UF | IFAS Extension
UNIVERSITY of FLORIDA

In-Service Training (IST#: 31765)/CEU Roundup (FDACS Program # 28512/CCA ID: FL 53631)

New Technology for Commercial Vegetable and Fruit Production (VIII)

The Zoom link: https://ufl.zoom.us/j/5010757015

IT Professional: Mr. Dennis Brown

Cell phone: (352)317-1701

Zoom from 1306 Fifield Hall, Gainesville, Florida to off-campus host sites statewide

Wednesday, February 26, 2020


Dr. D. Leskovar
Texas A&M

Vegetable Crop Management Practices: Balancing Yield and Quality


Dr. J. Grosser

Why Can Fertigation Improve Potato Production?

Solving Citrus Greening with Genetics and Nutrition


Dr. A. Sarkhosh

Integrating pest biology, crop phenology and insecticide use to manage arthropods attacking vegetable crops

Understanding and Managing the Impact of climate Change on Fruit Production

Labor and Production Trends in the US Agriculture


Dr . G.D. Liu


Dr. H. Smith


Dr. D. Farnsworth

Instructions for local Hosts:

1. Download and print the **Sign-in sheet**; **Pre-test**; **Post-test**; and **Survey**
2. Have all your participants fill out or complete
   - The sign-in sheet
   - The pre-test before the first presentation starts
   - The post-test and survey after the last presentation is completed
3. Email David at guodong@ufl.edu or mail the above papers including **sign-in sheet, pre-test, post-test, survey** to David Liu at PO Box 110690, 1253 Fifield Hall, Gainesville, FL 32611-0690 on February 26th, 2020 at 4:30 PM, then we can know how many trainees we provide CEUs to.
4. Collect the questions from your participants, email them to guodong@ufl.edu, and the answers will be sent to you
5. If you are a CEU co-provider and emailed your intention early enough, then you should have your own attendance form available online. If needed, the CEU attendance forms will be emailed to you upon request.
6. You can charge:
   - $10/CEU for those who request CEUs and are NOT IFAS employees but you should provide them free lunches.
   - $10/person for all others for lunch.
   - Keep all the leftover IST funds for your program's future use.

All the materials plus related publications are available online at:
https://hos.ifas.ufl.edu/in-service-training/

Conference information

Join from PC, Mac, Linux, iOS or Android: https://ufl.zoom.us/j/5010757015

IT Professional: Mr. Dennis Brown

Cell phone: (352)317-1701

All sites need to be manually got connected at 8:30 am EST.

New Technology for Commercial Crop Production (VIII)

In-Service Training

Agenda

Wednesday, February 26, 2020

Traditional In-Service Training (In-Person) in Gainesville and Webinar Available Statewide

	Dr. Wendy Mussoline: Moderator
9:00 AM:	Gather, Refreshments, Welcome, Introductions
9:00-9:10 AM	Sign-in and Pre-test
9:10-9:20 AM	**Dr. Steve Sargent**: Program Overview
9:20-10:10 AM	**Dr. Daniel Leskovar (Texas A&M):** Vegetable Crop Management Practices: Balancing Yield and Quality
10:10-11:00 AM	**Dr. G. David Liu:** Why Can Fertigation Improve Potato Production?
11:00-11:50 AM	**Dr. Jude Grosser:** Solving Citrus Greening with Genetics and Nutrition
11:50-1:00PM	Lunch break
1:00-1:50 PM	**Dr. Hugh Smith:** Integrating pest biology, crop phenology and insecticide use to manage arthropods attacking vegetable crops
1:50-2:40PM	**Dr. Ali Sarkhosh:** Understanding and Managing the Impact of climate Change on Fruit Production
2:40-3:30PM	**Dr. Derek Farnsworth:** Labor and Production Trends in the US Agriculture
3:30-3:50PM	Post-test and survey
3:50PM	Adjourn

For local hosts:

3:50-5:00 PM	Mail the Sign-in sheet, pre- and post-test, and survey to David Liu at 1253 Fifield Hall, PO Box 110690, Gainesville, FL 32611-0690 or scan and email the papers to guodong@ufl.edu

Proposers:

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Approved CEUs

FDACS CEUs	5
Private Applicator - Ag	3
Ag Row Crop	3
Demo & Research	3
Right-of-Way	1
Limited Urban Fertilizer	1
482 General Standards/Core	2
CCA CEUs	6
CM	3
PD	1
PM	1
SW	1

Speakers' Presentation Description

This program will have six specialists to present. The presentations cover vegetable production, fertigation, citrus greening, pest management, climate change vs. fruit production, and labor and production trends.

