45 PM Salon 5
Plant Biotechnology 2 (Oral Session)
Moderator: Guixia Hao, guixia.hao@ars.usda.gov
- 3:15–3:30 PM
Production of Transgenic Citrus Resistant to Citrus Canker and Huanglongbing Diseases
*Guixia Hao, Ed Stover, Y-P Duan, Goutam Gupta
- 3:30–3:45 PM
Transgenic *Citrus sinensis* Trees Expressing the Arabidopsis NPR1 Systemic Acquired Resistance Gene Demonstrates Enhanced Tolerance to Huanglongbing (HLB)
*Manjul Dutt, Gary Barthe, Jude W. Grosser

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3:45–4:00 PM

RNA Interference Provides High-level, Stable Resistance to Plum Pox Virus

Michel Ravelonandro, *Ralph Scorza

4:00–4:15 PM

Identification of Candidate Genes Associated with X-disease Resistance in Chokecherry (*Prunus virginiana* L.) through Comparative Genomics

*Yinghai Liang, Danqiong Huang, Wenhao Dai

4:15–4:30 PM

Engineering Tolerance to the Diaprepes Root Weevil (*Diaprepes abbreviatus* L.) through Expression of the Snowdrop Lectin (*Galanthus nivalis* agglutinin; GNA) in Citrus

*Manjul Dutt, Raquel Campos-Herrera, Fahiem El-Borai, Larry Duncan, Jude W. Grosser

4:30–4:45 PM

Fungal and Bacterial Disease Resistance Conferred by Endogenous VvPR1 Genes in Grapevine and Tobacco Under Greenhouse and Field Conditions in Aid of Precision Breeding

*Zhijian T. Li, Dilma D. Silva, Jonathan R. Jasinski, Matthew R. Creech, Trudi Grant, Dennis J. Gray

4:00–5:00 PM

2014 B.Y. Morrison Lecture

Speaker: William Miller, Cornell University

William Miller is internationally respected as an expert in floricultural crop production and postharvest physiology, most notably among the flowering bulbs, both in the landscape and for forcing. Findings from his research group have been adopted by the floriculture industry worldwide. He also is heavily involved in outdoor trialing and evaluation of annuals and perennials for Ithaca's USDA Hardiness Zone 5 climate. Miller is currently a professor in the Dept. of Horticulture at Cornell University. Miller is also president of the board of the Seeley Summit, a series intended to promote discussion of issues important to the future of commercial floriculture and to better prepare attendees to make decisions on issues that have a great impact on their businesses and the industry as a whole.



About the B.Y. Morrison Lecture

The B.Y. Morrison Lecture was established in 1968 by the Agricultural Research Service (ARS) of the U.S. Dept. of Agriculture (USDA), to honor the memory of Benjamin Y. Morrison (1891–1966) and to recognize scientists who have made outstanding contributions to ornamental horticulture and other environmental sciences, to encourage the wide application of these sciences, and to stress the urgency of preserving and enhancing natural beauty. The Morrison Lecture is on a scientific or policy topic of the lecturer's choice.

Salon 9/10

4:00–5:00 PM

Salon 18

Extension Division Advisory Council Meeting

Gary Bachman (Extension Division Vice President), Chair; All Working Group Chairs and Chairs-elect, Extension Division

4:00–5:00 PM

Salon 6

Postharvest (PH) Working Group Business Meeting

Objectives: To exchange ideas and information relating to postharvest biology and technology of horticultural crops, to increase the awareness among other researchers, research administrators, legislators, and the public of the importance of the postharvest aspects of horticulture to the physical, economic, and psychological well-being of the population, and to integrate activities with those of associated Working Groups.

John Beaulieu, Chair; Wyatt Brown, Chair-elect; Mark A. Ritenour, Secretary

4:00–5:00 PM

Salon 2

Root Growth and Rhizosphere Dynamics (RHIZ) Working Group Business Meeting

Objectives: To provide a forum to promote and exchange information on basic and applied research about the plant rhizosphere, soil microorganisms, root growth and development, and root modeling, which apply to horticultural (fruit, vegetable, ornamentals), forest, and agronomic crops grown in synthetic or field soils.

Xin Zhao, Chair; Astrid Volder, Secretary

4:00–6:00 PM

Salon 13/14

—CEU Approved—

Workshop: Advances in Commercial-ready LED Technologies for Horticulture

Sponsor: ASHS Industry Division

Coordinator: Jeffrey Norrie, jnorrie@acadian.ca

LED technology is advancing well, at "lightspeed." With developments in spectral quality, intensity and the myriad of plant-specific interactions on growth and active ingredients, opportunities to commercialize these technologies have never been more focused. This workshop brings together several critical thinker-researchers to discuss the state of the art as far as commercial-ready or almost-ready LED technologies are concerned. We will explore advances in research as well as those technologies which are expected to see commercial success in the short to medium term.

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

4:00–6:00 PM

—CEU Approved—

Workshop: Impact of Utilizing Biodegradable Containers in Ornamental Crop Production Systems

Sponsor: Nursery Crops Working Groups

Moderator/Coordinator: Amy F. Fulcher, afulcher@utk.edu

Coordinators: Andrew Koeser, akoeser@ufl.edu and Diana Cochran, dcochra1@utk.edu

The horticulture industry relies heavily on plastic-derived products, such as nursery pots, trays, flats, chemical containers, greenhouse covers, and irrigation tubing for its production efforts. While the widespread use of plastic has led to many production efficiencies, it is also the source of an estimated 350 million pounds of plastic waste annually. Though recycling in general is on the rise in the United States, only about 1% of horticulture plastics are recycled. This waste has generated significant interest from consumer and commercial markets for more sustainable production alternatives. Biocontainers have emerged as potential substitutes for standard plastic containers. Research has shown that plants marketed in biodegradable containers increase buyer interest—more so than most other efforts to increase production sustainability. Biocontainers can be plantable or compostable with plantable containers offering the additional benefit of reduced installation time. However, there are many unanswered questions regarding whether biocontainers are able to be integrated into existing commercial production systems effectively. This workshop will highlight the latest biocontainer research findings, including: plant performance during production; irrigation requirements; appropriateness for long-term crop production, container durability during production and shipping; and container biodegradability and plant establishment in the landscape. These presentations discuss current research-based information on the use of biocontainers during commercial production (including greenhouse, above ground nursery, and pot-in-pot nursery production) and landscape performance of plants produced in plantable containers. All of these applied trials are used to guide holistic economic and carbon footprint accountings of biocontainer use. This information is applicable to growers, extension personnel, educators, and landscapers.

4:00–4:15 PM

Impact of Biocontainers on Plant Performance and Container Decomposition in the Landscape

Genhua Niu, *Youping Sun, Guihong Bi, Andrew Koeser, Krista Jacobsen, Vicky Anderson, Sven Verlinden, Renee Conneway

4:15–4:30 PM

Impact of Alternative Materials on Container Physical Properties and Substrate Temperature

Susmitha Nambuthiri, *Robert L. Geneve, Youping Sun, Xueni Wang, Guihong Bi, Rodney Thomas Fernandez, Genhua Niu, Amy F. Fulcher, Diana Cochran

4:30–4:45 PM

Water Use of Nursery Plants Grown in Alternative Containers: Implications for Sustainability

*Rodney Thomas Fernandez, Xueni Wang, Guihong Bi, Genhua Niu, Robert L. Geneve, Amy F. Fulcher, Diana Cochran

Salon 7

4:45–5:00 PM

Economics of Utilizing Biodegradable Containers in Ornamental Crop Production Systems

*Robin G. Brumfield, Guihong Bi, Diana Cochran, Rodney Thomas Fernandez, Amy F. Fulcher, Robert L. Geneve, Andrew Koeser, Genhua Niu, J. Ryan Stewart, Xueni Wang, Alyssa DeVincentis

5:00–5:15 PM

Biocontainer Use in *Petunia xhybrida* Greenhouse Production—A Cradle-to-Gate Carbon Footprint Assessment of Secondary Impacts

*Andrew Koeser, Sarah T. Lovell, Aaron C. Petri, Robin G. Brumfield, J. Ryan Stewart

5:15–5:30 PM

Use of Fiber Containers in Pot-in-Pot System for a Two-year Nursery Production of Birch

*Tongyin Li, Guihong Bi, Genhua Niu, Susmitha Nambuthiri, Robert L. Geneve, Xueni Wang, Rodney Thomas Fernandez, Amy F. Fulcher, Youping Sun, Xiaojie Zhao

4:00–6:00 PM

—CEU Approved—

Workshop: Invasive Plant Management and Restoration: Florida Regulations and Experiences

Sponsor: Invasive Plants Research Working Group

Moderator/Coordinator: Gary W. Knox, gwknnox@ufl.edu

Objectives of this workshop are to present approaches to invasive plant management as developed by Florida agencies and researchers to 1) identify and characterize invasive plants; 2) indicate strategies for regulation of plants considered invasive; and 3) present strategies for invasive plant management and natural area restoration.

As the fastest growing segment of US Agriculture, ornamental horticulture has been recognized as a primary source of plant invasions worldwide. Considerable controversy still surrounds invasive plant identification, impacts, regulation, and strategies for management and natural areas restoration. Differences in regional invasivity, regional impacts, ease of management, and cultivar fruitfulness only adds to public confusion, governmental hesitance, and Green Industry frustration. Florida's sensitive ecosystems, extensive urban areas and large Green Industry have been particularly prone to invasive plant impacts and controversies.

4:00–4:30 PM

Evaluating the Invasion Risk of Non-native Plants in Florida's Natural Areas

*Deah Lieurance, S. Luke Flory

4:30–5:00 PM

Making a List, Checking It Many, Many Times: How Species are Added to the Florida Noxious Weed and Invasive Plant List

*Patti J. Anderson

Salon 11

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

5:00–5:30 PM

Is Invasive Species Control the Goal or Just the First Step in Restoration of the Native Plant Community? Mexican Petunia (*Ruellia simplex*) Invaded-forest Floodplains as a Case Study

*Adrienne M. Smith, Carrie Reinhardt Adams,
Sandra B. Wilson, Christine Wiese

4:00–6:00 PM

Salon 12

—CEU Approved—

Workshop: The Current Status of Precision Nutrition in Apples and Stone Fruit

Sponsor: Pomology Working Group

Moderator/Coordinator: Anish Malladi, malladi@uga.edu

The objectives of this workshop are to discuss the current state of the art on precision nutrient management in apples, cherries and peach, and to identify future approaches to precise nutrition in fruit crops.

With increase in the world population as well as an increase in fruit market competition, there is a greater demand for production of high quality fruit. Application of excessive nutrients during fruit production can adversely affect fruit quality. In addition, such excessive use of nutrients can have a negative impact on the environment. Precision nutrient management aims to deliver nutrients in the right form, the right amount, at the right place, and at the desired time during plant and fruit development. Such an approach to nutrient management can minimize the undesirable effects of excessive nutrient usage on the environment while also enhancing the efficiency of fruit production. The objective of this workshop is to discuss the current state of the art on precision nutrient management in apples, cherries and peach. Renowned scientists in this area will be discussing their research and perspectives on nutrient management in these crops. The presentations will be followed by a discussion on future approaches to precision nutrient management in fruit crops.

4:00–4:25 PM

Precision in Irrigation Water and Nitrogen Application for Optimizing Yield, Fruit Quality, and Mineral Nutrients in Apples

*Esmael “Essie” Fallahi, Bahar Fallahi

4:25–4:50 PM

Nutrient Management in Apple

Lailiang Cheng, *Terence Lee Robinson

4:50–5:15 PM

Nutrition of Tart Cherry for Optimum Production

*Brent Black

5:15–5:40 PM

Nitrogen Requirements of Low-chill Peaches in a Subtropical Environment

*Mercy A. Olmstead

4:00–6:00 PM

Salon 8

—CEU Approved—

Workshop: Type, Quality, and Quantity of Data Collection in Vegetable Cultivar Trials

Sponsor: Vegetable Crops Management Working Group

Coordinator: Ajay Nair, nairajay@iastate.edu

Cultivar selection and development represent a major topic in vegetable production. For improved production and performance, identification of cultivars adapted to local conditions is critical. Researchers at land-grant universities, non-profit organizations, and commercial seed companies conduct cultivar trials to evaluate performance of vegetable cultivars. Studies focus on various plant traits such as yield, disease resistance, insect tolerance, winter hardiness, drought tolerance, product quality, and post-harvest storability. In these trials yield is often measured in a scientific manner, but other important characteristics are often not measured, or are described using methods that don't permit statistical analysis. This may occur because the investigator is not aware of characteristics important to growers, measurement requires specialized or expensive equipment or takes too much time, suitable rating systems have not been developed, or unfamiliar statistical methods are required for analysis. If these issues can be addressed, cultivar trials will provide even greater practical and scientific value. This workshop will cover principles for developing cultivar trials that meet both short and longer term goals of industry and scientists; practical methods for evaluating nutritional quality in cultivar trials; a case study identifying different priorities for cultivar traits among grower communities; and sensory analysis in cultivar trials. The workshop will emphasize best practices for cultivar trials in order to answer questions important to growers and the seed industry and also meet criteria for publication in a scientific journal. Given the broad impact, topics covered in this workshop will have application on crops beside vegetables.

4:00–4:20 PM

Principles of Developing Cultivar Trials

*Matthew D. Kleinhenz

4:20–4:45 PM

Data Collection Beyond Harvest: Simple and Rapid Ways to Collect Information on Produce Composition, Storage Life, and Phytochemicals

*Penelope Perkins-Veazie

4:45–5:10 PM

Participatory Approach to Variety Selection Using Tomato as a Model

*Lori Hoagland

5:10–5:35 PM

Efficient Evaluation of Qualitative Traits in Multisite Trials

*Thomas Björkman

5:35–6:00 PM

Bridging the Gap Between the Grower and the Consumer: The Role of Sensory Analysis in Cultivar Trials

*Annette L. Wszelaki

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

Tuesday, July 29, 2014

5:00–6:00 PM

B.Y. Morrison Reception

Sponsored by the Agricultural Research Service

Salon 9/10

6:00–7:00 PM

Invasive Plants Research (INPR) Working Group Business Meeting

Objectives: To communicate research ideas, techniques, and methods on the identification, study, and control of invasive plants in cross-commodity horticulture production and in urban and rural lands; and the assessment of exotic plants for potential invasiveness.

Gary Knox, Chair; Joseph Rothleitner, Chair-elect

Salon 11

5:00–6:00 PM

Undergraduate Student (UG) Working Group Business Meeting

Objectives: To foster collegiality among undergraduate students in horticultural sciences.

Victoria Neff, Chair; Perla Aguilar, Chair-elect

Salon 6

6:00–7:00 PM

Nursery Crops (NUR) Working Group Business Meeting

Objectives: To identify those conducting nursery crop research and to ascertain the scope and direction of their studies, to develop and share information for teaching nursery management and production courses, and to provide staff development opportunities for nursery crop specialists, teachers, and researchers by developing information programs and interacting with the nursery industry and profession.

John Majsztrik, Chair; Brian Jackson, Chair-elect; Todd West, Secretary

Salon 7

5:00–6:15 PM

Marketing and Economics 1 (Oral Session)

Moderator: John Majsztrik, jcmajsz@umd.edu

Salon 5

5:00–5:15 PM

Queens (Crowns) & Characters—Using State Partners in Programs

*Karen M. Stauderman

6:00–7:00 PM

6:00–7:00 PM

Produce Quality, Safety, and Health Properties (QUAL) Working Group Business Meeting

Objectives: To promote more creative research, teaching, and industry liaison among horticulturists and food scientists.

Penelope Perkins-Veazie, Chair

Salon 13/14

5:15–5:30 PM

How Much Are Ornamental Growers Willing to Pay for Irrigation Technology?

*John Majsztrik, Erik Lichtenberg, Monica Saavoss

5:30–5:45 PM

Public Benefits of Wireless Sensor Irrigation Network Adoption

*John Majsztrik, Dennis King, Elizabeth Price

6:00–7:00 PM

USDA–ARS All Employee Meeting

Presiding: Gail Wisler, Gail.Wisler@ars.usda.gov

Salon 9/10

5:45–6:00 PM

The Relationship Between Costs and the Carbon Footprint of Flowering Trees and Shrubs

*Dewayne L. Ingram, Charles R. Hall

6:00–9:00 PM

American Pomological Society (APS) Executive and Advisory Board Meeting

Presiding: Kirk W. Pomper

Salon 18

6:00–6:15 PM

Impact of Consumers' Visual Attention to Product Attributes on their Willingness-to-pay for Apple Juice

*Alicia L. Rihn, Chengyan Yue

6:00–7:00 PM

Floriculture (FLOR) Working Group Business Meeting

Objectives: To identify problem areas (and propose approaches to resolving them), to develop higher standards of quality, and to share information about activities occurring in floriculture research, education, and extension.

Kimberly Moore, Chair; Stephanie Burnett, Chair-elect

Salon 6

6:15–9:15 PM

Scholars Ignite: Student Competition

Presiding: Sandra B. Wilson

ASHS is hosting the annual competition called “Scholars Ignite” for graduate students to share their discoveries and creations to a non-specialist audience. Graduate students will make compelling presentations in three minutes using no more than one single PowerPoint slide

Salon 12

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

Wednesday, July 30, 2014

or visual aid. The purpose of the presentation is to generate awareness, stimulate thought, and inspire attendees to appreciate the breadth and depth of horticulture research and scholarly activities. This is similar to the three- to five-minute thesis and research presentation events (e.g. Three Minute Thesis, Ignite, or Scholars' Studio) occurring around the globe, and done especially well in Australia, British Columbia, and the University of Washington. Our hope is that this activity will stir the society's membership up around graduate student learning, research, discovery, and creativity. Winners will receive a cash award of \$500, \$250, and \$100 for the top three places, respectively. Students signed up for the competition at the time of registering for the ASHS conference.

6:15–9:15 PM

Salon 8

Young or Early Career Faculty and Professional Leadership Symposium and Competition

The purpose of the symposium is to provide a platform for new scholars to advance their work, reputation to their peers, and to help facilitate peer-reviewed extension, teaching, or research from a wide range of horticultural professionals. Each participant was required to submit an expanded 1000-word abstract (this is separate from abstracts submitted into the ASHS online system) and a standard biosketch prior to the conference. The top eight papers were then selected and scheduled for presentation during this symposium. Two hours of the symposium is devoted to the eight competition papers. The third hour provides a forum for professional development where seasoned professionals will offer recommendations for success, whether in industry, teaching, research, or extension. The top three presenters from the symposium will receive award recognition and publication fee waivers for the ASHS journal that best fits the audience for their work.

