

IPPS

Sharing Plant Production Knowledge Globally

62nd Annual

Western Region Conference

JANUARY 23-26, 2024 | TEMECULA, CA

Pechanga Resort and Casino



UCNFA

Meet the IPPS WR Conference Host Organizations

IPPS

Sharing Plant Production Knowledge Globally

International Plant Propagators' Society

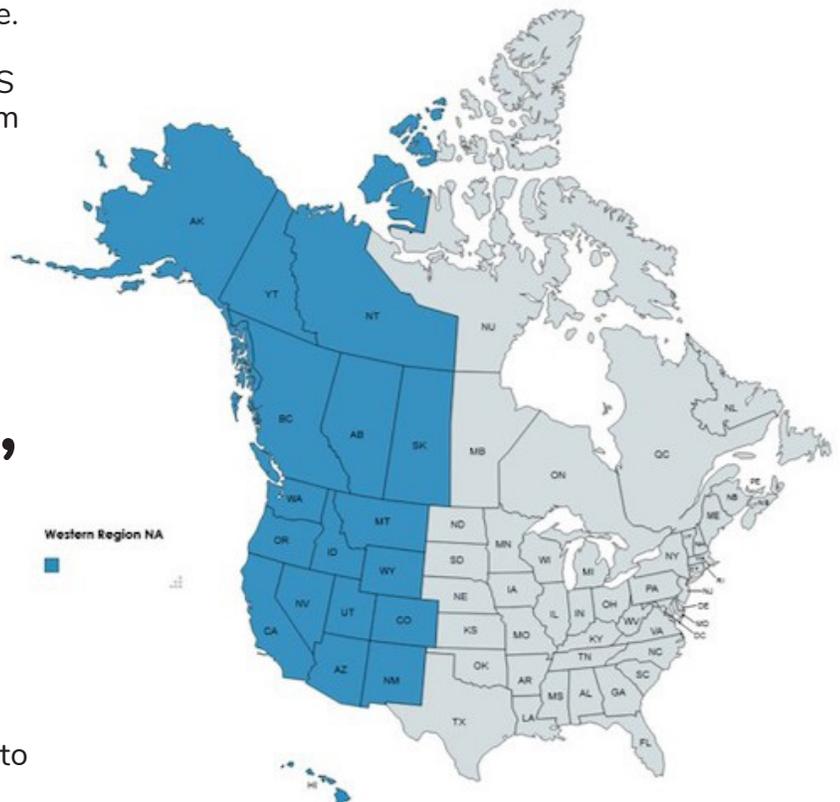
IPPS is an international association of plant production professionals, including those involved in horticultural research and education. During 1951 a group of about 70 plant propagators met in Cleveland, Ohio, and formed the IPPS with the aim to share their knowledge. Their motto 'to seek and to share' remains the core value guiding the Societies' activities. IPPS has since broadened into an international forum for sharing plant production knowledge and skills.

'To seek and share plant production knowledge globally'

IPPS strives to improve the knowledge, skills and professionalism of our members through the activities and services we offer. IPPS promotes the integration of horticultural research, education and plant production while coordinating a global plant production knowledge network. For more information, go to the IPPS website at: ipps.org

Western Region:

Alaska, Yukon (ca), Northwest Territories (ca), British Columbia (ca), Alberta (ca), Saskatchewan (ca), Washington, Oregon, Idaho, Montana, Wyoming, California, Nevada, Utah, Arizona, Colorado, New Mexico, Hawaii



Meet the IPPS WR Conference Host Organizations



University of California Nursery and Floriculture Alliance

The University of California Nursery and Floriculture Alliance (UCNFA) is a statewide partnership of researchers and educators, growers, floriculture associations, and allied industries. It is associated with the Floriculture and Nursery Workgroup of the UC Division of Agriculture and Natural Resources, bringing together Cooperative Extension and university personnel engaging in research and educational activities that address the needs of the California floriculture and nursery production industries.

Serving the educational needs of the California agricultural industries that produce greenhouse crops and nursery products, UCNFA shares research-based information to growers through extension and outreach activities such as conferences, workshops, webinars, and web-based sources. For more information, go to the UCNFA website at: <https://ucnfa.ucanr.edu/>.