Title: Vegetable Crop Management Practices: Balancing Yield and Quality
Specialist: Leskovar, Daniel (Texas A&M University)

Description: The interaction of genetics (G), environment (E) and management practices (M), or G×E×M for short, has direct or indirect effects on root/shoot growth, physiology, marketable yield and quality traits of vegetable products. Once a certain variety (genotype) is selected by the grower, the expression of yield components and quality traits associated with sweetness, color, or size will depend on the environment of the growing location such as light, temperature, rainfall, soil type and salinity, and selected cultural strategies such as planting time, nitrogen fertilization, irrigation, pest control, soil amendments, plant growth regulators, cultivation techniques, grafting, plant density, and/or harvest times. Designing efficient management strategies targeting nutritional, quality and yield attributes will benefit growers and consumers demanding high-quality produce.

Title: Why Can Fertigation Improve Potato Production?

Specialist: Guodong David Liu, Ph.D. (University of Florida/IFAS)

Description: Florida is one of 14 states predicted to face "high risk" water shortage by year 2050. In Central Florida alone, we have to find an additional 200×10^6 gal/day to meet the needs by 2030. That requires conservation in agriculture because crop production is a major water consumer. Seepage irrigation is the basic irrigation approach for potato production in Florida and uses 20" irrigation water per growing season. Based on our research data, we have found that there is a great potential to save irrigation water if we convert seepage to center pivot irrigation. Using a more efficient irrigation approach will help Floridians alleviate water shortage problems. Using fertigation can increase tuber yield by 20% and save fertilizers by 30%. Fertigation can be an effective BMP tool for potato production in Florida.

Title: Solving Citrus Greening with Genetics and Nutrition

Specialist: Grosser, Jude (University of Florida/IFAS, Citrus Research and Education Center)

Description: Most commercially important citrus scions and rootstocks are considered to be moderately to highly susceptible to Citrus greening disease or huanglongbing (HLB). The disease is now endemic in Florida and threatens the industry. HLB causes severe secondary and micronutrient deficiencies in roots of infected trees. A constant supply of elevated amounts of the impacted nutrients applied to roots helps trees recover, improving yield and fruit quality. Our program has screened thousands of rootstock hybrids in search of rootstocks that can mitigate the disease in grafted commercial scions. We have also generated new commercial scions with improved HLB tolerance. The combination of the improved scion and rootstock genetics with enhanced nutrition is showing promise for sustainable and profitable citriculture in Florida.

Title: Integrating pest biology, crop phenology and insecticide use to manage arthropod pests attacking vegetable crops
Specialist: Smith, Hugh (University of Florida/IFAS)

Description: Florida's tropical and subtropical growing environments provide favorable conditions year-round for insect and mite pests of horticultural crops. Intensive insecticide use can lead to the development of insecticide resistance if resistance management guidelines are not followed. This presentation will focus on the design of insecticide programs using the treatment interval approach to offset the development of resistance. The role of insecticides within the broader context of integrated pest management will be discussed.