Wednesday, July 30, 2014

7:30 AM–5:00 PM

Registration Counters A/B

Registration Open

8:00–9:00 AM

Salon 6

Crop Physiology (CRPP) Working Group Business Meeting

Objectives: To provide a cross commodity forum for discussions of the integrative physiology of horticultural crop growth, development, and cropping. Areas of interest include (but are not limited to): patterns of vegetative and reproductive development; crop radiation interception and microclimate; dry matter production and partitioning; cultural and environmental influences on crop physiology and productivity; integration of carbon, water and nutrient physiology; modeling of physiological processes.

Mark Matthews, Chair

8:00–9:00 AM

Salon 18

Education Division Advisory Council Meeting

Sandra B. Wilson (Education Division Vice President), Chair; Anita Azarenko (Past Education Division Vice President); All Working Group Chairs and Chairs-elect, Education Division

8:00–9:00 AM

Salon 2

Production and Harvest Mechanization (MECH) Working Group Business Meeting

Objectives: To provide an informal organization to bring together those interested in production and harvest mechanization needs, opportunities, and problems in horticultural crops.

Louise Ferguson, Chair; Rachel Elkins, Chair-elect

8:00–9:00 AM

Salon 1

Weed Control and Pest Management (WCPM) Working Group Business Meeting

Objectives: To share new ideas and other research information concerning pest control in the varied areas of horticultural crop production.

Peter J. Dittmar, Chair; Carlene Chase, Chair-elect; Harlene Hatterman-Valenti, Secretary

8:00–9:30 AM

Salon 12

Citrus Crops (Oral Session)

Moderator: YongPing Duan, yongping.duan@ars.usda.gov

8:00–8:15 AM

Development of Molecular Markers for Mandarin Flavors and Colors Using a High-throughput Goldengate Assay

*Yuan Yu, Chunxian Chen, Jinhe Bai, Anne Plotto, Elizabeth Baldwin, Fred G. Gmitter

8:15–8:30 AM

Thermotherapy and the Molecular Mechanism Behind the Success of Heat Treatment for the Control of Citrus Huanglongbing

Melissa Doud, Feng Luo, Yunsheng Wang, Lijuan Zhou, Ed Stover, *YongPing Duan

8:30–8:45 AM

Breeding "Sweet Oranges" at the USDA U.S. Horticultural Research Laboratory

*Ed Stover, Randall Driggers, Jack Hearn, Jinhe Bai, David Hall

8:45–9:00 AM

Advanced Production Systems for Fresh Citrus in Florida

*Barrett Gruber, Brian Boman, Arnold W. Schumann, Fred G. Gmitter, Jude W. Grosser

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

Wednesday, July 30, 2014

9:00–9:15 AM

Evaluation of Commercial Citrus Cultivars for Field Tolerance/Resistance to Huanglongbing in East Central Florida

*Sharon Inch, Ed Stover

9:15–9:30 AM

Impacts of HLB Disease on Citrus Fruit Preharvest Drop

*Greg McCollum, Jinhe Bai, Hong Chen

8:00–9:30 AM

Salon 11

Marketing and Economics 2 (Oral Session)

Moderator: Edward Evans, eaevans@ufl.edu

8:00–8:15 AM

Price Signs to the Left of Center Get More Visual Activity

*Bridget K. Behe, Jennifer Dennis, Charles R. Hall, Hayk Khachatryan, Ben Campbell

8:15–8:30 AM

Estimating Market Equilibrium Values of Fruit Traits for Peach and Sweet Cherry Using Choice Experiments with Consumers and Producers

Yingzi Li, Chengyan Yue, *R. Karina Gallardo, Vicki McCracken, James Luby, James R. McFerson

8:30–8:45 AM

Role of USAID Firms Project for Capacity and Quality Enhancement of Fruits and Vegetable Pulping Sector of Pakistan to Meet the International Trade Requirements

*Waqar Ahmed, Shahbaz ul Hassan Jafary, Muhammad Azher Nawaz, Raheel Anwar

8:45–9:00 AM

Assessing the Intensity of Market Competition in the U.S. Papaya Import Market

*Edward Evans, Fredy Ballen

9:00–9:15 AM

Competitive Behavior in the U.S. Green-skinned Avocado Market

*Edward Evans, Fredy Ballen

9:15–9:30 AM

Cost Analysis of Recycling Water in Greenhouses

*Robin G. Brumfield, Alyssa DeVincentis

8:00–9:30 AM

Salon 7

Nursery Crops 1 (Oral Session)

Moderator: Richard C. Beeson Jr., rcbeeson@ufl.edu

8:00–8:15 AM

Using RFID for Inventory Tracking in Container and Field Nursery Operations

*Rodney Thomas Fernandez, Heather M. Stoven, Sam Doane

8:15–8:30 AM

Container Type Affects Irrigation Requirement of *Viburnum trilobum* ‘Compactum’

*Alison Stoven O’Connor, James E. Klett, Anthony J. Koski

8:30–8:45 AM

Isohydic versus Anisohydric Tree Species: Do They Need Different Irrigation Strategies to Maximize Growth during Production?

*Richard C. Beeson Jr.

8:45–9:00 AM

Influence of Soilless Substrates on Irrigation Frequency and Plant Growth of *Leucospermum*

*Hye-Ji Kim, Min Hee Kim, Kenneth Leonhardt

9:00–9:15 AM

Increased Chlorophyll Efficiency of Dark-adapted *Camellia* Foliage When Treated with Chlorine Dioxide or Hydrogen Peroxide and Blended with an Ionic Surfactant

*Paul C. Freebury, Debra H. Newman, Craig Ramsey, Steven Earl Newman

9:15–9:30 AM

Nitrogen Rate, Irrigation Frequency, and Container Type Affect Plant Growth and Nutrition Uptake of Encore Azalea ‘Chiffon’

*Tongyin Li, Guihong Bi, Richard L. Harkess, Geoff Denny, Xiaojie Zhao

8:00–9:45 AM

Salon 5

Floriculture 1 (Oral Session)

Moderator: Alicain S. Carlson, ascarlso@ncsu.edu

8:00–8:15 AM

Potassium Silicate Supplementation Enhances Heat Tolerance of *Petunia xhybrida* ‘Mitchell Diploid’

*Neil Mattson, Michal Moyal Ben Zvi

8:15–8:30 AM

Vase Water Bacteria Isolations and Their Effects on Vase Life of Cut *Zinnia elegans*

*Alicain S. Carlson, John M. Dole, Ann G. Matthyse

8:30–8:45 AM

Efficacy of GA⁴⁺⁷ + BA or Commercial Pulsing Solutions on Postharvest Longevity, Quality and Leaf Chlorosis of Cut *Lilium* and *Gladiolus*

Iftikhar Ahmad, *John M. Dole, Bruno T. Favero

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

8:45–9:00 AM

PGRs Improve the Postharvest Performance, but Not Ethylene Sensitivity, of Potted Ornamental Plants and Plugs

Iftikhar Ahmad, *John M. Dole, Brian E. Whipker

9:00–9:15 AM

Effects of Plant Growth Regulators on Plant Height Control in Purple Firespike (*Odontonema callistachyum*)

*Amir Rezazadeh, Richard L. Harkess, Geoff Denny, Guihong Bi, Brian S. Baldwin

9:15–9:30 AM

PGR Drenches Control the Growth and Flowering of Potted *Eucomis* ‘Leia’

*Alicain S. Carlson, John M. Dole, Brian E. Whipker

9:30–9:45 AM

Understanding the Link Between Water Relations and Vase-life in *Anthurium andraenum* (Hort.)

*Sarah Evelyn, Aidan Farrell, Winston Elibox, Pathmanathan Umaharan

8:00–10:00 AM

Salon 4

Extension & Industry Division Breakfast

Advance Registration Required (\$35)

Speakers:

Christine E.H. Coker, Using Pinterest in your Extension Program

Katy Moss Warner, winner of the 2014 Industry Distinguished Achievement Award

Visit with old friends and make some new ones. Congratulate your colleagues as we present them with the annual Extension Division awards and the Industry Division Travel Grant and learn more about using technology in your extension program. Extension and Industry folks are an outgoing, friendly, and upbeat group. So whether you have an extension appointment or not, we welcome you to join us. Its a good way to start your day and learn about the increasingly important role Extension and Industry play in the world of Horticulture.

8:00–10:00 AM

Salon 17

SR-ASHS Executive Committee Meeting

Presiding: David Reed

8:00–10:00 AM

Salon 8

Workshop: Applying Sensory Aspects in Plant Breeding

Sponsor: Fruit Breeding and Vegetable Breeding Working Groups

Moderator: Mary Lu Arpaia, mlarpaia@ucanr.edu

Coordinators: Danny L. Barney, danny.barney@ars.usda.gov and Michael Mazourek, mm284@cornell.edu

For many culinary and ornamental crops, sensory considerations, such as color, taste, texture, and aroma, are critically-important. This

workshop features a blend of classical techniques and cutting-edge molecular approaches used in modern breeding programs for tree fruit, small fruit, vegetable, and floral crops. Included is what will most certainly be a spirited interactive discussion between presenters and participants attending the workshop, as experts in diverse crops and breeding approaches share their experiences and insight.

8:00–8:15 AM

Flavor Aspects in Modern Plant Breeding—An Overview

*Elizabeth Baldwin

8:15–8:30 AM

Pleiotropy in Breeding for Flavor in Vegetables

*Michael Mazourek

8:30–8:45 AM

Breeding Mandarins That Consumers Cannot Resist

*Yuan Yu

8:45–9:00 AM

Sensory-assisted Strawberry Breeding

*Vance M. Whitaker

9:00–9:15 AM

Catering to the Contemporary Floral Consumer Using Genetics, Biochemistry, and Psychophysics

*Thomas A. Colquhoun

9:15–9:30 AM

Using Consumer Panels to Discover Seasonality and Acceptability of Avocado

*Mary Lu Arpaia

8:00–10:00 AM

Salon 13/14

—CEU Approved—

Workshop: Improving Organic Vegetable Systems: Production Scale, Nutrient Management, and Integrated Approaches

Sponsor: Organic Horticulture Working Group

Moderator/Coordinator: Xin Zhao, zxin@ufl.edu

The objective of this workshop is to promote research on organic vegetable production that is aimed at using integrated approaches to improve crop yields and optimize management practices at different scales of production.

Depending on the crop and production scale, the organic vegetable management practices and cropping systems can vary considerably due to the need to cope with site-specific challenges to improve crop yields and effectiveness of production inputs. In this workshop, researchers from FL, GA, IA, and WI will present their work with different organic vegetable production systems and discuss future research needs for optimizing the organic management. Topics that will be explored include large-scale vegetable production operations, best management strategies, fertilization programs, and integrated approaches using organic amendments, cover crops, mulches, and reduced tillage.

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

8:00–8:25 AM

Large-scale Organic Vegetable Production in Florida

*Monica Ozores-Hampton

8:25–8:50 AM

Best Management Strategies for Organic Snap Bean Production in Wisconsin

Courtney Pfad, Jeff Heller, *James Nienhuis

8:50–9:10 AM

Sweet Onion Yield as Affected by Organic Fertilization Rate

*Juan Carlos Diaz-Perez, Jesus Bautista, Nelida Bautista, Dharma Pitchay, Cliff M. Riner

9:10–9:35 AM

Using Anaerobic Soil Disinfestation in Organic Vegetable Production

*Erin Roskopf, David M. Butler, Nancy Kokalis-Burrelle, Jason Hong

9:35–10:00 AM

Cover Crop, Mulch, and Organic No-till Effects on Organic Vegetable Production Systems

*Kathleen Delate, Xin Zhao, Cynthia Cambardella

8:00 AM–12:00 PM

Salon 9/10

—CEU Approved—

Colloquium: Toward Globalized Horticulture: Impact of Tropical Fruits and Vegetables in US Agriculture

Sponsor: Tropical Horticulture Working Group

Moderator/Coordinator: Ram M. Uckoo, rammohanuckoo@yahoo.com

Coordinator: Bhimanagouda S. Patil, bpatil@ag.tamu.edu

Objectives 1) Provide a platform for scientists, policy makers and industry leaders to evaluate the challenges and opportunities for better sustainability of tropical horticulture. 2) Provide opportunities for integrating different fields of sciences such as economics (policies), microbiology (food safety), nutrition (human health), and pre-and postharvest sciences in order to identify and recommend key research criterion. 3) Evaluate the needs and assess the hurdles for future sustainability of tropical fruits and vegetables.

It is estimated that the world production of tropical fruit will reach approximately 82 million tons in 2014, according to the United Nations' Food and Agriculture Organization (FAO). In the current globalized world, exchanges of cultures have impacted significantly on the dietary trends of consumers worldwide. These trends have resulted in advancement of technologies critical for the production, supply and demand of the tropical and sub-tropical horticultural crops. The current day "American consumer" has access to more tropical fruits and vegetables than he/she has ever been. The "healthy living" concept instilled among the consumers, has led to exploration of fruits and vegetables beyond the continental barriers. Increase in consumer awareness on health benefits of tropical fruits and vegetables can also be

attributed to the recent discoveries on the role of dietary components in preventing and combating diseases. This also enabled consumers to taste and relish fruits and vegetables that were once exotic and only pictorially described. It is also reflected in the increasing trend in the import of tropical fruits and vegetables to the United States. Reports suggest that the US demand for fresh tropical fruits and vegetables has increased greatly since the early 1970s. It is estimated that the imports of tropical fruits and vegetables between 1990–92 and 2004–06, increased from \$2.7 billion to \$7.9 billion. Fruits such as mango, pineapple, papaya, avocados, grapes, and plums increased consistently through the past decade. With an expected increase of 24% in the volume of demand for tropical fruits the estimated import of tropical fruits will account for 2.6 million tons. Although these trends seem lucrative and promising, it has its share of concerns. The major factors limiting the increase are health issues. The critical compliance requirements by the health and safety requirements although helps in preventing any untoward incident, recent large-scale food borne disease outbreaks renews the need for a better traceability and postharvest techniques to maintain the quality. Furthermore, exploring understudied fruits and vegetables pose food safety and quality concerns. These challenges are daunting but also provide opportunities for integrating different fields of sciences such as economics, microbiology, nutrition, and pre-and postharvest sciences.

8:00–8:05 AM

Introduction to Globalized Tropical Horticulture

*Ram M. Uckoo

8:05–8:40 AM

Global Challenges and Opportunities for Tropical Fruits and Vegetables as Functional Foods

*Bhimanagouda S. Patil

8:40–9:15 AM

Tropical Medicine: Combatting the Global Epidemic of Chronic Diseases

*Jay Morris

9:15–9:50 AM

Tropical Horticulture—Trade and Investment Opportunities for US Growers

*John VanSickle

9:50–10:25 AM

Challenges in Postharvest Procedures for Maintenance of Quality of Tropical Fruits and Vegetables

*Jeffrey K. Brecht

10:25–11:00 AM

Opportunities for Farmers to Grow Tropical Vegetables in the Northeastern United States

*Francis X. Mangan, Barros, R. Orellana, Marchese A., Barros V

11:00–11:30 AM

Partial Rootzone Drying as a Water Conservation Strategy for Tropical Citrus Production

*Beatriz A. Contreras-Barragan, Ayako Kusakabe, Juan Carlos Melgar, Shad D. Nelson, Juan Enciso

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

Wednesday, July 30, 2014

11:30–11:55 AM

Panel Discussion: Addressing the Challenges and Identifying the Opportunities for Advancement of Tropical Horticulture in the United States

*Ram M. Uckoo, Bhimanagouda S. Patil, Shad D. Nelson

9:00–10:00 AM

Salon 18

Collegiate Activities Committee (CAC) Meeting

Nathan Phillips, Chair, Stephanie Burnett, Donita Bryan Cartmill, Kent Kobayashi, Rammohan Uckoo, Katherine Warpeha, Murali Panen, Perla Aguilar, Yessica Garcia

9:00–10:00 AM

Salon 6

Plant Nutrient Management (PNM) Working Group Business Meeting

Objectives: To exchange ideas and information on mineral nutrition and to provide interaction between industry and public institutions interested in mineral nutrition of horticultural crops.

Joseph Albano, Chair; Dharma Pitchay, Chair-elect; Donald Merhaut, Secretary

9:00–10:00 AM

Salon 1

Temperate Tree Nut Crops (NUTS) Working Group Business Meeting

Objectives: To bridge the wide communications gap among nut tree researchers, to exchange ideas, results, and experiences in similar orchard crops, and to provide a forum to discuss various aspects of research unique to tree nut crops.

John E. Preece, Chair; Richard Heerema, Chair-elect

9:00–5:00 PM

Ballroom A/B/C

Exhibits Open

9:00–5:00 PM

Ballroom A/B/C

Poster Hall Open

9:45–10:15 AM

Ballroom A/B/C

Break

9:45–10:45 AM

Salon 11

International Horticulture and Issues (Oral Session)

Moderator: Robin G. Brumfield, brumfield@aesop.rutgers.edu

9:45–10:00 AM

Simulation of Optimum Sowing Dates for Dry-bean Cultivated in Central Region of Brazil

*Andre Da Silva, Lincoln Zotarelli

10:00–10:15 AM

Research: The Key to Sustainable Management of Peatlands in Canada

*Stéphanie Boudreau

10:15–10:30 AM

Scientific Writing: From Concept to Publication for International Audiences

*Robert N. Trigiano, Caula A. Beyl, Phillip A. Wadl

10:30–10:45 AM

An International Study Abroad Project to Empower Women Farmers in Turkey

*Robin G. Brumfield, Burhan Özkan

9:45–11:00 AM

Salon 7

Herbs, Spices, and Medicinal Plants (Oral Session)

Moderator: Lijing Zhou, Lijing_Zhou@ncsu.edu

9:45–10:00 AM

Preservation Treatments Affect Sensory Quality of Oyster Mushroom

*Itai Mutukwa, Clifford A. Hall, Chiwon W. Lee

10:00–10:15 AM

Seed Size Does Not Affect Germination or Vigor of *Echinacea angustifolia*

*Jennifer Crumley, Lijing Zhou, John Balles, Jeanine M. Davis

10:15–10:30 AM

Influence of Seed Source on Chemical Composition of *Echinacea purpurea* and *Echinacea angustifolia* Grown as Medicinal Herbs in Two Environments

*Lijing Zhou, Jennifer Crumley, John Balles, Jeanine M. Davis

10:30–10:45 AM

Four Native Wildflower Species Differ in Their Seed Yield Response to Irrigation

Erik B.G. Feibert, *Clinton C. Shock, Nancy Shaw

10:45–11:00 AM

Comparison of High Tunnel and Field Grown Ginger Roots for Yield and Quality in Southern Virginia

*Christopher Mullins, Ibn-Raqib Rahim, Reza Rafie

10:00–11:00 AM

Salon 18

HortScience Editorial Board Meeting

M. LeRon Robbins, Editor in Chief; David R. Bryla, Jianjun Chen, Penelope Perkins-Veazie, Clinton C. Shock

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

10:00–11:00 AM

Salon 2

Citrus Crops (CITR) Working Group Business Meeting

This working group provides a forum for the exchange of ideas between the various specialists in citrus research and citrus extension personnel.

Barrett Gruber, Chair

10:00–11:00 AM

Salon 6

Organic Horticulture (ORGH) Working Group Business Meeting

Objectives: To stimulate discussion on horticultural research techniques that enable growers to produce horticultural crops according to organic standards, and on the processes that make organic production systems function.

Xin Zhao, Chair; Monica Ozores-Hampton, Chair-elect; Bill Evans, Secretary

10:00–11:00 AM

Salon 17

Scholarship Awards Committee Meeting

Ajay Nair, Chair, Cathie Lavis, Allan Brown, Michelle Leinfelder-Miles, Stan Hokanson, Kimberly Moore, David Hensley

10:15 AM–12:00 PM

Salon 5

Postharvest 1 (Oral Session)

Moderator: Jinwook Lee, Jinwook.Lee@ars.usda.gov

10:15–10:30 AM

Volatile Profile Changes and Visual Appearance of Tomatoes after Low Temperature Storage

*Angelos I. Deltsidis, Poliana C. Spricigo, Jinhe Bai, Elizabeth Baldwin, Jeffrey K. Brecht

10:30–10:45 AM

Interactions Between Atmospheres and Sanitizers and Their Effect on the Quality and Safety of Packaged Fresh-cut Celery (*Apium graveolens* L.)

*Jaime Gonzalez-Buesa, Natalie Page, Chelsea Kaminski, Elliot Ryser, Randolph Beaudry, Eva Almenar

10:45–11:00 AM

Real Time-based Targeted Metabolomic Approach as Risk Assessment Tools for Controlling Superficial Scald in 'Granny Smith' Apples during Storage

*Jinwook Lee, David Buchanan, Rachel Leisso, James Mattheis, Nigel E. Gapper, Christopher B. Watkins, James Giovannoni, Maarten Hertog, Bart Nicolai, Jason Johnston, Robert J. Schaffer, Bruce D. Whitaker, David R. Rudell

11:00–11:15 AM

De Novo Fatty Acid Biosynthesis Contributes to Ester Formation in Some, But Not All, Fruits

*Randolph Beaudry, Alejandra Moya, Gustavo Lobos, Miriam González, Erica Miller, Neslihan Ekinci

11:15–11:30 AM

Sensory Quality and Physiological Responses in Two Mandarin Varieties Differing in Ethanol Accumulation after Waxing and Storage

*Nittaya Ummarat, Mary Lu Arpaia, David Obenland

11:30–11:45 AM

Non-destructive Determination of Soluble Solids Content of Intact Jaboticaba Fruit [*Myrciaria cauliflora* (Mart.) Berg, cv. Açú] in Three Maturity Stages by Means of Near Infrared Spectroscopy

*Gustavo H.A. Teixeira, Thayara B. Morgenstern, Viviani Nardini, Luís C. Cunha Jr.

11:45 AM–12:00 PM

Effects of Location and Harvest Time on Sensory Properties of Southern Highbush Blueberries

*Jessica L. Gilbert, Eric Q. Dreyer, Thomas A. Colquhoun, Charles A. Sims, David G. Clark, James W. Olmstead

10:15 AM–12:15 PM

Salon 13/14

Workshop: Advances/Challenges in Plant Biotechnology for Horticultural Crop Improvement

Sponsor: Plant Biotechnology Working Group

Moderator/Coordinator: Manjul Dutt, manjul@ufl.edu

Objectives: 1) Increase our knowledge of some of the current advances in horticultural crop improvement through biotechnology. 2) Understand the challenges involved in the commercialization of a biotech horticultural commodity.

Numerous biotech crops, mostly agronomic and providing genetic resistance to herbicides and insects, have helped to alter the landscape of American agriculture. There has, however, been limited success in the commercialization of biotech horticultural crops, although there is great potential for its commercialization. This workshop will review some of the current advances in horticultural crop improvement through biotechnology and discuss the challenges involved in the successful commercialization of a biotech horticultural commodity.

10:15–10:35 AM

Biotechnological Approaches for the Development of Improved Citrus Cultivars

*Jude W. Grosser, Manjul Dutt

10:35–10:55 AM

Biotechnology and Enhanced Pro-health Nutrient Metabolome of Fruit

*Avtar K. Handa

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10:55–11:15 AM

Germplasm Enhancement of Woody Species through Biotechnology

*Wenhao Dai

11:15–11:35 AM

Challenges in Biotechnology Biosafety for Horticultural Crop Improvement

*Rebecca Grumet

11:35–11:55 AM

Rethinking Biotechnology Communication

*Kevin Folta

10:15 AM–12:15 PM

Salon 12

—CEU Approved—

Workshop: Artificial Seed and Cryopreservation in Horticultural Crops

Sponsor: Seed and Stand Establishment Working Group

Moderator: Juan Carlos Diaz-Perez, jcdiaz@uga.edu

Coordinator: Amir Ali Khoddamzadeh, aa.khoddamzadeh@okstate.edu

The main objectives of this workshop are: a) to utilize the synthetic seed technology as a possible method for germplasm storage, transport and utilization of clonal plant populations; b) to provide theoretical experience of plant cryopreservation as the only vital way to conserve plant germplasm and living cells; and c) to discuss the challenges on seeds and plant materials conservation.

Tissue culture is an important process in plant propagation. After explant induction and somatic embryo/callus production, plant materials can be placed in a suitable medium to become seedlings or encapsulated and transformed to artificial/synthetic (syn) seed for short- or medium-term preservation. This process is called cryopreservation and has advantages over traditional micropropagation that can result in the need for excessive subculturing, unpredictable mutations or somaclonal variations, larger space requirements, and higher labor needs, which is costly. Synthetic seeds containing propagules (plants reproducible organs) such as nodes, shoots, callus, somatic embryos, and protocorms are contained in a gelatinous matrix of a combination of sodium alginate and calcium chloride. The use of in vitro derived axillary buds and shoot tips provides inexpensive, easily obtained propagules for storage. To date, cryopreservation is the only vital way to conserve plant germplasm and living cells in liquid nitrogen. In the past two decades, cryopreservation has been widely used as an alternative method for plant germplasm storage.

10:15–10:30 AM

Artificial Seed Production and Cryopreservation

*Amir Ali Khoddamzadeh, Bruce L. Dunn

10:30–10:45 AM

Cryopreservation of Orchid Seeds, Protocorms, and Pollen

*Wagner Vendrame

10:45–11:00 AM

Potential Health Benefits Derived from Components in Seeds

*Ram M. Uckoo, Bhimanagouda S. Patil, G.K. Jayaprakasha

11:00–11:15 AM

Bioreactor Technology for Mass Propagation of Plants

*Elio Jimenez

10:15–12:15 PM

Salon 8

—CEU Approved—

Workshop: The Fate of Fertilizer Formulations and Fertilizer Applications for Nurseries and Landscapes Under Increasing Composition- and Use-restrictions Imposed by Governmental Agencies in Florida and Beyond: Problems, Perspectives, and Solutions

Sponsor: Plant Nutrient Management Working Group

Moderator/Coordinator: Joseph Albano, josepha@americanhort.org

The objectives of the workshop are: 1) to identify local governmental concerns to nutrient runoff; 2) to understand the viewpoints of industry and allied trade on the issues related to legal restrictions on fertilizer formulations and application times; and 3) to get an overview of research on reducing nutrient runoff.

Horticultural crop production and landscape maintenance in Florida and other states often occurs in proximity to wetlands, rivers, lakes, and coastal water body ecosystems. These geographical constraints mean that nutrient-laden runoff water can contaminate receiving ecosystems resulting in a process called eutrophication—simply, a change in nutrient levels, primarily nitrogen and phosphorus that alter native flora and fauna. Eutrophication can lead to excessive vegetative growth and cause harmful algal blooms that reduce light penetration and oxygen levels, and introduce biologically toxic compounds to water bodies. As a result, state and local governments are enacting regulations to change fertilizer formulations, such as omitting phosphorus, and regulating the timing of fertilizer applications, i.e. restrictions during the rainy season. These regulations are impacting the green industry crop producers and the landscape industry. This workshop aims to bring environmental interests, and nursery industry, fertilizer manufactures, and researchers together for a discussion on these issues from identifying problems to describing potential solutions.

10:15–10:30 AM

Background Information on the Concerns of Nutrient Runoff to Sensitive and Protected Water Body Ecosystems in Florida

*William Henriques

10:30–10:45 AM

Representing Florida's Landscape and Nursery Industry's View Point on Fertilizer Restrictions

*Mac Carraway

10:45–11:00 AM

Representing the Fertilizer Industry's View Point on Fertilizer Restrictions

*Jack Peters

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

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11:00–11:15 AM

Opportunities and Implications of Current Containerized Ornamental Crop Nutrient Management Practices and Subsequent Nutrient Use Efficiency

*Jim Owen

11:15–11:30 AM

An Overview of Water Treatment Technologies for Remediating Runoff Water of Excess Nutrients

*Sarah White

11:30–11:45 AM

Panel Discussion

*Donald Merhaut

11:00 AM–12:00 PM

Salon 18

Journal of the ASHS Editorial Board Meeting

Neal E. De Vos, Editor in Chief; Ed Etxeberria, Paul W. Bosland, John A. Juvik, Robert N. Trigiano

11:00 AM–12:00 PM

Salon 2

Commercial Horticulture (CHEX) Working Group Business Meeting

Objectives: To increase ASHS membership and meeting participation of horticultural extension specialists working with industry and/or community groups, to foster communications between such specialists, and to share ideas and methods for working with growers and commodity groups.

Gordon C. Johnson, Chair; Lewis Jett, Chair-elect

11:00 AM–12:00 PM

Salon 1

Emeriti (EMER) Working Group Business Meeting

Objectives: To provide a forum for retired horticulturists where some issues of concern to ASHS can be defined, analyzed, and acted on; to establish a registry of retired horticulturists; and to identify an accessible reservoir of research, extension, and teaching talent that may be called on for help and guidance.

Gene Albrigo, Chair; Dharma Pitchay, Chair-elect; Donald Merhaut, Secretary

11:00 AM–12:00 PM

Salon 6

Fruit Breeding (FRBR) Working Group Business Meeting

Objectives: To promote and coordinate research efforts in the genetics and breeding of fruit crops.

Dan Barney, Chair; James W. Olmstead, Chair-elect; Mary Lu Arpaia, Secretary

11:00 AM–12:00 PM

Salon 17

William A. (“Tex”) Frazier Lecture Series Selection Committee

Ellen T. Paparozzi, Chair; Stephanie Harvey, Craig Campbell, John M. Dole, Brian Trader

11:15 AM–12:15 PM

Salon 7

Plasticulture (Oral Session)

Moderator: Ruijun Qin, ruijun.qin@ars.usda.gov

11:15–11:30 AM

Soil Fumigation Applied through Deep Drip Tapes in Totally Impermeable Film Mulched Raised-bed Systems for Strawberry Production

*Ruijun Qin, Oleg Daugovish, Suduan Gao, Bradley D. Hanson, James Gerik, Husein Ajwa

11:30–11:45 AM

Row Covers as a Weather Risk Management Tool in Plasticulture Strawberries

*Barclay Poling

11:45 AM–12:00 PM

Nitrogen Uptake, Use Efficiency, and Yield in Plasticulture Grown Cabbage

*Charles Barrett, Lincoln Zotarelli, Lucas Paranhos, Peter J. Dittmar, Clyde Fraisse, John VanSickle, Mihai Giurcanu

12:00–12:15 PM

Effect of Cabbage Planting Dates and Plant Population on Plant Water Use, Biomass Accumulation, and Yield

*Lucas Paranhos, Lincoln Zotarelli, Charles Barrett, Gabriel dos Santos, Rangel de Feijo Almeida

11:15 AM–12:30 PM

Salon 11

Weed Control & Pest Management (Oral Session)

Moderator: Sushila Chaudhari, schaudh@ncsu.edu

11:15–11:30 AM

Fomesafen Herbicide Programs for Palmer Amaranth Control in Sweetpotato

Susan Barkley, Jonathan R. Schultheis, Katie Jennings, Stephen Meyers, *Sushila Chaudhari

11:30–11:45 AM

Efficacy and Phytotoxicity Evaluations of Marengo G and BroadStar G

*Hannah Mathers, Luke Case

11:45 AM–12:00 PM

Effects of Water Quality on Survival of Zoosporic Oomycetes and Implications

*Ping Kong, Chuan Hong

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

12:00–12:15 PM

Successful Use of Mixed Trap Crops For Leaf-footed Bug Control

*Ayanava Majumdar, Michael Reeves, Willie Datcher

12:15–12:30 PM

Evaluation of Watermelon Rootstocks for Resistance to Verticillium Wilt in Northwestern Washington State

Jesse A. Wimer, *Carol A. Miles, Debra A. Inglis

12:00–1:00 PM

Salon 9/10

Consulting Editors Meeting

Presiding: M. LeRon Robbins and Neal E. De Vos

Meeting of the Consulting Editors for *HortScience*, *HortTechnology* and the *Journal of ASHS*.

12:00–1:00 PM

Salon 6

Growth Regulators in Fruit and Nut Production (PGR) Working Group Business Meeting

Objectives: To foster excellence in plant growth regulator research, to help and encourage new research talent in plant growth regulators, to unify research and industry workers in an attempt to solve horticultural problems related to plant growth regulator research between ASHS and other related organizations.

Derek Woolard, Chair; Holly Little, Chair-elect; Craig Campbell, Secretary

12:00–1:00 PM

Salon 2

Tropical Horticultural Crops (TROP) Working Group Business Meeting

Objectives: To discuss the culture, postharvest physiology, and processing of tropical fruits, vegetables, herbs, spices, condiments, pharmaceuticals, flavors, fragrances, latex, nuts, oils, beverages, and underutilized horticultural plants.

Rammohan Uckoo, Chair; Manjul Dutt, Secretary

12:15–1:00 PM

Ballroom A/B/C

Genetics and Germplasm 3 (Poster Session)

(217) Breeding for Improved Germination Under Water Stress in the Russian Dandelion

*Katrina Hodgson-Kratky, David Wolyn

(218) QTL Analysis for the Identification of Loci Controlling Antioxidant Capacity in *Brassica oleracea*

L. Var. Italica

*Alicia M. Gardner, Kang Mo Ku, Gad G. Yousef, Allan F. Brown, John A. Juvik

(219) Collard Landraces are Novel Sources of Glucoraphanin and other Aliphatic Glucosinolates

*Zachary Stansell, Mark W. Farnham, Wendy Cory

(220) Integrating Genetics and Weed Management

*Sarah E. Levy, Thomas M. Davis

(221) Cryopreservation Protocols Using Aluminium Plates, V Cryo-plate and D Cryo-plate Method

*Takao Niino, Wunna U, Kazuo Watanabe, Tariq Rafique, Shin-ichi Yamamoto, Kuniaki Fukui, Carlos R. Castillo-Martinez, Esmeralda J. Cruz Gutierrez, Miriam Valle-Arizaga, Toshikazu Matsumoto

(222) Cryopreservation of Blueberry Dormant Shoot Tips Using V Cryo-plate Method

*Toshikazu Matsumoto, Shin-ichi Yamamoto, Kuniaki Fukui, Takao Niino

(223) Effect of Time in Cryoprotectant Solution and Dehydration in Shoot Apex Regeneration of Genipap for Cryopreservation

Ana S. Ledo, Francielen Paola Sá, ANA Veruska Cruz Silva, *Marina F. Vitória, Josué Francisco Silva Jr., Fernanda Vidigal Duarte Souza

(224) Effect of Different Procedures and Time Storage on the Contamination of Zygotic Embryos for the Purpose of Exchange of Coconut Germplasm

Ana S. Ledo, Caroline A. Machado, Francielen Paola Sá, Semiramis R.R. Ramos, Ana Veruska Cruz Silva, *Marina F. Vitória

(225) Mid-term In Vitro Preservation in Minimum Growth Condition of Wild Chayote (*Sechium compositum* Donn. Sm.)

Carlos R. Castillo-Martinez, Jorge Cadena-Iniguez, Miriam Valle-Arizaga, Carlos H. Avendano-Arrazate, *Takao Niino

(226) Mid-winter Cold Hardiness of *Corylus fargesii* Germplasm as Determined in Laboratory Freezing Tests

Anthony S. Aiello, Joseph Rothleitner, Steve McNamara, *Stan C. Hokanson

12:15–1:00 PM

Ballroom A/B/C

Graduate Student Poster Competition (Session 5)

Please see the full schedule of competition times starting on p. 16.