Title: Understanding and Managing the Impact of Climate Change on Fruit Production
Specialist: Ali Sarkhosh (University of Florida/IFAS)

Description: In fruit crops such as peach and blueberry vegetative and fruiting buds develop during the summer on the current season growing branches. As winter approaches, the already developed buds go dormant in response to both shorter day lengths and cooler temperatures. These buds remain dormant until they have accumulated sufficient chilling units (hours) of cold weather. The chill unit/hours counts any hour between 32°-45° F. When temperatures are below or above this range, chill units do not accumulate and could be subtracted if the temperatures are too high. This means that during warm, sunny weather during tree dormancy, chill unit do not accumulate, and if too warm of weather, the negation of earlier accumulated chill occurs. When enough chilling accumulates, the buds are ready to grow in response to warm temperatures. As long as there have been enough chilling hours the flower and leaf buds usually develop. In the last few years, significant variations in chilling unit accumulation have been observed in FL

Title: Labor and Production Trends in US Agriculture
Specialist: Derek Farnsworth (University of Florida/IFAS)

Description: Agricultural production in the United States is subject to a variety of influences including consumer tastes, trade negotiations, climate changes, labor shortages, and technological innovation, to name a few. This presentation provides an overview of changing production trends in US agriculture, with an emphasis on the impact of the changing labor landscape in the Florida fruit and vegetable industry.

Speakers' Bio-Sketch

Daniel Leskovar, professor in vegetable crop physiology at Texas A&M University, received degrees in Horticulture from Universidad del Comahue, Argentina; post-graduate training at the University of Wageningen, the Netherlands; Master of Science at UC Davis, and Ph.D. at the University of Florida. His current research is on seed-transplant physiology; soil and plant growth regulators; grafted tomato; high tunnel/hydroponics; and genotype selection for heat and drought stress tolerance, yield, quality and water use efficiency. He is the current chair of the International Society for Horticultural Sciences (ISHS) Division 'Vegetables, Root and Tubers'. Dr. Leskovar has authored +150 journal publications and is member of three editorial boards.

Dr. G. David Liu is a state extension specialist responsible for nutrient eco-management of vegetable and fruit crops. David obtained his Ph.D. in Plant Nutrition from Chinese Academy of Agricultural Sciences, Beijing, China, M.S. in Plant Physiology and Biochemistry, and B.S. in Agronomy both from Hunan Agricultural University, Changsha, China. His academic interests include improving nutrient and water use efficiencies for commercial crop production. He works closely with state and county faculty and growers to enhance the sustainability of agriculture and environment as a component of best management practices (BMPs).

Jude Grosser, professor of citrus genetics and breeding, received his MS degree in Biology at Morehead State University (Morehead, KY); and his PhD in Genetics and Plant Breeding at the University of Kentucky (Lexington, KY). Dr. Grosser has worked at UF in citrus genetics and breeding for the past 35 years, integrating emerging biotechnologies with conventional citrus breeding. His specialties include somatic hybridization and cybridization, somaclonal variation, embryo rescue, ploidy manipulation, scion breeding, rootstock breeding, and genetic transformation. Dr. Grosser received the ASHS Outstanding Career Researcher Award in 2005, and was elected ASHS Fellow in 2013. Dr. Grosser has authored more than 150 journal publications and served on several editorial boards. For the past 10+ years, Dr. Grosser's research has focused on the development of permanent genetic solutions to HLB.

Hugh Smith, associate professor of entomology at the University of Florida's Gulf Coast Research and Education Center, received his undergraduate degree from Brown University, and his MS and PhD from the University of Florida. Hugh works on integrated management of arthropod pests of horticultural crops. He has worked in Guatemala, the Mariana Islands, Vietnam, California and New England. Hugh joined GCREC in 2010.

Ali Sarkhosh, Horticultural Sciences Department, University of Florida located on main campus in Gainesville. Dr. Sarkhosh is an assistant professor and fruit crops Extension specialist with over 8 years of experience with commercial fruit production in U.S., Australia, and New Zealand. He joined the University of Florida in October 2017, and his research with fruit crops has focused on the evaluation of cultural practices to optimize yield and production efficiency and includes work in the following areas; optimizing production systems including; crop load, canopy management, tree size control, application of PGRs, irrigation and nutrition management, tree fruit breeding and rootstock evaluation..

Derek Farnsworth is an assistant professor and extension specialist in the Food and Resource Economics Department at the University of Florida. Dr. Farnsworth performs research in the areas of production and labor economics where he has investigated topics including the economic effects of citrus greening in Florida and the productivity of H-2A program workers in the Florida citrus industry.