12:15–1:00 PM

Ballroom A/B/C

**Ornamentals/Landscape and Turf 2
(Poster Session)**

(126) Evaluation of a Predetermined Fungicide Rotation for Control of Impatiens Downy Mildew in a Texas Landscape

*H. Brent Pemberton, William R. Roberson

(127) Evaluation of Ground Covers for Use in Guam Landscapes

*James McConnell

(128) Phytotoxicity of Herbicides, Fungicides, and Insecticides on Ornamental Monocot Species in Southeastern US for Interregional Research Program (IR-4)

*B.A. Fraelich, B.T. Scully, C.L. Palmer

(129) Management of an Invasive Ornamental: Suppression of *Ruellia simplex* (Mexican Petunia) by Native Species during Initial Establishment from Seed

*Adrienne M. Smith, Carrie Reinhardt-Adams, Sandra B. Wilson, Christine Wiese

(130) Effect of Glycinebetain Seed Priming on Turfgrass Germination Under Drought, Salinity, and Sub-optimal Temperatures

*Qi Zhang, Kevin Rue

(131) Relationship of Typhula Blight Development in *Poa annua* and *Poa pratensis* to Persistence of the Fungicides Chlorothalonil and Fludioxonil Under Snow Cover

*Taml Blunt, Galen Brunk, Anthony J. Koski, Ned Tisserat

(132) Effects of Saline–Alkali Conditions on Turfgrass Establishment

*Qi Zhang, Kevin Rue

(133) Effect of Nitrogen Rate on Turfgrass Quality among Five Cultivars of St. Augustinegrass

*Tim Pannkuk, Robert Lane

12:15–1:00 PM

Ballroom A/B/C

Produce Quality, Safety, and Health Properties (Poster Session)

(022) Teaching Good Agricultural and Handling Practices to Mississippi Producers

*Christine E.H. Coker, Barakat S.M. Mahmoud, Gary Bachman, Eric Stafne, Nicole Bell, Randal Coker

(023) Food Safety Training Adapted for Various Size Operations

*Wesley L. Kline, Meredith Melendez, Larry Hardwick

(024) Effect of Sanitizers on the Survival of *Lactobacillus plantarum* and *Salmonella* spp. on Surface Inoculated, Hydrocooled Strawberries

*Aswathy Sreedharan, Oleksandr Tokarskyy, Steven A. Sargent, Keith R. Schneider

(025) Detection of Coliforms in Lettuce Plants (*Lactuca sativa* cv. Black Seeded Simpson) Grown in a Municipal Sludge Compost and Peat

*Grisselle Perez-Sanchez, Maria del Carmen Libran, Lydia Rivera, Myrna Alameda

(026) Watermelon-based Sunscreen Blocks UVA and UVB Light

*Penelope Perkins-Veazie, Angela Davis

(027) Sensory and Chemical Characteristics of *Citrus x Poncirus* Hybrids

Sophie Deterre, Greg McCollum, Clotilde Leclair, John A. Manthey, Jinhe Bai, Elizabeth Baldwin, Smita Raithore, *Anne Plotto

(028) The Effect of Multi-wavelength Light-emitting Diode Lighting on the Growth Response of Leaf Lettuce at Different Stages

*Chung-Liang Chang, Kuang-Pi Chang

(029) Studying on Improving the Quality Using PGA Acid in Grape of Fujiminori Grapevines

Fandan Liu, Liu Liu, Shuang Peng, *Ling Jiang

(030) Mineral and Fatty Acid Composition in Croatian Garlic (*Allium sativum* L.) Ecotypes

*Gvozden Dumicic Sr, Maja Jukic Spika Jr., Branimir Urlic Jr., Katja Zanic Sr., Rajko Vidrih Sr., Lovro Sinkovic Jr., Juan Carlos Diaz-Perez

12:15–1:00 PM

Ballroom A/B/C

Vegetable Breeding (Poster Session)

(259) Variation in Chlorogenic Acid Content among Blueberry Cultivars, Breeding Selections and Populations Grown in North Carolina

*Gad G. Yousef, Allan F. Brown, Ivette Guzman, James R. Ballington, Mary A. Lila

(260) Genetic Diversity of the USDA Cabbage Collection Germplasm Using SSR Markers

*Gad G. Yousef, Yang Bian, Robert J. Byrd, Allan F. Brown

(261) Selection for Geosmin Production in Table Beet (*Beta vulgaris* ssp. *Vulgaris*)

*Lynn Maher, Irwin Goldman

(262) Combining Fruit Quality and Late Blight Resistance in Tomato

*Dilip R. Panthee, Ragy Ibrahim, Penelope Perkins-Veazie

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

(263) Studies on Hetrotic Effects of Crosses of Onions with Different Skin Colored Onion Lines

*Cheol-Woo Kim, Eul-Tai Lee, Min-Seon Choi, Eom-Ji Hwang, Young-Seok Kwon, In-Hu Choi

(264) Development of SSR and SNP Markers and Association Mapping of Morphological Traits in Cowpea [*Vigna unguiculata* (L.) Walp.]

*Haizheng Xiong, John R. Clark, Beiquan Mou, Dennis Motes, David Hensley, Jianbing Ma, Jessica Chitwood, Ainong Shi

(265) Evaluation of Carrot (*Daucus carota* L.) for Traits Related to Early Seedling Establishment and Canopy Growth at Different Planting Densities

*Sarah D. Turner, Philipp W. Simon

(266) Association Mapping of Leaf Traits of Spinach

*Jianbing Ma, Ainong Shi, Beiquan Mou, Michael R. Evans, John R. Clark, Dennis Motes, David Brenner, Haizheng Xiong, Jessica Chitwood, Josh Campbell

(267) Genetic Control of Age-related Resistance to *Phytophthora capsici* in Cucumber

Marivi Colle, *Rebecca Grumet

(268) Analysis of Genetic and Environmental Effects on Broccoli Cultigens Grown in Diverse Environments in the Eastern United States

*Carl E. Sams, Dean A. Kopsell, Arnold Saxton, Phillip Griffiths, Thomas Björkman, Mark W. Farnham, Jeanine M. Davis, Mark Hutton, Wythe Morris

(269) 'TAM Hot-Ty' — A New, Heat-tolerant Tomato Cultivar for Texas

*Kevin Crosby, John L. Jifon, Jeremy Haralson, Daniel I. Leskovar

(270) Improving Tolerance to Bacterial Spot of Tomato through Fine Mapping of Two Quantitative Trait Loci

*Jian Li, Samuel F. Hutton, Jeffrey B. Jones

12:15–1:00 PM

Ballroom A/B/C

Viticulture and Small Fruits 2 (Poster Session)

(333) Strawberry Virus Detection, Identification, Best Management Practice Recommendations and Information Dissemination

Roy Flanagan III, Keith Starke, Charles Johnson, Barclay Poling, Robert Martin, *Jayesh Samtani

(334) Strawberry Production in High pH Soil at High Elevation in the Southwest

*Shengrui Yao, Steve Guldan, Robert P. Flynn

(335) Extending the Season for Strawberry Production Under High Tunnels: Lessons Learned during a

Harsh Winter

*M. Elena Garcia, Donn T. Johnson, David Dickey, Megan McGovern, Susan Frey

(336) Comparison of Winter Strawberry Production in a Commercial Heated High Tunnel versus a University Greenhouse

Ellen T. Paparozzi, Ryan Pekarek, George Meyer, M. Elizabeth Conley, Stacy Adams, David Lambe, *Paul E. Read, Erin E. Blankenship

(337) Tri-Trophic Level Interactions of *T. urticae* and Beneficial Inoculants in Three Strawberry (*Fragaria ananassa*) Varieties

*Amanda McWhirt, Michelle Schroeder-Moreno, Yasmin Cardoza, Gina Fernandez

(338) The National Strawberry Sustainability Initiative: From Laboratory to Field

*Curt R. Rom, Ronald L. Rainey, Jennie H. Popp, Heather Friedrich, Freeman Luke

12:15–1:15 PM

Salon 12

Seed and Stand Establishment (SSEST) Working Group Business Meeting

Objectives: To bring together those interested in seed technology, seed storage, seed production, seed physiology, seed pathology, plant breeding, and all other phases of research, education, or extension related to horticultural seeds and seed quality, to discuss problems, new methods, technologies, and other aspects related to these areas, and to promote a strong union of public- and private-sector workers interested in seeds and seed crops. To promote activities related to the establishment of a uniform and vigorous crop from seed, transplant material, or vegetative propagules, with emphasis on seed treatments, soil amendments, transplanting techniques, and other practices that might lead to stand enhancement in the field or greenhouse.

Juan Carlos Diaz-Perez, Chair; Susmitha Nambuthiri, Chair-elect; Ajay Nair, Secretary

12:15–1:45 PM

Salon 8

Association of Collegiate Branches (ACB) Annual Business Meeting

Presiding: Perla Aguilar, ACB President

1:00–1:45 PM

Ballroom A/B/C

Consumer Horticulture, Master Gardeners and Public Horticulture (Poster Session)

(339) Consumer Attitudes about Biorenewable Plant-container Technology and Sustainability in Nevada

*Heidi Kratsch, Hannah Mathers, Barrett Kirwan

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

(040) Determining Appropriate Drying Methods and Marketability of Native Central Texas Cut Dried Floral Materials

Tina Marie (Waliczek) Cade, *John Montoya

(041) Lunch and Lawn: Can You Have Grass and Eat Too?

*Ellen Bauske, Clint Waltz, Robert Westerfield

(042) Extension Public Gardens in Central Florida: Opportunities and Challenges

*Juanita Popenoe, Richard V. Tyson, Kelly Greer

(043) Training and Demonstration of Best Management Practices in Vegetables and Fruits on Small Farms in North Florida

*Gohar Umar, Bobby Phillips, Muhammad Haseeb

1:00–1:45 PM

Ballroom A/B/C

Floriculture 2 (Poster Session)

(102) Fertilizer Rate, Soil Type, and Beneficial Microorganism Application Influenced Poinsettia Growth and Development

*Corrie P. Cotton, Fawzy M. Hashem, Lurline E. Marsh

(103) Maintaining the Foliage of the Rootstock Impacts the Quality of the Flowering Stem Developed from the Bud Grafted in Cut Roses

*Ana Maria Castillo-González, Luis Alonso Valdez-Aguilar, Gerardo Pablo-Osorio, Edilberto Avitia-Garcia

(104) Variations in Flowering Characteristics of Oncidium Intergeneric Hybrid Orchids

Xinxin Li, *Hye-Ji Kim, Kenneth Leonhardt

(105) A Trailing, Low-temperature Tolerant, Double-flowered Interspecific Torenia

*Tzu-Yao Wei, Meng-Hua Guo, Chih-Chao Liang, Der-Ming Yeh

(106) Photosynthesis and Vegetative Growth of Phalaenopsis ‘Hwasu 3551’ and ‘White-Red Lip’ in Response to Low Temperature during Nursery Cultivation

*Yun Yeong Hong, Yu Jin Park, Hyo Beom Lee, Ki Sun Kim

(107) Application of Precision Agriculture Technology to Determine N Level in Chrysanthemum

*Amir Ali Khoddamzadeh, Bruce L. Dunn

(108) Effects of Low Substrate Oxygen on Plant Growth

*Stephanie Burnett, Marc van Iersel

(109) Induction and Characterization of Tetraploids and Octoploids in Impatiens (*Impatiens walleriana*)

*Weining Wang, Zhanao Deng

1:00–1:45 PM

Ballroom A/B/C

Graduate Student Poster Competition (Session 6)

Please see the full schedule of competition times starting on p. 16.

1:00–1:45 PM

Ballroom A/B/C

Herbs, Spices, and Medicinal Plants (Poster Session)

(322) Essential Oil of *Caryopteris xclandonensis* ‘Durio’: Chemical Composition and Repellent and Larvicidal Activity against *Aedes aegypti* (L.) (Diptera: Culicidae)

*Eugene K. Blythe, Nurhayat Tabanca, Betul Demirci, Ulrich R. Bernier, Abbas Ali, K. Husnu Can Baser, Ikhlas A. Khan

(323) Phenolic Content and Antioxidant Capacity of Spicebush (*Lindera benzoin* L.) Teas

*Hideka Kobayashi, Kirk W. Pomper, George Antonious

(324) Field Performance and Medicinal Constituents of *E. purpurea* and *E. angustifolia* Varieties Grown in Eastern Washington: 2012–2013

*John Balles, Jatinder Rana, Dale J. Schipper, Jessica Corcoran

(325) An Effect of Natural Yuju Oil on Moisturizing, Erythema, Melanin, and Elastic Efficacy by Essential Oil Production Methods

*Gyeong-suk Jo, Gwang Yeon Gi, Bong gi Yun, Jae sin Lee

(326) An Effect of Native Herbal Essential Oil of *Chrysanthemum boreale* Makino EEG and Autonomic Nervous System Responses

*Gyeong-suk Jo, Kyeong-Ju Choi, Jeung Keun Suh

1:00–1:45 PM

Ballroom A/B/C

Plant Biotechnology (Poster Session)

(271) Somatic Embryogenesis and Organogenesis of Rare Woody Species in Georgia, *Stewartia* and *Franklinia*

*Heather J. Gladfelter, Scott A. Merkle

(272) Genetic Transformation of Micro-Tom Tomato with a Citrus Calcium Signal Modifier Gene (CSM-1)

*Eliezer Louzada, Cecilia Lott, Zenaida Vilorio, Madhurababu Kunta, Don Henne

(273) Up and Down Regulation of Genes of Oil Seed Crop *Camelina sativa* Under Drought Stress

*Geung-Joo Lee, Ka Yeon Lee, Young-In Choi, Sung Jin Chung

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

Wednesday, July 30, 2014

(274) Develop Microsatellite Markers for *Ginkgo biloba* L. Clones

Li-an Xu, Xing-xing Wang, Meng Xu, Yuan-yuan Tao, Donglin Zhang, *Jun Yuan

(275) Molecular Regulatory Mechanism of *Ginkgo biloba* L. from Next-generation Sequencing Technology

Hongjuan Zhang, Fuliang Cao, Donglin Zhang, *Jun Yuan

(276) Evaluation of Genotyping by Sequencing in Octoploid Strawberry

*Natalia Salinas-Aponte, Daniel J. Sargent, Eric van de Weg, James F. Hancock, Kelly Vining, Bradley Rauh, Ksenija Gasic, Amy F. Iezzoni, Cameron Peace, Chad E. Finn, Nahla Bassil

(277) Rapid Assay of Tissue Specific Promoters in *Vitis*

Jonathan R. Jasinski, Zhijian T. Li, *Dennis J. Gray

(278) Identification and Validation of Candidate Genes Affecting Volatile Compounds in Strawberry Fruits

*Iraida Amaya, Eduardo Cruz-rus, Jose F. Sanchez-Sevilla, Kevin M. Folta

(279) *Petunia* Metacaspases Are Regulated during Corolla Senescence and in Response to Abiotic Stress

*Laura J. Chapin, Michelle L. Jones

(280) Transcriptomic Analysis of Cold Stress-responsive Genes in *Brassica oleracea*

Senthil Kumar Thamilarasan, Jong-In Park, Hee-Jeong Jung, Nasar Uddin Ahmed, *Ill-Sup Nou

1:00–1:45 PM

Ballroom A/B/C

Temperate Tree Nut Crops (Poster Session)

(349) Grafting Olive to Control Verticillium Wilt: A Study Under Controlled Conditions

*Carlos Trapero, Francisco J. López-Escudero, Diego Barranco

(350) Excessive Blanking in *Pistacia vera* cv. ‘Pete 1’

*Cara J. Allan

(351) Performance of Five Pecan Cultivars and Selections as Immature Trees in Southern Georgia

*Patrick Conner

(352) Nitrogen Fertilization of Young Chinese Chestnut Trees

*Michele Warmund

1:00–1:45 PM

Ballroom A/B/C

Vegetable Crops Management 3 (Poster Session)

(381) A Comparison of Ca and Mg Rates in Soilless Media for Optimum Vegetable Production Irrigated

with Alkaline Water

Sarah E. Bertrand, *Kathryn Fontenot, Edward Bush, Charles E. Johnson

(382) The Impact of Nitrogen and Sulfur Fertilization on Yield, Quality, and Flavor of Field Grown Vidalia Onion

*Timothy Coolong

(383) Evaluating Cover Cropping Systems for Beginning High Tunnel Producers in West Virginia

*Lewis Jett, Tom Basden

(384) Sweet Potato Weevil Damage Influenced by Variety and Harvest Date

*Thomas W. Zimmerman, Stafford M.A. Crossman, Carlos Montilla

(385) Strip-tillage and Row Cover Use in Organic and Conventional Cucurbit Crops

*Jennifer Tillman, Ajay Nair

(386) Studies on Occurrence and Infection Time of Downy Mildew of Onion (*Allium cepa*) in Korea

*Eom-Ji Hwang, In-Hu Choi, Young-Seok Kwon, Eul-Tai Lee, Cheol-Woo Kim

1:00–1:45 PM

Ballroom A/B/C

Weed Control & Pest Management (Poster Session)

(302) Critical Period for Weed Control in Grafted versus Nongrafted Tomato

*Sushila Chaudhari, Katie Jennings, David W. Monks, Frank J. Louws

(303) Effect of Increasing Spray Solution Salinity on Postemergence Herbicide Weed Control and Crop Tolerance

*Peter J. Dittmar, Christopher E. Rouse

(304) Effect of Simulated Glyphosate Drift to Four Potato Processing Cultivars

Harlene Hatterman-Valenti, *Amanda A. Crook, Collin P. Auwarter

(305) Risk of Herbicide Resistance for GMO Corn in Chile

*Rodrigo Figueroa, Horacio Gilabert, Marlene Gebauer, Albert Fischer

(306) Allelopathic Effects of Horseradish Leaves

*Kang Mo Ku, John A. Juvik, Mosbah M. Kushad

(307) Effects of Photoselective Shadehouses on Ornamental Plant Pests

Robert Leckel, Robert H. Stamps, *Brian J. Pearson, Steven Arthurs

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

(308) Jasmonate Application to Broccoli Plants Reduce Growth and Survival of the Insect Herbivore, *Trichoplusia ni*

*Kang Mo Ku, John A. Juvik

1:00–5:00 PM

Salon 17

Certified Horticulturist Examination

(309) Induced Systemic Acquired Resistance, after Applying Two Oxidant Based Disinfectants to Kidney Beans (*Phaseolus vulgaris*) Seedlings, Followed by a Bacterial Wilt Disease Inoculation

*Vanessa Sandoval, Paul C. Freebury, Debra H. Newman, Craig Ramsey, Steven E. Newman

1:45–3:15 PM

Salon 12

Workshop: Presentations on Use of Mutation Breeding in Cultivar Development

Ornamental Plant Breeding Working Group

Moderator/Coordinator: Bruce L. Dunn, bruce.dunn@okstate.edu

The OPB Working Group promotes ornamental plant breeding, serves as a forum for exchange of information among breeders, and coordinates the communication of results to industry and academia. The goal of the workshop is to learn how other researchers have incorporated genetic mutation techniques into their breeding programs and what results have come from it.

(310) Identification of Pathogens Associated with Roots in Blueberry Plants (*Vaccinium corymbosum* L.) in Coquimatlán, Colima, Mexico

*José Martín Pinto Briceño, Javier Farias Larios, José Gerardo Lopez Aguirre, Sofia Figueroa Vargas

1:45–2:15 PM

1:00–2:00 PM

Salon 18

Nominations and Elections Committee Meeting

Education Division: Anne Marie VanDerZanden, Ryan Contreras

Extension Division: Mary Lamberts, Michelle Leinfelder-Miles

Industry Division: Neal E. De Vos, Nancy Roe

International Division: Sarada Krishnan, Clinton C. Shock,

Lailiang Cheng, Murali Panen

Research Division: Jeffrey K. Brecht Thomas Ranney

User of Mutation Breeding to Create New Hybrids

*John M. Ruter

2:15–2:45 PM

Mutation Breeding

*Wayne Hanna

1:45–3:30 PM

Salon 5

Floriculture 2 (Oral Session)

Moderator: Alan D. Petravich, apetravich@longwoodgardens.org

1:45–2:00 PM

Shade Cloth Impact on Field Grown *Lilium* Hybrids for Cut Flower Production

*Miao Wang, Michael Maurer

2:00–2:15 PM

***Lilium* Floral Fragrance: A Biochemical and Genetic Resource for Aroma and Flavor**

*Michael L. Schwieterman, Timothy S. Johnson, Thomas A. Colquhoun

2:15–2:30 PM

Transcriptome Response of *Petunia xhybrida* to Sodium Chloride Salinity Using High Throughput RNA Sequencing

Gonzalo Villarino, *Neil Mattson

2:30–2:45 PM

Preservation of Rare Chrysanthemums at Longwood Gardens

*Alan D. Petravich, Matthew Taylor

2:45–3:00 PM

Mixing Blue, Red, and Far-Red Light for Night-interruption Lighting of Short-day Plants

*Qingwu Meng, Erik S. Runkle

1:00–2:00 PM

Salon 2

Waste Utilization in Horticulture (WUH) Working Group Business Meeting

Objectives: To enable researchers, teachers, and service professionals to meet and share common interests and experiences, to minimize duplication of efforts, to plan future areas of research, and to promote cooperative research; serve as a source of current information and guidance to those involved in waste recycling that benefit horticultural industries.

Monica Ozores-Hampton, Chair

1:00–2:00 PM

Salon 6

eXtension (EEXT) Working Group Business Meeting

Objectives: To identify those individuals who are involved in eXtension Communities of Practice (CoP) and provide opportunities for collaboration and sharing of ideas and methods among CoP participants through ASHS publications and meetings.

Milt McGiffen, Chair; Danielle Treadwell, Chair-elect

Wednesday, July 30, 2014

3:00–3:15 PM

UVB Radiation Affects Intumescence Development in Ornamental Sweet Potato (*Ipomoea batatas*)

*Joshua K. Craver, Chad T. Miller, Kimberly A. Williams, Nora Bello

3:15–3:30 PM

Soy-based Biocontainers Allow for Reduced Fertilizer Inputs

*Christopher J. Currey, Kenneth McCabe, James Schrader, Gowrishankar Srinivasan, David Grewell, William R. Graves

1:45–3:45 PM

—CEU Approved—

Workshop: Extension Outreach for Irrigation Management of Horticultural Crops

Sponsor: Commercial Horticulture Working Group
Moderator/Coordinator: Gordon C. Johnson, gcjohn@udel.edu

Growers have many questions regarding irrigation management and there are significant opportunities for extension outreach with irrigation. The objectives of this workshop are to: 1) highlight successful outreach programs in irrigation management of horticultural crops; 2) Show extension programs that work with growers on instrumental monitoring and scheduling of irrigation on-farm and in nurseries; 3) present successful extension education programs on irrigation management best crop response while also considering environmental concerns of water conservation and nutrient management (leaching of nutrients; 4) show how to do on-farm demonstrations such as irrigation monitoring, dye tests, and leachate monitoring; and 5) present extension irrigation educational opportunities with small and beginning farmers in the United States and in developing countries.

Irrigation is an essential production practice for many horticultural crops including vegetables, ornamentals, and fruits. Growers have many questions regarding irrigation and irrigation management and there are significant opportunities for extension outreach with irrigation from the basics of setting up and managing irrigation for new and beginning farmers to irrigation monitoring and scheduling for more experienced growers. In this workshop successful outreach programs on irrigation management of horticultural crops will be presented with instrumental monitoring and scheduling of irrigation on-farm and in nurseries, irrigation management for best crop response, and irrigation management to address environmental concerns of water conservation and nutrient management.

1:45–2:15 PM

Extension Education Opportunities for Irrigation With Small and Beginning Farmers

*Gordon C. Johnson

2:15–2:45 PM

Florida Extension Programs Fine Tune Irrigation and Nutrient Management in Plasticulture

*Robert Hochmuth

2:45–3:15 PM

Partnering with Commercial Growers to Implement Sensor-based Irrigation Control

*John D. Lea-Cox

3:15–3:45 PM

Field Experiences with Soil Moisture Monitoring Techniques in Commercial Vegetable Production

*James Adkins

1:45–3:45 PM

Salon 11

Workshop: New Innovations in Commercial Horticultural Applications

Sponsor: ASHS Industry Division

Coordinator: Negar Mahdavian, nmahdavian@ashs.org

This workshop is designed to introduce new and innovative technologies available for research, teaching and extension. Presentations are made by companies who exhibit at the annual meeting and will concentrate on new and/or innovative aspect of their company or products.

1:45–2:05 PM

Performance Specifications of New Controlled Environment

*Richard Marusyk

2:05–2:25 PM

**I. Wireless Sensor Networks (for Remote Analysis of Environmental Data)
II. Cloud-Based, Real-Time Data Analysis Tool**

*Wendy Sayre

2:25–2:45 PM

LAI-2200C Plant Canopy Analyzer

*Eric Price

2:45–3:05 PM

Using ARM Software to Plan Experiments Based on Required Precision

*Steven Gylling

3:05–3:25 PM

The Advantages of Measuring Ethylene Using the CI-900 Portable Ethylene Analyzer

*Andrea Melnychenko

2:00–3:00 PM

Salon 2

BioEnergy (BioE) Working Group Business Meeting

Objectives: To provide a platform for promoting and expanding the opportunities to apply expertise and technologies of horticulture to bioenergy crops and for sharing and disseminating information related to bioenergy research and expanded funding potential.

Wagner Vendrame, Chair; Tom Ranney, Chair-elect

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

2:00–3:00 PM

Salon 6

Public Horticulture (PUBHORT) Working Group Business Meeting

Objectives: To provide a forum for professional networking and discussion about matters related to botanic gardens, arboreta, and other institutions of public horticulture. Of particular interest are issues germane to public horticulture research, education, and outreach activities conducted within a higher education environment.

Carolyn W. Robinson, Chair

2:00–3:00 PM

Salon 1

Working Group of Asian Horticulture (WGAH) Business Meeting

Objectives: To promote dialogue and information and germplasm exchanges between horticulturists residing in America and Asia and to assist them in developing horticultural education, research, and extension programs to better preserve and utilize their rich horticultural resources.

Mengmeng Gu, Chair; Hye-ji Kim, Secretary

2:00–4:00 PM

Salon 9/10

Student Career Workshop: Speed-dating on Career Options: 2nd Edition

Sponsor: ASHS Industry Division

Moderator/Coordinator: Jeffrey Norrie, jnorrie@acadian.ca

Objectives: To provide students short and quick “live” autobiographies from several well-known Industry researchers; to hear their stories on education, research pathways and career choices; and solicit ideas on their own career options and opportunities.

When it comes to determining career pathways, students can be faced with vastly different opportunities. These career choices can include positions in Industry, university, government or even private consulting. Given that Industry often leads to exciting and rewarding careers, this workshop introduces students to Industry scientists and technical people in a fun and quick-paced way. Scientists from several horticultural companies will give a brief description of their education, past experience, current roles and responsibilities, and provide humble advice for students looking at career options, with emphasis on how their education has supported their career path. Besides a quick Q&A, students can take time afterward to mingle and discuss career ideas with the speakers.

2:00–4:00 PM

Salon 8

Workshop: Cultivating Horticulture as a National Priority

Sponsor: National Issues Committee

Coordinator: Thomas Björkman, tnb1@cornell.edu

Objective: Empower members to influence national policy makers on issues of importance to horticultural scientists.

Congress treated horticultural research and extension very well in 2014, where most other programs were cut. ASHS was actively involved in making our work an important exception, and providing funding that keep horticulture programs financially viable. This workshop will have a report on what ASHS did. There will also be an outline of the new structure within ASHS for managing National Issues. Continued financial support for horticultural research and extension depends critically on decision-makers seeing compelling success stories about the impact that funding has in society. Most scientists find it very difficult to do a good job because it requires a completely different perspective. This workshop will help participants tell their stories succinctly and convincingly to a lay audience. Participants from previous years will find the refresher valuable as well. Our members have great successes that need to be told. ASHS currently has collected only a few dozen stories from our membership (ASHSmedia.org), where we need hundreds. This workshop will help participants tell their story effectively to critical new audiences so that we can continue to find financial support for our important work.

2:00–2:40 PM

Cultivating Horticulture as a National Priority

*Thomas Björkman

2:40–3:20 PM

Cultivating Horticulture as a National Priority

*Jonathan Moore

3:20–4:00 PM

Cultivating Horticulture as a National Priority

*John D. Lea-Cox

2:00–4:00 PM

Salon 13/14

—*CEU Approved*—

Workshop: Unique Blueberry Production Practices for Subtropical and Tropical Climates

Sponsor: American Pomological Society

Moderator/Coordinator: Fumiomi Takeda, Fumi.Takeda@ars.usda.gov

Coordinator: Michele Warmund, warmundm@missouri.edu

This workshop will review research on low-chill blueberry cultivars grown in warm climates and production systems with current challenges and knowledge gaps.

Many temperate-zone fruit plants require a period of low temperatures in winter to grow vegetatively and produce flowers uniformly in the spring. Insufficient chilling of some blueberry cultivars results in delayed and erratic budbreak, as well as poor fruit set. Chill-hour accumulation in Central and South Florida can be less than 150 hours, but blueberry production in these two areas is increasing. Low-chill blueberry cultivars, innovative cultural methods, and the use of hydrogen cyanamide in early winter have allowed blueberry growers in these regions to harvest fruit in March and April when the price of fresh blueberries is high (>\$13/kg). This workshop will summarize breeding efforts to develop low-chill blueberries with high fruit quality, application of chilling models to predict plant responses, the role of plant growth regulators for producing blueberries in tropical and

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

subtropical environments, and novel practices used to mitigate lack of chilling.

2:00–2:15 PM

An Overview of the Blueberry Industry in Florida

*Gary England

2:15–2:35 PM

Prospects for Low-chill Blueberry Cultivars with High Fruit Quality

*James W. Olmstead

2:35–2:55 PM

Role of Plant Growth Regulators in Blueberry Production Under Low-chill Conditions

*Jeffrey G. Williamson

2:55–3:15 PM

Mitigating the Effects of Insufficient Chilling Using Novel Cultural Practices

*Fumiomi Takeda

3:15–3:35 PM

Blueberry Chilling Model Dilemmas

*Michele Warmund

2:00–6:00 PM

Salon 18

—*SCRI Project Meeting*—

Precision Breeding of Muscadine Grapes for Disease Resistance and Seedlessness

Coordinator: Mercy A. Olmstead, mercy1@ufl.edu

3:00–4:00 PM

Salon 1

Association of Horticulturists of Indian Origin (AHIO) Business Meeting

Objectives: To promote fellowship among the horticultural scientists of Indian origin and increase professional opportunities through increased interaction among them and with other American scientists; promote awareness of ASHS membership benefits and encourage membership pool from India; facilitate and support ASHS ad-hoc membership to attract Indian Horticulturists; to act as scientific ambassadors to facilitate an exchange of scientific information and cultural ideas between India and countries in North America; help share and transfer results of scientific research to India to improve agricultural productivity and quality.

Tripti Vashisth, Chair; Susmitha Nambuthiri, Secretary

3:00–4:00 PM

Salon 6

Local Food Systems (LOCSY) Working Group Business Meeting

Objectives: To promote academic and research information exchange on scientific development, scholarship, and educational activities

related to and regarding local and regional production systems, including definition and measurement of food systems, foodsheds, small and mid-scale production systems, beginning/new farmers, local farmers and farmers markets, farmers expanding from direct sale to local/regional wholesale, scale neutral technologies, agriculture at the urban/rural interface, urban horticulture production (community gardens, school gardens, home gardens), farm-to-consumer marketing, farmer-to-institution /school marketing, local food system and farmland policy, and relationships of local horticulture to rural and urban communities and economies.

Kathryn Fortenot, Chair; Rebecca N. Brown, Chair-Elect

3:15–4:00 PM

Salon 12

Ornamental Plant Breeding (OPB) Working Group Business Meeting

Objectives: To promote ornamental plant breeding, to serve as a forum for exchange of information among breeders, and to coordinate the communication of results to industry and academe.

Bruce L. Dunn, Chair; Michele Scheiber, Chair-elect

4:00–5:00 PM

Salon 13/14

APS Tropical Fruit Tasting

4:00–5:30 PM

Ballroom D

Presidential Address and ASHS Annual Business Meeting

Speaker: Mary H. Meyer, ASHS President

5:00–6:30 PM

Salon 13/14

American Pomological Society (APS) Annual Business Meeting

Kirk W. Pomper, Chair

5:30–6:30 PM

Pool Side Upper Deck

Student Reception

Sponsored by Tanimura & Antle

6:30–9:45 PM

Salon 9/10

Controlled Environments Student Competition

Organizer: Controlled Environment Working Group

Presiding: Gioia D. Massa

Please note: Each student competing in this competition will give their presentation in their session as outlined in the program and then they will repeat it a second time during this competition session.

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

Thursday, July 31, 2014

Competition Participants:

- Are Light-emitting Diodes a Viable Supplemental Lighting Alternative to Grow Greenhouse Tomatoes in a Northern Climate?—Celina Gomez
- Mixing Blue, Red, and Far-red Light for Night-interruption Lighting of Short-day Plants—Qingwu Meng
- Lettuce Growth and Morphology in a Red-rich Low PAR Light Environment in a Greenhouse—Michael B. Whalen
- Daily Water Use of Tomato Plants as Affected by Environmental Conditions and Plant Age—Alexander G. Litvin
- A Novel Organic Substrate Based on Hemp (*Cannabis sativa*), or Flax (*Linum usitatissimum*) Fibre for Hydroponic Systems—Stephanus J. Rossouw
- Chlorophyll Fluorescence of Three Species with Different Light Requirements: A Tool to Optimize Supplemental Lighting Efficiency?—Shuyang Zhen
- UVB Radiation Affects Intumescence Development in Ornamental Sweet Potato (*Ipomoea batatas*)—Joshua K. Craver
- Comparing Supplemental and Sole-source Lighting for Bedding Plant Seedling Production—Wesley Randall
- The Effect of Small Interval Wavelengths Using LEDs on Photosynthetic Rates of Tomato Plants—Bo-sen Wu
- End-of-production Supplemental Lighting from Red and Blue Light-Emitting Diodes Increases Leaf Pigments of *Lactuca sativa* L. ‘Cherokee’ and ‘Vulcan’ in the Greenhouse—W. Garrett Owen
- Elongation of *Hibiscus acetosella* ‘Panama Red’ in Well-watered and Water-stressed Conditions—Amanda Bayer
- Exploring Plant–UV Interactions with Greenhouse Tomatoes: Stress, Flavor, and Phytochemicals—Michael Dzakovich

Thursday, July 31, 2014

7:00 AM–2:30 PM Departs from the Convention Entrance

The Mosaic Company Phosphate Mine Tour

Advance Registration Required. Cost: \$49 (includes lunch)

NOTE: Safety is number one concern when you enter this mining site. Please read and the following instructions carefully. This tour is for adults of 18 years and older only. You must wear closed-toed shoes and expect to walk in rugged and possibly muddy and dusty environment. There are no exceptions. The mine operators will turn away anyone not properly attired. You will be given a hard hat and expected to wear it inside the mine at all times.

The Mosaic Company is the world's leading producer and marketer of concentrated phosphate and potash crop nutrients. On the tour, you will visit an active phosphate mine, board a dragline and watch it in

action. You will also learn about water management practices, visit award-winning reclamation sites, and learn about the fertilizer manufacturing process and phosphogypsum stacks. Mosaic has biologists, geologists and agronomists who are experts in field mapping, soil testing, agronomic consulting and fertilizer-blending innovations. You will see phosphate mining first-hand! This is a tour you won't want to miss.

7:30 AM–3:00 PM

Registration Counters A/B

Registration Open

8:00–9:45 AM

Salon 5

Growth Chambers and Controlled Environments 1 (Oral Session)

Moderator: Michelle M.P. McKeon-Bennett, michelle.bennett@lit.ie

8:00–8:15 AM

Use of Sphagnum Moss as a New Growth Medium in Advanced Life Support Systems

*Michelle M.P. McKeon-Bennett, Raymond M. Wheeler, Trevor R. Hodkinson

8:15–8:30 AM

Lettuce Growth and Morphology in a Red-rich Low PAR Light Environment in a Greenhouse

*Michael B. Whalen, Chieri Kubota, Murat Kacira, Wenye Li, Caitlyn Hall, Paul Meyer

8:30–8:45 AM

Large Plant Growth Chambers: Flying Soon on a Space Station Near You!

*Gioia D. Massa, Robert C. Morrow, Howard G. Levine

8:45–9:00 AM

Quantifying Flowering Responses of Bedding Plant Species Under LED Day Extension Photoperiodic Lighting with or without Far-Red Light

*W. Garrett Owen, Roberto G. Lopez

9:00–9:15 AM

A Novel Organic Substrate Based on Hemp (*Cannabis sativa*) or Flax (*Linum usitatissimum*) Fibre for Hydroponic Systems

*Stephanus J. Rossouw, Mark Lefsrud, Valerie Gravel

9:15–9:30 AM

Evaluation of Colored Shade Cloth on Tomato Production in Oklahoma

*Charles Rohla, Will Chaney

9:30–9:45 AM

Enrichment of Tissue Iron (Fe) Contents of Leaf Lettuce Grown Hydroponically

Adeline Bordier, *Chiwon W. Lee

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

8:00–10:00 AM

Salon 4

International Division Breakfast

Coordinator: Esmail “Essie” Fallahi, efallahi@uidaho.edu

Speaker: Amir Khoddamzadeh, Department of Horticulture & Landscape Architecture, Oklahoma State University

Topic: Plant Genebanking in the Middle East and Southeast Asia, Its Potentials and Challenges

Many of the germplasm materials are originated in the Middle East and Southeast Asia. The increasing public awareness about the environmental protection and human health and the needs for more efficient use of natural resources mandate to have a much better understanding of the international germplasm materials which are often used in modern breeding and plants material preservation.

About the Speaker: Amir Khoddamzadeh graduated in the field of agricultural biotechnology from the University Putra in Malaysia in 2011. He worked as an assistant professor at the Ferdowsi University and Agricultural Biotechnology Research Institute in Iran. He has several years of experience in teaching and research in horticultural plants (flowers, medicinal plants and ornamentals), tissue culture and conservation methods, synthetic seed, and cryopreservation.

8:00–10:00 AM

Salon 9/10

Postharvest 2 (Oral Session)

Moderator: Yosef Al Shoffe, Yas24@cornell.edu

8:00–8:15 AM

1-Methylcyclopropene (1-MCP) Effects on Ethylene Biosynthesis in Relation to Flesh Browning of ‘Empire’ Apple Fruit

Mahmoud Saba, Nigel E. Gapper, Jacqueline F. Nock, James Giovannoni, *Christopher B. Watkins

8:15–8:30 AM

Yield and Postharvest Quality of Tablestock Potato (*Solanum tuberosum* L.) in Response to Irrigation Method and Harvest Time

*Mildred N. Makani, Steven A. Sargent, Lincoln Zotarelli, Joel Reyes-Cabrera

8:30–8:45 AM

Conditioning of ‘Honeycrisp’ Apple to Prevent Injury by Controlled Atmosphere Storage: Testing a Matrix of Temperatures and Exposure Durations

Randolph Beaudry, *Diep Tran

8:45–9:00 AM

Bitter Pit and Soft Scald in ‘Honeycrisp’ during Cold Storage

*Yosef Al Shoffe, Jacqueline F. Nock, Christopher B. Watkins

9:00–9:15 AM

Humidity-efficient Clamshells to Decrease Moisture Loss and Extend Storage Life of Small Fruits

*Jinhe Bai, Elizabeth Baldwin, Anne Plotto, Xiuxiu Sun,

Libin Wang, Zhe Wang, Jan Narciso, Clark F. Seavert

9:15–9:30 AM

High Incidence of Diplodia Infection in HLB Symptomatic Orange Fruit and Its Implication in the Preharvest Fruit Drop

*Wei Zhao, Jinhe Bai, Greg McCollum, Elizabeth Baldwin

9:30–9:45 AM

Hydrocooling, Forced-air Cooling and Hydrocooling Plus Forced-air Cooling of Two Southern Highbush Blueberry Cultivars and Effects on Fruit Quality

*Marcelo A.G. Carnelossi, Steven A. Sargent, Adrian D. Berry

9:45–10:00 AM

Bruising in Avocado (*Persea americana* M.) ‘HASS’ Supply Chains in Queensland Australia: Ripener to Retailer

*Muhammad S. Mazhar, Daryl C. Joyce, Ray J. Collins

8:00–10:00 AM

Salon 18

Project Leaders—National Strawberry Sustainability Initiative Program

Presiding: Curt R. Rom

8:00–10:00 AM

Salon 7

Teaching Methods (Oral Session)

Moderator: Brian J. Pearson, bpearson@ufl.edu

8:00–8:15 AM

Total Crop Management Improves Students’ Understanding of Greenhouse Crop Production

*Christopher J. Currey, Michael V. Mickelbart, Roberto G. Lopez

8:15–8:30 AM

A Case Study Evaluation of Edible Plants Curriculum Implemented in an Elementary School

*Leila Anne Graves, Harrison Hughes, Meena Balgopal

8:30–8:45 AM

Do High School Students Who Participate in State FFA Career Development Events Matriculate at the Host University? A Case Study with Horticulture CDEs at Kansas State University

*Chad T. Miller, Kimberly A. Williams

8:45–9:00 AM

Evaluating Difficult Plant Science Concepts in an Introductory Horticulture Course Using Conceptual Maps as Assessment Tools

*Kathryn S. Orvis, Cecilia Espinoza Morales

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

9:00–9:15 AM

Multicultural Student Perspectives on a Study Abroad Course in Costa Rica

*Kevin D. Gibson, Tamara Benjamin, Chris Oseto, Bridgett Chapin

9:15–9:30 AM

Service Learning Program Changes Perspectives and Impacts Professional Skills

*Cynthia Haynes, Kevin Duerfeldt

9:30–9:45 AM

Socratic, Traditional, and Experiential Instructional Methods for Adult Learners Enrolled in a Plant Production Extension Program

*Brian J. Pearson, Liz A. Felter, Juanita Popenoe, Matthew C. Lollar, Gul S. Ali

9:45–10:00 AM

Extending Research Impacts to a General Audience via Video: The Good, The Bad, and The Ugly

*Robert Wilson III, Kurt D. Nolte, Rosa Kim Bevington

8:00–10:00 AM

Salon 11

Vegetable Crops Management 3 (Oral Session)

Moderator: Mark Uchanski, uchanski@nmsu.edu

8:00–8:15 AM

Plant Functional Diversity Leads to Increased Yields in a Low-input Organic Intercropping System

*Jose G. Franco, Stephen R. King, Joseph Masabni, David Briske, Astrid Volder

8:15–8:30 AM

Evaluation of Tomato Yellow Leaf Curl Virus Resistant (TYLCV-R) Varieties and Advanced Breeding Lines in Florida

*Crystal A. Snodgrass, Monica Ozores-Hampton

8:30–8:45 AM

Enhanced Forage Production from Triticale and Triticale–Pea Mixtures

*Kurt D. Nolte, Nancy A. Elliott

8:45–9:00 AM

Evaluation of Summer Cover Crops Sorghum [Sudangrass Sorghum Bicolor L. (Moench) x Sorghum sudanense] and Pigeon Pea (Cajanus cajan L.) Management on Fall Cabbage (Brassica oleracea L. ‘Capitata’)

*Danielle D. Treadwell, Dakson Sanon, Lincoln Zotarelli

9:00–9:15 AM

Large Bed Vegetable Cropping Systems Enhance Productivity and Water Conservation

*Kurt D. Nolte

9:15–9:30 AM

Broccoli (Brassica oleracea) Yields and Size of Flowering Head as Affected by Planting Distance

*Peter Germishuizen, Juan Carlos Diaz-Perez, Pablo Navia, Jesus Bautista

9:30–9:45 AM

Maximizing Plant Density Affects Broccoli Yield and Quality

*Brian Ward, Mark W. Farnham, Powell Smith, Zach Stansell, Susan James

9:45–10:00 AM

Using Grower Friendly, Web-based Mapping to Share Field Isolations within a Global Agricultural Community

*Kurt D. Nolte, Rosa Kim Bevington

8:00–10:00 AM

Salon 8

Workshop: Spotlight on Centers for Innovation in Research and Development

Sponsor: ASHS Industry Division

Coordinator: Jeffrey Norrie, jnorrie@acadian.ca

Objectives: This workshop will highlight the activities and experiences of several Innovation Centers, and showcase their collaborative research efforts with emphasis on application technology-transfer and commercial opportunities.

The creation of centers of Excellence and Innovation in Research and Development are a novel way to bring together like minds. The synergy formed between University, Government, and Industry researchers has resulted in many technical advances and commercial opportunities. This workshop will highlight the activities and experiences of several Innovation Centers, including the Ohio Bioproducts Innovation Center, the Plants for Human Health Institute, the Vineland Innovation Centre, and the University of Florida Innovation Center. We hope to bring together ASHS members from all research stripes to see and discuss what can be accomplished when we bring our competencies together to work towards commercialization and application

8:00–10:00 AM

Salon 13/14

Workshop: The Role of Qualitative Research to Further the Understanding of the Horticultural Lived Experience

Sponsor: Human Issues in Horticulture Working Group

Moderator/Coordinator: Carolyn W. Robinson, cwrobinson@auburn.edu

Objectives: 1) Discuss how qualitative research has been used in horticulture thus far. 2) Present basic techniques of qualitative research and how it differs from other types of research. 3) Give participants the chance to discuss qualitative methods and learn how to incorporate them into their research practices.

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

Quantitative research is the norm in horticultural peer-reviewed literature; however, there is still a need for qualitative research. Qualitative research is highly accepted in education and other fields of the sciences, but its use in horticulture has been very limited. There are some significant uses for qualitative research in horticulture, and some questions that can only be answered by talking to people, observing people, and collecting detailed, non-measurable data about their experience. This session will provide a platform for scientists, policy makers, and scholars to learn about the challenges and opportunities of qualitative research and help give them the impetus to incorporate qualitative methods into their own programs.

8:00–8:30 AM

Qualitative Research in Consumer Horticulture and Focus Groups

*Bridget K. Behe

8:30–9:00 AM

Qualitative Data Used to Reinforce Quantitative Data

*Tina Marie (Waliczek) Cade

9:00–10:00 AM

Panel Discussion

8:00–10:00 AM

Salon 12

Workshop: The Science of Consumer Horticulture

Sponsor: Consumer Horticulture and Master Gardeners Working Group

Coordinator: Ellen Bauske, ebauske@uga.edu

This objective of this workshop is to encourage extension specialists, researchers and educators to work collaboratively to consolidate and create educational resources for the gardening public and better capitalize on funding opportunities that advance or improve the science of gardening as it impacts nutrition, environmental stewardship, food safety/security and human health and wellbeing.

Management of urban and residential landscapes and gardens can have a tremendous impact on food production, nutrition and human health, water consumption, water quality, green waste, and energy consumption. Although hard to quantify, there is evidence to suggest that more land is managed in backyards than in all of the U.S. National Parks combined. Yet there is a lack of research documenting the impact of various management strategies and the potential environmental and human health benefits to the landowner and the community as a whole. Addressing research questions in consumer horticulture presents many challenges. Research questions span many disciplines and environments. Multidisciplinary teams of researchers, educators, managers, policymakers, and other stakeholders are often needed to conduct collaborative research addressing the issues mentioned above. Funding is often a challenge. This workshop will present information, foster discussion and provide opportunities for collaboration.

8:00–8:30 AM

Working Together & Building Effective Teams: North Central Consumer Hort IPM Working Group

*Mary H. Meyer

8:30–9:00 AM

Funding Challenges and Open Discussion of Options and Opportunities

*Dave Close

9:00–9:30 AM

Defining Research Goals: An Interview with Dr. Tom Bewick, National Program Leader, Horticulture USDA–NIFA

*Gary Bachman

9:30–10:00 AM

Getting Started: Landscapes and Gardens for Better Living Southern Region Research Activity and Open Discussion of Research Objectives

*Richard E. Durham

9:00 AM–2:00 PM

Ballroom A/B/C

Exhibits Open

9:45–10:15 AM

Ballroom A/B/C

Break

10:00–11:00 AM

Salon 2

Consumer Horticulture and Master Gardeners (CHMG) Working Group Business Meeting

Objectives: To become familiar with cooperative extension home horticulture programs within the United States, to identify and develop the ability to respond to home horticulture information needs, and to improve methods of information delivery to home horticulture audiences.

Ellen Bauske, Chair; Lucy Bradley, Chair-elect

10:00–11:00 AM

Salon 6

Human Issues in Horticulture (HIH) Working Group Business Meeting

Objectives: To stimulate discussion among those engaged in research and education programs in areas of horticulture that interact with the social sciences, such as economics, psychology, education, various forms of therapy, urban and rural sociology, and urban and rural development.

Cynthia Haynes, Chair

10:00–11:15 AM

Salon 5

Crop Physiology (Oral Session)

Moderator: S. Kaan Kurtural, kkurtural@csufresno.edu

10:00–10:15 AM

The Effect of Small Interval Wavelengths Using LEDs on Photosynthetic Rates of Tomato Plants

*Bo-sen Wu, Konstantin Daive, Most Tahera Naznin, Mark Lefsrud

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

Thursday, July 31, 2014

10:15–10:30 AM

Response of CO₂ Exchange Pattern and Chlorophyll Fluorescence Property in *Dendrobium officinale* to Drought Stress and Rewatering

*Dongxian He, Zejin Zhang, Genhua Niu, Rongfu Gao

10:30–10:45 AM

Flavonol and Anthocyanin Biosynthesis in Grapevine Berry is Ameliorated by Early Season Light Quantity, Not Irrigation Restriction in Warm Climate

*S. Kaan Kurtural, James A. Kennedy, Yi Zhang, Michael Cook

10:45–11:00 AM

Mist Cooling to Delay Bloom and Prevent Frost Damage—Old Idea, New Technology

*Ishara Rijal, James A. Flore, Jeffrey A. Andresen

11:00–11:15 AM

Daily Water Use of Tomato Plants as Affected by Environmental Conditions and Plant Age

*Alexander G. Litvin, Marc van Iersel, Anish Malladi

10:00–12:00 PM

Salon 17

USDA SCRI Eastern Broccoli Project Working Group Meeting

Presiding: Thomas Björkman

10:15–11:30 AM

Salon 11

Organic Horticulture (Oral Session)

Moderator: Mary A. Rogers, roge0168@umn.edu

10:15–10:30 AM

Temperature Effects on Tomato Growth and Nutrient Release in Substrates Amended with Organic and Conventional Fertilizers

*Stephanie Beeks, Neil Mattson

10:30–10:45 AM

Does Position in the Canopy Affect Fruit Bud and Berry Development in Highbush Blueberry?

*Khalid Almutairi, Bernadine C. Strik, David R. Bryla

10:45–11:00 AM

Summer Sorghum Cover Crop Reduces Fall Lettuce Growth and Yield

*William B. Evans, Sarah Reynolds, Robert Williams, Anna Horton, Carl Motsenbocker

11:00–11:15 AM

Biological Control and Exclusion of Brown Marmorated Stink Bug in Organic Crops

*Mary A. Rogers, Jennifer Moore, Jim Walgenbach, Ricardo Bessin, Anne Nielsen, Annette L. Wszelaki

11:15–11:30 AM

Impact of Liquid Fertilizers on Plant Growth, Yield, Fruit Quality, and Fertigation Management in an Organic Processing Blackberry Production System

*Javier Fernandez-Salvador, Bernadine C. Strik, David Bryla

10:15–11:45 AM

Salon 7

Public Horticulture (Oral Session)

Moderator: E. Thomas Smiley, tsmiley@bartlettlab.com

10:15–10:30 AM

A Novel Approach to Vertical Gardening: An Inexpensive Vertical Growing Structure

*Hilary Omega Heath, Donald J. Eakes, Carolyn W. Robinson, J. David Williams, Ann W. Fleener

10:30–10:45 AM

Evaluating Recruitment within the Green Industry

*Kira L. Chaloupka, Carolyn W. Robinson, Donald J. Eakes, J. David Williams, Paul M. Patterson, Amanda L. Martin

10:45–11:00 AM

Creating Butterfly Gardens Across Louisiana through Enhanced Extension Agent Training

*Kathryn Fontenot, Alan Morgan, Allen Owings

11:00–11:15 AM

An Analysis of American Public Horticulture Internship Programs

*Brian Trader, Brian Jackson, Jennifer L. Buck, Stephanie Burnett, Tracy A.O. Dougher, R. Daniel Lineberger

11:15–11:30 AM

An Overview of Two Community Garden Projects in Central Florida

*Javier Garces

11:30–11:45 AM

Tree Risk Assessment: A Component of Managing Trees in Public Spaces

*E. Thomas Smiley

10:15 AM—12:15 PM

Salon 8

Genetics and Germplasm 3 (Oral Session)

Moderator: Dario J. Chavez, dchavez@uga.edu

10:15–10:30 AM

Antioxidant Capacity and Phytochemical Content of Modern Peach Germplasm

*Asma Abdelghafar, Ksenija Gasic, Gregory L. Reighard

10:30–10:45 AM

Comprehensive Genotyping of the Peach Collection at the National Clonal Germplasm Repository in Davis

*Ksenija Gasic, Bradley Rauh, C.E. Wells, Douglas G. Bielenberg, John E. Preece

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Thursday, July 31, 2014

10:45–11:00 AM

From Population to Association Genetic Analyses in *Prunus umbellata* Elliot, Can GBS Do It All? — A Comparison of SSR and SNP Markers

*Dario J. Chavez, Stuart F. McDaniel, Adam C. Payton, Thomas G. Beckman, José Chaparro

11:00–11:15 AM

Genetic Relationship of Peach [*Prunus persica* (L.) Batsch] Cultivars Using SSR Markers and Correlation between SSR Markers and Morphological Characteristics

*Jee-Hwa Hong, Won-Heum Park, Seung-In Yi, Yong-Sham Kwon, Doo-Hwan Kim

11:15–11:30 AM

Genetic Diversity and Distribution within Cultivated Gene Pools of *Chionanthus retusus* (Oleaceae) in the United States

*Richard T. Olsen, Timothy A. Rinehart, Joseph H. Kirkbride Jr.

11:30–11:45 AM

Candidate Genes Associated with Powdery Mildew Resistance Identified By RNA-Seq in Crape Myrtle (*Lagerstroemia indica*)

Xinwang Wang, *Timothy A. Rinehart

11:45 AM–12:00 PM

Polyploidy as a Potential Erythrina Gall Wasp Management Strategy

*Ken W. Leonhardt

12:00–12:15 PM

Genetic Characterization of *Coffea arabica* ‘Geisha’ from Panama and Ethiopia

*Sarada Krishnan, Willem Boot

10:15 AM–12:15 PM

Salon 13/14

Ornamentals/Landscape and Turf (Oral Session)

Matt Lenhardt, lenhardt@ufl.edu

10:15–10:30 AM

Turf Fertilization Effects on Nitrogen Status of Kentucky Bluegrass and ‘Autumn Blaze’ Maple Growing in a Mixed Landscape

Alison Stoven O’Connor, *Anthony J. Koski, Daniel K. Struve, Ken Kawamura, James E. Klett

10:30–10:45 AM

Characterization of Warm-season Turfgrasses Against Drought

*Qurrat-ul-Ain Farooq

10:45–11:00 AM

Irrigation Effects on Growth and Visual Quality of Three Ornamental Grass Species

Jane Rozum, *James E. Klett

11:00–11:15 AM

My Brevard Yard: Residential Education for the Protection of the Indian River Lagoon

*Matt Lenhardt, Sally A. Scalera

11:15–11:30 AM

Green Beer & Brew: Using Themed-styled Trainings to Increase Participation and Knowledge Gain

*Matt Lenhardt, Karen M. Stauderman

11:30–11:45 AM

Irrigation Contractors in Georgia Offer Many Systems and Many Prices

*Ellen Bauske, Clint Waltz, Kathy Nguyen

11:45 AM–12:00 PM

Container Type Affects Landscape Establishment and Growth of Chanticleer Pear

*Alison Stoven O’Connor, James E. Klett, Anthony J. Koski

12:00–12:15 PM

Performance of Elm Taxa in Auburn, AL

*Hanna J. Pettus, Adam F. Newby, Carolyn W. Robinson, Jeff L. Sibley

10:15 AM–12:15 PM

Salon 12

Workshop: Eye Tracking Technology Revolutionizes Horticultural Consumer Research

Sponsor: Marketing and Economics Working Group

Moderator/Coordinator: Bridget K. Behe, behe@msu.edu

The objectives of this workshop are to introduce the technology, present “best practices” for equipment use and study design, convey good data extraction techniques, and present research results.

Eye tracking technology is revolutionary to consumer research because it enables scientists to follow information processing through the visual path. Much of the literature relates to packaged consumer goods and the act of reading. A review of the key papers helps to set the stage to understand how eye tracking technology can be used to study horticultural purchases. Paper 2—Horticultural research has been done with one of two types of devices: glasses and computer monitor-mounted. However, the equipment has its challenges and difficulties. Understanding the set-up and subject calibration processes can increase data collection utility. Paper 3—The plethora of data which can be extracted from any one eye tracking study can be overwhelming. Establishment of useful parameters and areas of interest are one key step to successful data extraction and analyses. Data extraction presents its own challenges, so some time saving measures have been developed. Visual data are not normally distributed, presenting further challenges to subsequent analyses. Paper 4—While sustainability has become a hot topic in the green industry, imbedded within sustainability is the concept of wise water use, both in production of plants and in their use in the landscape. In this project, we investigated, profiled, and determined the value that consumer segments place on “green” marketing (sustainability) and “blue” marketing (water conservation) related to woody plant production and use in the landscape. We used three methods

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

including consumer auctions, on-line survey, and eye-tracking of retail displays to examine the effect that water conservation-related signage has on plant purchases. Paper 5—Participants from 6 locations viewed 5 unique plant displays with 3 manipulated signs per display to total 27 total treatment images. Three signs spanned the back, upper portion of each display to (a) identify the plants, (b) convey a fabricated horticultural production method, and (c) convey price. While identification sign was central to all displays, price and production method were changed depending on the plant type. Signs posted on the left were more likely to receive the first fixation and had more fixations compared to those on the right. When price sign location was further compared by price level, no significant difference was detected in fixation count, but high and medium prices on the left side were observed faster than a low price, and all three were looked at before any level of price if shown in the right side of the display.

10:15–10:30 AM

Eye Tracking Equipment for Consumer Research

*Bridget K. Behe

10:30–10:45 AM

Literature, Findings, and Lessons from Non-horticultural Uses of Eye Tracking

*Jennifer Dennis

10:45–11:00 AM

Eye Tracking Data Extraction Triumphs and Challenges

*Lynnell Sage

11:00–11:15 AM

Ascertaining the Influence of Water Conservation Signage on Plant Purchasing Behavior

*Charles R. Hall

11:15–11:30 AM

What Does Eye Tracking Reveal About the Effects of Buying Impulsiveness on the Horticultural Choice?

*Hayk Khachatryan

11:30–11:45 AM

Price Signs to the Left of Center Have More Visual Activity Than Signs to the Right of Center

*Bridget K. Behe

10:15 AM–12:15 PM

Salon 9/10

—CEU Approved—

Workshop: Irrigation Systems and Current Technologies Available for Use in Vegetable Crop Production

Sponsor: Water Utilization and Management Working Group
Moderator/Coordinator: Lincoln Zotarelli, lzota@ufl.edu

The purpose of this workshop is to encourage and facilitate the mutual exchange of ideas and information concerning the use of irrigation systems and tools in various aspects of horticultural research, extension, education, and industry. In this workshop, Lincoln Zotarelli and associated colleagues will provide the most up-to-date information on the current irrigation systems and technology available for vegetable production in Florida. Talks will focus on conversion of irrigation

systems, economics, salinity problems, irrigation technologies including the use of soil moisture sensors and smart phone applications. The workshop will also explore how irrigation may influence vegetable production and provide a conceptual framework to better understand how irrigation practices and tools can improve the efficiency of resource use in horticulture.

10:15–10:30 AM

Irrigation Systems for Vegetable Production in Florida: The Good, the Bad, and the Ugly

*Lincoln Zotarelli

10:30–10:45 AM

Seasonal Climate Review and Outlook: Possible Vegetable Production Impacts

*Daniel Dourte

10:45–11:00 AM

Agroclimate Web and Smartphone Tools for Vegetable Production

*Clyde Fraise

11:00–11:15 AM

Economics of Alternative Irrigation Technologies in Florida Vegetable Production

*Tatiana Borisova

11:15–11:30 AM

Irrigation and Salinity Problems in Vegetable Production

*Jeffrey Ullman

11:30–11:45 AM

Strategies for Conversion of Seepage to Drip Irrigation: Cabbage Case Study

*Charles Barrett

11:45 AM–12:00 PM

Irrigation Scheduling and the Use of Soil Moisture Sensor on Vegetable Crops

*Lincoln Zotarelli

12:00–12:15 PM

Smartphone App for Irrigation on Vegetable Crops

*Kelly Morgan

11:00 AM–12:00 PM

Salon 6

Plant Biotechnology (BTCH) Working Group Business Meeting

Objectives: To communicate research ideas, techniques, and progress on the emerging techniques in micropropagation, cell selection, protoplast culture, embryo culture, haploidy, gene transfer, and molecular biology as they relate to horticultural crop improvement; and to encourage collaboration among researchers in the fields of plant genetics, germplasm and breeding, stress physiology, tissue culture, growth regulator research, and plant growth and development on problems of concern in improvement and propagation of horticultural crops.

Nahla Bassil, Chair; Jiang Lu, Chair-elect; Manjul Dutt, Secretary

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

11:30 AM–12:45 PM

Salon 5

**Viticulture and Small Fruits 2
(Oral Session)**

Moderator: Sonet Van Zyl, svanzyl@csufresno.edu

11:30–11:45 AM

Transcriptional Changes of Anthocyanin Metabolism during Fruit Ripening in Highbush Blueberry (*Vaccinium corymbosum* L.)

*Sun Woo Chung, Duk Jun Yu, Min Kyo Chun, Hee Jae Lee

11:45 AM–12:00 PM

Comparative Analysis of Polyphenolic Content and Gene Expression Patterns of Key Flavonoid Biosynthetic Genes in *Fragaria* spp. Color Mutants

*Sutapa Roy, Douglas Archbold

12:00–12:15 PM

The Effects of Foliar Potassium Applications on Table Grape Quality

*Sonet Van Zyl, Sijie Zhu, Xiaofan Zhao

12:15–12:30 PM

Fruit Quality of Pierce's Disease Resistant 87.5% *Vitis vinifera* Selections

*Elina D. Coneva, James A. Pitts

12:30–12:45 PM

Investigating Possible Causes of Concord Grape Replant Disorder

*Enrique Anibal Proano Garcia

12:00–5:00 PM

Salon 18

ASHS Board of Directors Meeting

Paul W. Bosland, Chair

12:15–1:00 PM

Ballroom A/B/C

Crop Physiology (Poster Session)

(176) Increased Fertilizer Levels Do Not Prevent ABA-Induced Chlorosis in Pansy

*Jong Goo Kang, Rhuanito Soranz Ferrarezi, Sue Dove, Marc van Iersel

(177) Water-deficit Priming Increases Leaf Gas Exchange of Papaya (*Carica papaya* L.)

Christopher I. Vincent, Diane Rowland, *Bruce Schaffer

(178) Ecophysiological Performance, Growth, and Yield of Four Pigeonpea Varieties Under Different Planting Dates and Densities in the Southeastern United States

ChihLi Yu, *Dafeng Hui, Trevor Johnston, Kadijah Porter, Corie Wilson, Camerra Miller, Suping Zhou, Desh Duseja, Fisseha Tegegne

(179) Contrasting Responses of Corn Ecophysiological Performance and Yield to Agricultural Practices in Two Years with Different Rainfalls

*Dafeng Hui, Chih-Li Yu, Junming Wang, Camerra Miller, Suping Zhou, Chandra Reddy, Sam Dennis

(180) Low Temperature Conditioning Effect on Secondary Metabolism and Antioxidant Capacity of Garlic during Development

*Jose Luis Lorenzo-Manzanarez, Dulce M. Rivera-Pastrana, Ma Estela Vázquez-Barrios, Miguel David Dufoo-Hurtado, Edmundo Mercado-Silva

(181) Characterization of Drought Response of Transgenic Tomato Plants Expressing Spermidine Synthase Under Constitutive or Fruit/Ethylene-specific Promoters

*Raheel Anwar, Arvind Raghthama, Preyesh Jairam, Shazia Fatima, Michael Gosney, Michael V. Mickelbart, Avtar K. Handa

(182) Changes in Carbohydrate Synthesis during Cold Acclimation in Cranberry (*Vaccinium macrocarpon*)

*Faith Ndlovu, Peter Jeranyama, Carolyn J. DeMoranville, Michelle DaCosta

12:15–1:00 PM

Ballroom A/B/C

Genetics and Germplasm 4 (Poster)

(227) Candidate Genes for Ornamental Traits in Blueberry

*Rupesh Gaire, Allan F. Brown, Dayton Wilde

(228) Genetic Structure of Peach Breeding Germplasm from Embrapa, Brazil

*Liane Bahr Thurow, Maria B. Raseira, Sandro Bonow, Caroline M. Castro

(229) Analytical and Sensory Analysis of Pepper Fresh-cut Quality Reveals Extensive Diversity within the Capsicum Gene pool for Crop Improvement

*John R. Stommel, Yaguang Luo, Judith M. Dumm, Anne Marie Welten

(230) Traditional Plant Breeding Approach Used by Bridgestone Americas, Inc., to Develop Guayule as a Domestic Natural Rubber Source

*Sarah M. Smith, William S. Niaura

(231) Genetic Resources of the Functional Food, *Teramnus labialis* (L.f.) Spreng for Improving Seed Number, Flavonol Content, Oil Percentage, and Fatty Acid Compositions

*Brad Morris, Ming Li Wang, Brandon Tonniss

(232) Variation of Carotenoids and Polyphenolics in Peach (*Prunus persica* L.) and Implications on Breeding for

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

Thursday, July 31, 2014

Modified Phytochemical Profiles

Allan Brown, *Gad G. Yousef, Kranthi Chebrolu, Penelope Perkins-Veazie, Dennis Werner, Mike Parker, Ksenija Gasic

(233) Evaluation of Hop Cultivars for Commercial Production in North Carolina

*Jeanine M. Davis, Kelly Gaskill, Luping Qu

(234) Investigating Stevia Germplasm as Alternative Highly Profitable Crop for Farmers

*Bipul K. Biswas, Shomari A. Johnson, Maurice Smith, India Brown, Moniece McKinney

12:15–1:00 PM

Ballroom A/B/C

Growth Chambers and Controlled Environments 2 (Poster Session)

(153) Physical and Chemical Characteristics of Hydroponic Media and Their Effects on Growth of Arugula Microgreens

*M. Olszewski, A. Brown, M. Guglielmetti, M. Moskowicz, D. Parker

(154) Winter Season Greenhouse Production of Strawberry in Desert Southwest

*Chieri Kubota

(155) Effects of Shade Cloth on Specialty Crop Production in High Tunnels

*Guihong Bi, William B. Evans

(156) Temporary Low Temperature Accumulates Antioxidant Phenolic Compounds in Kale

*Jin-Hui Lee, Myung-Min Oh

(157) Air Anion Improves Lettuce Growth in a Plant Factory

*So-Ra Lee, Myung-Min Oh, Chung-Su Han, Tea-Hwan Kang

(158) Season Extension and Sugar Accumulation in Low Tunnel-grown Spinach

*Erin MacNeal Rehrig, Samantha Glaze Corcoran

12:15–1:00 PM

Ballroom A/B/C

Ornamental Plant Breeding (Poster Session)

(235) Establishment of In Vitro Propagation System and Induction of Autotetraploidy in *Monarda fistulosa* and *M. punctata* (Lamiaceae)

*Emily L. Moeller, J. Alan Sullivan, Praveen K. Saxena, A. Maxwell Jones

(236) Polyploidization in *Hippeastrum* hybrids and *H. papilio*

*Song Zhang, Jami Carey

(237) Pineapple Lily (*Eucomis*) Tissue Culture and Somatic Embryogenesis

*Kedong Da, Samantha Smith, Hannah Farish-Williford

(238) Daytona Heat Danica Pink, Daytona Heat Petty Blue, and Daytona Heat Dale White, New Vitex Releases

*Carol D. Robacker, David Knauft

(239) Assessment of *Rosa* spp. Plant Architecture in the Field

*Xuan Wu, Shuyin Liang, David H. Byrne

(240) Phenotypic Variation of Advanced *Dichroa* x *Hydrangea* Hybrids

*Lisa W. Alexander, Sandra M. Reed

(241) Characterization of 10 Hybrid Rose Populations for Heat Tolerance

*Shuyin Liang, Xuan Wu, D.H. Byrne

(242) A Need for Speed: High Throughput Phenotyping for *Rhododendron* pH Adaptability

*Alexander Susko, Stan C. Hokanson, Steve McNamara, James M. Bradeen, Joshua Friell

(243) Selection, Evaluation, and Introduction of Hardy Superior Woody Plants By the NDSU Woody Plant Improvement Program

*Todd West

(244) Boxwood Breeding at the United States National Arboretum

Richard T. Olsen, Henry Guo, Chandra Thammina, JoAnne Crouch, *Margaret Pooler

(245) Development of Genic Microsatellite Markers for Genetic Diversity Analysis of Boxwood Accessions to Breed for Blight-tolerant Cultivars

*Chandra Thammina, Richard T. Olsen, Margaret Pooler, Martha Malapi-Wight, JoAnne Crouch

12:15–1:00 PM

Ballroom A/B/C

Vegetable Crops Management 4 (Poster Session)

(387) Light Source Effects on Hydroponically Grown Miniature ‘Pom Pom’ Lettuce

*Kent D. Kobayashi, Teresita D. Amore

(388) Soilless Media Effects on Hot Peppers (*Capsicum chinense* Jacq.) Growth and Development and Root Colonization by *Trichoderma*

*Luke O. Lee, Corrie P. Cotton, Fawzy M. Hashem

(389) Commercial Extract from the Brown Seaweed *Ascophyllum nodosum* (Stimplex®) Improves Yield and

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

Quality of Hydroponically Grown Lettuce

*Will Neily, Laurel Alexander, Katy Griegoschewski

(390) Preliminary Field Evaluation of Thirty-six Heirloom Varieties in the North Carolina Piedmont

*Sanjun Gu, Kurt Taylor, Grace Summers, John Beck

(391) Interaction between Chemical-induced Stress and Biological Agents on the Incidence of Sweetpotato Tip Rot in Mississippi

*Ramon A. Arancibia, Jeffrey L. Main

(392) Optimal Plant Populations for Crown-cut Broccoli in Highly Productive Eastern Sites

*Thomas Björkman, Miguel Gómez

12:15–1:15 PM

Salon 12

Marketing and Economics (MKEC) Working Group Business Meeting

This group brings together workers who have horticultural and economic interests in the marketing of horticultural crops and works to expand markets and improve marketing techniques for horticultural crops.

Jennifer Dennis, Chair; Bridget K. Behe, Chair-elect; Ben Campbell, Secretary

12:15–1:15 PM

Salon 9/10

Water Utilization and Management (WUM) Working Group Business Meeting

Objectives: To gather and disseminate information on water conservation, crop water requirements, irrigation methods, and efficient and effective water management.

Donald Merhaut, Chair; Raul I. Cabrera, Chair-elect; Susmitha Nambuthiri, Secretary

1:00–1:45 PM

Ballroom A/B/C

BioEnergy (Poster Session)

(186) Evaluating Switchgrass Cultivars for Bioenergy Production in New Jersey

Jessica Baculis, *William Hlubik, Zane Helsel, Stacy Bonos

(187) Oil Smoke Point Testing of *Camellia oleifera*

*Charles B. Allen Jr., John M. Ruter

(188) Salt Tolerance of Six Switchgrass Varieties

*Youping Sun, Genhua Niu, Girisha Ganjegunte, Yanqi Wu

(189) Genetic Diversity, Cytogenetics, and Biomass Yields among *Arundo* spp. and Accessions (Arundineae)

Darren H. Touchell, *Thomas Ranney, Dilip R. Panthee, Ron Gehl, Alexander Krings

1:00–1:45 PM

Ballroom A/B/C

Floriculture 3 (Poster)

(110) Substrates Affect Irrigation Frequency and Plant Growth of Potted Orchid

Joanne Lichty, Paul W. Singleton, *Hye-Ji Kim

(111) Controlling Flowering of Photoperiodic Ornamental Crops Using Light-emitting Diode Lamps: A Coordinated Grower Trial

*Qingwu Meng, Erik S. Runkle

(112) Characterization and Comparison of Lesions from Physiological Disorders on Ornamental Sweetpotato (*Ipomoea batatas*), Tomato (*Solanum lycopersicum* var. *hirsutum* 'Maxifort'), and Interspecific Geranium (*Pelargonium* x 'Caliente Coral')

*Joshua K. Craver, Chad T. Miller, Kimberly A. Williams, Daniel L. Boyle

(113) Development of Photosynthetic Response Curves and Their Integration into a Decision-support Tool for Floriculture Growers

*Jennifer K. Boldt, Paul R. Fisher, John E. Erwin

(114) Potting Medium Microbial Respiration Rates and Sporidical Efficacy Responses to a Single Application of Three Chlorine Dioxide Formulations

*Steven Earl Newman, Craig Ramsey, Debra H. Newman

(115) Postharvest Chilling and Vase Life of Herbaceous Peonies

*Patricia S. Holloway, Melissa K. Pietila

(116) Foliar Plant Growth Retardant Applications Suppress Height of Seed-propagated New Guinea Impatiens

*Christopher J. Currey, Nicholas J. Flax

(117) Ethephon Applications Delay and Diminish Flowering of *Streptocarpus*

*Christopher J. Currey, Nicholas J. Flax

1:00–1:45 PM

Ballroom A/B/C

Organic Horticulture 2 (Poster Session)

(050) Vermicompost Production with Waste from Sugarcane Industry (*Sacharum officinarum* L.)

*José Martín Pinto Briceño, José Manuel Santacruz Palafox, Javier Farias Larios, Francisco Radillo Juarez, Jose Gerardo Lopez Aguirre

(051) On-farm Research Using Soil Amendments for Soil Quality and Disease Suppression in Organic Vegetable Systems

Lori Hoagland, *Elizabeth T. Maynard, Natasha Cerruti, Dan Egel, Amy Thompson

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

(052) Engaging Stakeholders to Refine Research Objectives for Grant Proposals

*Carlene Chase, Marilyn E. Swisher, Xin Zhao, Oscar E. Liburd, Zhifeng Gao

(053) Cover Crop Value as Perceived by Organic Vegetable Growers

Shasha Li, Brent Gloy, *Thomas Björkman

(054) Evaluation of Organic Alternatives for Weed Management in Pulasan (*Nepheium ramboutan-ake*)

*Virgilio Olivera-Olivera, J. Pablo Morales-Payan, Ricardo Goenaga, Wifredo Robles-Vazquez

(055) Organic Mulch as an Alternative to Black Plastic Mulch

*Gladis Zinati

(056) Effects of Cover Crops and Vermicompost on Strawberry Production in the Southeastern United States

*John E. Beck, Michelle Schroeder-Moreno, Gina Fernandez, Julie M. Grossman, Nancy G. Creamer

(057) On-farm Soil Quality Testing in Organic, Integrated, and Conventional Peach Orchard Systems

*Esther Thomsen, Mae Culumber, Jennifer Reeve

(394) Organic Mulchings and Their Effects on Development, Fruit Yield, and Quality in Watermelon

Francisco Radillo-Juárez, Sergio Aguilar-Espinosa, *Jaime Molina-Ochoa, Maria del Rocío Flores-Bello, Ana Belem Padilla-Díaz, John E. Foster

1:00–1:45 PM

Ballroom A/B/C

Plasticulture (Poster Session)

(183) Providing an Online Library and Grower Network to Support High Tunnel Production in the United States and Abroad (www.hightunnels.org)

Kimberly Oxley, *Lani Meyer, Cary Rivard

(184) Managing Winter Injury for Annual Strawberry Plasticulture Production Systems in the Great Plains

Kimberly Oxley, *Molly Fusselman, Mykel Taylor, Megan Kennelly, Debra Pryor, Marlin Bates, Cary Rivard

(185) Evaluation of Season Extension Covers in Higher Elevation (6500+ ft) Growing Areas

*Yvette Henson, Steven Earl Newman, Mark Platten

(396) Effect of Colored Plastic on Growth and Yield of Two Cultivars of Eggplant (*Solanum melongena* L.) in Dry Tropics

Francisco Radillo-Juárez, *Jaime Molina-Ochoa, José Francisco Valdez-Pérez, John E. Foster

1:00–1:45 PM

Ballroom A/B/C

Pomology (Poster Session)

(353) Precocious Flowering of Kentucky State University Pawpaw Advanced Selections and Cultivars

*Sheri Crabtree, Kirk W. Pomper, Jeremiah Lowe

(354) Developing Mechanical Harvesting for California Black Ripe Table Olives: *Olea europaea* cv. ‘Manzanillo’

*Louise Ferguson, John A. Miles, William H. Krueger, Elizabeth J. Fichtner, Sergio Castro-Garcia, Turksar Saracoglu, Francisco Jimenez, Francisco J. Romacho

(355) Cactus Virus X (CVX) a New Threat to Pitahaya/ Dragon Fruit (*Hylocereus* spp.) Production in California

Jose Fernandez de Soto, *Ramiro Lobo, Jose Luis Aguiar, Deborah M. Mathews, Gary Tanizaki

(356) Floral Visitors to Chinese Date (*Ziziphus jujuba*) in New Mexico and Their Potential Role in Pollination

Tessa R. Grasswitz, *Shengrui Yao

(357) Incidence of *Phyllosticta* Fungal Spot and Cracking Prevalence in the Fruit of Sixteen Pawpaw (*Asimina triloba*) Varieties

*Jeremiah Lowe, Sheri B. Crabtree, Kirk W. Pomper

(358) Identification of Blooming Type, Blooming Process, and Pollen Germination Rate of Jujube (*Ziziphus jujuba* Mill) in New Mexico

Shengrui Yao, *Junxin Huang

(359) Unique Pawpaw Germplasm Selections in the Kentucky State University Repository Collection

*Kirk W. Pomper, Sheri B. Crabtree, Jeremiah Lowe

(360) Does Rootstock and Fertilizer Choice Affect Apple Orchard Productivity and Soil Community Ecology?

*Ashley A. Thompson, Gregory Michael Peck

(361) New Rootstocks for Florida Peach Production: Horticultural Evaluation of Two New Rootstocks With Potential Resistance to the Peach Root-Knot Nematode

*Mary Ann D. Maquilan, Mercy A. Olmstead, José X. Chaparro, Donald W. Dickson, Thomas G. Beckman

(362) Physical and Chemical Attributes of Pomegranate (*Punica granatum* L.) Fruit Grown in Georgia

*Juan Carlos Diaz-Perez, Anthony Bateman, Gunawati Gunawan, Sarah Workman, Smiljana Goreta Ban, Mira Radunic, Erick Smith

(363) Tropicalized Peaches Can Be Produced in Central Mountainous Region of Puerto Rico

*Maria del Carmen Libran, Robert E. Rouse, Hernandez Evelio

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

(364) Rootstock Testing of *Prunus* Species Hybrids for Peach in South Carolina

*Gregory L. Reighard, David R. Ouellette

(365) Simulation of Light Distribution in 3D Model of 'Gala' Apple Tree

*Biying Shi, Peter M. Hirst, Bedrich Benes, Marek Fišer

(366) Surveying the Research and Extension Needs of U.S. Cider Apple Growers and Cider Makers

*Gregory Michael Peck, Carol A. Miles

1:00–1:45 PM

Ballroom A/B/C

**Viticulture and Small Fruits 3
(Poster Session)**

(339) Determination of Cultivar-specific Threshold Temperatures and Heat Requirements for Prediction of Budbreak, Full Bloom, and Veraison in Wine Grape

*Diana M. Zapata, Melba Salazar, Bernardo Chaves, Lynn Mills, Markus Keller, Gerrit Hoogenboom

(340) 'Noiret' Winegrape Bud Cold Hardiness: Effects of Temperature, Month, and Black Rot Severity

*Eric Stafne, Damon Smith, Becky Carroll

(341) Freezing Tolerance of *Vitis vinifera* Cultivars New to Northeastern United States

Imed E. Dami, Shouxin Li, *Yi Zhang

(342) Managed Canopies of Norton Grape Reduced Juice Acidity and Berry Rot

*Martin L. Kaps, Staci Rather, Kathy Schreiner, Xinyi Zhang

(343) Effects of Substrate pH on Growth of *Vaccinium arboreum* from Different Provenances

*James D. Spiers, Jonathan Meador, Elina D. Coneva, Rebecca L. Darnell, Jeff Sibley

(344) Spatial Distribution of Iowa Vineyards

*Kevin Duerfeldt, Cynthia Haynes, Jennifer Boussetol

(345) Characterizing the Profiles and Relationships of Sugars and Anthocyanins in Strawberry Cultivars and Selections from the North Carolina Breeding Program

*Penelope Perkins-Veazie, Jeremy A. Pattison, Guoying Ma, Elizabeth Clevenger, James R. Ballington

(346) Influence of High Tunnel and Shade on Blackberry Yield and White Drupelet Disorder

*James D. Spiers, James A. Pitts, Robert T. Boozer, John R. Clark

(347) Analysis of the Other Half: Root Morphology of a Segregating Backcross Population between *Vaccinium corymbosum* and *V. arboreum*

*Hilda Patricia Rodriguez-Armenta, James W. Olmstead

(348) A Comparison of Blackberry Cultivars for a High-elevation Arid Climate

*Brent Black, Thor Lindstrom

1:45–2:30 PM

Ballroom A/B/C

Poster Removal

All posters are to remain up until the last poster session has ended. Removal can begin at 1:45 PM on Thursday. Any posters that are still in the hall after 3:30 PM will be removed by the general contractor. ASHS cannot accept responsibility for loss or damage to any posters that are not removed during the scheduled removal period.

1:45–3:00 PM

Salon 12

Nursery Crops 2 (Oral Session)

Moderator: Andrew R. King, aking@tamu.edu

1:45–2:00 PM

Influence of Provenance on Acute Drought Tolerance of Four Native Texas Groundcover Species

*Andrew R. King, Michael A. Arnold, Charles R. Hall, H. Brent Pemberton, Marco Palma, Sean T. Carver

2:00–2:15 PM

Elongation of *Hibiscus acetosella* 'Panama Red' in Well-watered and Water-stressed Conditions

*Amanda Bayer, John M. Ruter, Marc van Iersel

2:15–2:30 PM

Investigating Alternative Pathogen Management through Sensor-driven Irrigation

*Andrew Ristvey, Bruk Belayneh, James Zazanis, Justine Beaulieu, Yilmaz Balci, John D. Lea-Cox

2:30–2:45 PM

Isolating Crown Rot Disease Organisms in a Nursery Production System

*Carla Proano, Edward Bush, Jeff Kuehny, Raghuwinder Singh

2:45–3:00 PM

Solute Transport Through a Pine Bark Substrate

Tyler C. Hoskins, *Jeb S. Fields, James S. Owen Jr., Julie Brindley, Alexander X. Niemiera

1:45–3:00 PM

Salon 9/10

**Viticulture and Small Fruits 2
(Oral Session)**

Moderator: Zilfina Rubio Ames, zrubioames@ufl.edu

1:45–2:00 PM

Effect of Timing and Severity of Summer Pruning on Vegetative and Reproductive Traits of Southern Highbush Blueberry

*Alisson Pacheco Kovaleski, Jeffrey G. Williamson, Rebecca L. Darnell

An asterisk (*) in front of a name indicates the presenting author. The schedule is subject to change.

Thursday, July 31, 2014

2:00–2:15 PM

Productivity of Pruned and Unpruned ‘Triple Crown’ Blackberry Plants on the Rotating Cross-arm Trellis System

*Fumiomi Takeda, Ann Rose

2:15–2:30 PM

Effect of Shoot and Cluster Thinning on Vine Performance and Fruit Quality of ‘Blanc Du Bois’

*Zilfina Rubio Ames, Mercy A. Olmstead

2:30–2:45 PM

Vegetative Compensation Response of a Procumbent Grapevine (*Vitis vinifera* cv. Syrah) Cultivar Under Mechanical Canopy Management

*S. Kaan Kurtural, Geoffrey Dervishian

2:45–3:00 PM

Chemical Removal of Primary Inflorescence and Mature Leaves to Force Vine Regrowth and Fruiting in a Warmer Region for Winegrape Production

Sanliang Gu, *Tian Tian, Muming Cao, Geoffrey Dervishian, S. Kaan Kurtural

1:45–3:15 PM

Salon 7

Floriculture 3 (Oral Session)

Moderator: Hye-Ji Kim, hkim2@hawaii.edu

1:45–2:00 PM

Automated Fertigation and Irrigation Control Based on Measurements of Substrate Water Content and Pore Water EC

*Stephanie Burnett, Sue Dove, Rhuanito Soranz Ferrarezi, Jong Goo Kang, Marc van Iersel

2:00–2:15 PM

Evaluation and Classification of Bioplastic Plant Containers

James Schrader, Kenneth McCabe, Gowrishankar Srinivasan, David Grewell, Kyle Haubrich, Samy Madbouly, Heidi Kratsch, Christopher Currey, *William R. Graves

2:15–2:30 PM

Effects of Reduced Phosphorus on Plant Growth and Flowering of Lantana

*Hye-Ji Kim, Xinxin Li

2:30–2:45 PM

Involvement of Calcium and Boron in the Development of Brown Spots on the Leaves of Oncidium Sharry Baby

*Hye-Ji Kim

2:45–3:00 PM

Quantifying the Effects of Preharvest Calcium Nutrition on the Toning of Unrooted Cuttings

*Uttara C. Samarakoon, Jim Faust, John M. Dole

3:00–3:15 PM

Plant Species Effects on Acidity or Basicity of Hydroponic Solutions

*Ryan W. Dickson, Paul R. Fisher

1:45–3:15 PM

Salon 8

Plant Biotechnology 3 (Oral Session)

Moderator: Kedong Da, kda@ialr.org

1:45–2:00 PM

Building the Genomic Infrastructure in Black Raspberry

*Douglas Bryant, Jill M. Bushakra, Michael Dossett, Kelly Vining, Sergei Filichkin, Jerry Weiland, Jungmin Lee, Chad E. Finn, Nahla Bassil, Todd Mockler

2:00–2:15 PM

Somatic Embryogenesis and Histological Analysis of *Zelkova schneideriana* Hand.-Mazz

Xiaoling Jin, Youping Sun, Xijun Hu, *Donglin Zhang

2:15–2:30 PM

Production of Three New Grapefruit Cybrids to Improve Citrus Canker Resistance

*Ahmad A. Omar, Aditi Satpute, Mayara Murata, Christine D. Chase, Jude W. Grosser

2:30–2:45 PM

Growing Media Amended with Beneficial Microorganisms to Improve Growth Stimulation and Plant Protection

Rémi Naasz, Ed Bloodnick, *Troy Buechel

2:45–3:00 PM

Oriental Lily Tissue Culture Somatic Embryogenesis

*Kedong Da, Samantha Smith, Hannah Farish-Williford

3:00–3:15 PM

Development and Optimization of *Nicotiana benthamiana* Seed Production for Biopharmaceutical Applications

Joey Norikane, *Rebecca Snow, David Wiener, Ryan Dayton

1:45–3:30 PM

Salon 11

Environmental Stress Physiology (Oral Session)

Moderator: Aparna Krishnamurthy, aparna.k@ufl.edu

1:45–2:00 PM

Controlled Mechanical Wounding Applied on Leaves during Preharvest as an Innovative Way to Increase the Levels of Bioactive Phytochemical in Fruits

*Facundo Ibanez, Gustavo Gimenez, Leonardo Lombardini, Luis Cisneros-Zevallos

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Thursday, July 31, 2014

2:00–2:15 PM

Overexpression of Glutaredoxins in Transgenic Rice to Improve High Temperature Stress Tolerance

*Aparna Krishnamurthy, Bala Rathinasabapathi

2:15–2:30 PM

Mitigation of Stress Induced by Salinity and Nickel in Pea (*Pisum sativum* L.) by Exogenous Application of Synthetic Proline and Proline-enriched *Lolium perenne* (L.) Leaf Extract

*Muhammad Adnan Shahid, Rashad M. Balal, M.M. Javaid, Muhammad Anjum Aqueel, Tahira Abbas, Neil Mattson, Shahidul Islam

2:30–2:45 PM

Foliar Spray of Phyto-extracts Supplemented with Silicon: An Efficacious Strategy to Extenuate the Salinity-induced Deleterious Effects in Pea (*Pisum sativum* L.)

*Rashad M. Balal, Muhammad Mumtaz Khan, Muhammad Adnan Shahid, Tahira Abbas, Muhammad Anjum Aqueel, M.M. Javaid, Neil Mattson

2:45–3:00 PM

Growth and Physiological Responses of Cotton Genotypes to Controlled Drought Using an Automated Irrigation System

*Youping Sun, Genhua Niu, Jinfang Zhang

3:00–3:15 PM

Climate Drivers of Crop Carbon Gain and Water Use in Apple Between Western and Eastern States

*Soo-Hyung Kim, D. Michael Glenn

3:15–3:30 PM

The Effects of Endophytic Bacteria on Drought-induced Gene Expression in Bell Pepper (*Capsicum annuum* L.)

*Zheng Wang, Timothy Coolong

1:45–3:45 PM

Salon 13/14

Growth Chambers and Controlled Environments 2 (Oral Session)

Moderator: Shuyang Zhen, syzhen@uga.edu

1:45–2:00 PM

Are Light-emitting Diodes a Viable Supplemental Lighting Alternative to Grow Greenhouse Tomatoes in a Northern Climate?

*Celina Gomez, Cary A. Mitchell

2:00–2:15 PM

Blue Light Dose-response of Growth and Morphology of Cucumber Seedlings Under Different Blue and Red Photon Flux Ratios Using LEDs

*Ricardo Hernández, Chieri Kubota

2:15–2:30 PM

Chlorophyll Fluorescence of Three Species with Different Light Requirements: A Tool to Optimize Supplemental Lighting Efficiency?

*Shuyang Zhen, Marc van Iersel, Rhuano Soranz Ferrarezi

2:30–2:45 PM

Comparing Supplemental and Sole-source Lighting for Bedding Plant Seedling Production

*Wesley Randall, Roberto G. Lopez

2:45–3:00 PM

End-of-Production Supplemental Lighting from Red and Blue Light-emitting Diodes Increases Leaf Pigments of *Lactuca sativa* L. ‘Cherokee’ and ‘Vulcan’ in the Greenhouse

*W. Garrett Owen, Roberto G. Lopez

3:00–3:15 PM

Effects of LED Interlighting on Plant Growth, Fruit Yield, Quality, and Energy Use Efficiency in Greenhouse Mini-cucumber Production

*Xiuming Hao, JingMing Zheng, Celeste Little, Shalin Khosla

3:15–3:30 PM

Determine the Effect of Different Ratios of Red and Blue LED Light on Commercial Plants Production

*Most Tahera Naznin, Valerie Gravel, Mark Lefsrud

3:30–3:45 PM

Determination of the Effect of Red and Blue Ratios of LED Light on Plant Photosynthesis

Michael Schwalb, *Most Tahera Naznin, Mark Lefsrud

1:45–3:45 PM

Salon 5

Vegetable Breeding (Oral Session)

Moderator: Charlene Margaret Grahn, charlene.grahn@wsu.edu

1:45–2:00 PM

Screening the USDA Lettuce Germplasm Collection for Rapid Germination Rate Under Cold Conditions

*Charlene Margaret Grahn, Chris Benedict, Carol A. Miles, Barbara Hellier

2:00–2:15 PM

Using Regional Broccoli Trial Data to Select Experimental Hybrids for Input into Advanced Yield Trials

*Mark W. Farnham, Zachary Stansell, Phillip Griffiths, Jeanine M. Davis, Mark Hutton, Thomas Björkman

2:15–2:30 PM

Colorful and Nutritious Vegetable Genetic Resources in the USDA–ARS National Plant Germplasm System

*Jinguo Hu

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Friday, August 1, 2014

2:30–2:45 PM

Inheritance of Immature Tomato Fruit Shoulder Color Phenotypes and Their Effect on Yellow Shoulder Disorder and Soluble Solids Content of Ripe Tomatoes

*Matthew R. Mattia, John W. Scott

2:45–3:00 PM

Molecular Breeding in Cowpea

*Ainong Shi, Blair Buckley, John R. Clark, Dennis Motes, Beiquan Mou, David Hensley, Noelle A. Barkley, Haizheng Xiong, Jianbing Ma, Jessica Chitwood

3:00–3:15 PM

Screening of Tomato (*Solanum lycopersicum* L.) Lines for Bacterial Spot (*Xanthomonas* spp.) Resistance

*Krishna Bhattarai, Frank J. Louws, John D. Williamson, Dilip R. Panthee

3:15–3:30 PM

SSR Discovery in Common Dandelion (*Taraxacum officinale*) from EST Sequence Databases

*Jianbing Ma, Michael R. Evans, Beiquan Mou, Dennis Motes, Jessica Chitwood, Haizheng Xiong, Ainong Shi

3:30–3:45 PM

Inheritance of Resistance to Basil Downy Mildew (*Peronospora belbahrii*)

*Robert Pyne, Andy Wyenandt, Adolfinia Koroch, James E. Simon

2:00–5:00 PM

Ballroom A/B/C

Exhibitors Move Out

Friday, August 1, 2014

8:00 AM–5:45 PM

Departs from the Convention Entrance

Tour: Fruit Processing, Marketing and Challenges in the Sunshine State

Coordinator: Mercy A. Olmstead, mercy1@ufl.edu

Guides/Escorts: James W. Olmstead, Chris Oswalt, Alicia Whidden, Gary England

Tour Cost: \$79 (does not include lunch)

Advance Registration Required.

The Florida fruit industry is a supplier of many diverse temperate and subtropical crops to American grocery stores, predominantly during the winter months. Florida is the nation's largest producer of orange juice and associated citrus beverages; however this industry faces one of the most severe challenges in battling citrus greening. This tour will also allow participants to speak with fruit marketing, talk postharvest for berries, and highlight the largest Muscadine vineyard and winery in Florida. Stops include: SunnyRidge Berry Farm, Mixon Family Farms, Haines City, FL; SunnyRidge Packing Facility, Winter Haven, FL; Bok Tower Botanical Gardens, Lake Wales, FL; Florida's Natural, A Division of Citrus World, Inc, Lake Wales, FL; Lakeridge Vineyards and Winery, Clermont, FL.

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