California Citrus Nursery Society

The California Citrus Nursery Society (CCNS) is a non-profit industry association helping the citrus nursery industry of California become more successful. CCNS provides an exchange for information useful to the citrus nursery industry. It holds an Annual Conference and several single-purpose meetings each year to disseminate information and/or to serve as forums for industry representatives to develop positions on matters of interest to the industry. CCNS is here to help the citrus nursery industry. For more information, go to the CCNS website at: www.ccns.info

Hello & Welcome



Tony Shireman **IPPS Western Region President**

Welcome everyone to the 2024 IPPS Western Region conference. As the new year begins, it is rewarding to see both familiar faces and some new ones. Thank you for taking the time to join us!

In addition to IPPS members both new and old, I'd especially like to welcome both the UC Nursery and Floriculture Alliance and the California Citrus Nursery Society. Both organizations bring a wealth of knowledge from their industries. I look forward to what we will all be able to learn from them.

Looking at the tours, talks, and number of attendees this promises to be the best conference yet by the Western Region. For all of us in agriculture, and especially in California, water is a big issue. Certainly, it is not the only one. To help address the challenges we're all facing, there are numerous talks about new crops, improvements in water and nutrient management, and managing pests and pathogens. Whether from conference talks, nursery tours, or chatting in the hall, there is something for everyone to learn here and take home.

Many thanks to our sponsors and silent auction donors for their generous contributions that help make this event possible. Additionally, the Conference Committee also deserves heaps of praise. From all of us, thank you for your efforts in planning this incredible event. To keep these annual events going, the Executive Committee needs more help to ensure we can continue to fulfill our mission. Your membership and conference attendance are critical to helping us hold events like this just as we have over the past 60+ years. If you are able to provide more support by volunteering to serve on committees, helping to bring in new members, or coordinating with the planning of the next conference, we welcome your assistance. Those are just a few of the ways you can contribute. Please reach out to anyone on the Conference Committee, Executive Committee, or a Past President to learn more. We look forward to your help in taking the Western Region into the decades beyond.

From all of us on the IPPS Western Region Executive Committee, we're glad you're here. Everyone has been busy since our last conference in Portland. As we come back together, I hope you will catch up with old friends and also make some new ones. Whether this is your first conference or not, attending events like this is how we all embody the IPPS mission, "To Seek and to Share." Take this opportunity to seek out someone new and share what you do with them.

Welcome again! We thank you for being here at this event.

Tony Shireman
IPPS Western Region President

Banquet Speaker



Karen Ross **Secretary of California Food and Agriculture**

KAREN ROSS was appointed Secretary of the California Department of Food and Agriculture on January 9, 2019 by Governor Gavin Newsom. In re-appointing Secretary Ross, Governor Newsom cited her unmatched leadership experience in agricultural issues nationally, internationally, and here in California, in areas including environmental stewardship, climate change adaptation, and trade. Secretary Ross was initially appointed by Governor Edmund G. Brown Jr. in 2011.

Before joining CDFA, Secretary Ross was chief of staff for U.S. Agriculture Secretary Tom Vilsack, a position she accepted in 2009. Prior to that appointment, she served as President of the California Association of Winegrape Growers from 1996- 2009, and as Vice-President of the Agricultural Council of California from 1989-1996. Her prior experience before moving to California included staff work for a United States Senator, a presidential candidate, and government relations for rural electric cooperatives and public power districts.

Secretary Ross is passionate about fostering the reconnection of consumers to the land and the people who produce their food, and to improving the access of all California citizens to healthy, nutritious California-grown agricultural products, celebrated for their diversity and abundance in serving local, national and global markets.

During Secretary Ross' tenure, the Department has focused on core functions to protect and promote California agriculture, investing in the Department's employees to provide the best service to farmers, ranchers and consumers and fostering an agricultural industry that embraces its role as a global leader on everything from the most technical aspects of farming to the broadest environmental imperatives.

Secretary Ross has strengthened partnerships across government, academia and the non- profit sector in the drive to maintain and improve environmental stewardship and to develop adaptation strategies for the specific impacts of climate change. She has initiated programs to provide greater opportunities for farmers and ranchers to engage in sustainable environmental stewardship practices through water conservation, energy efficiency, nutrient management, and ecosystem services; and she has worked to provide greater access to farm-fresh foods at school cafeterias through CDFA's Farm to Fork Program.

Secretary Ross grew up as a 4-H kid on a farm in western Nebraska. She owns 800 acres of the family farm where her recently retired younger brother, a fourth-generation farmer, is mentoring a new, beginning farmer in growing no-till wheat and feed grains, incorporating cover crops and rotational grazing for beef production. The Secretary has a Bachelor of Arts degree from the University of Nebraska-Lincoln and is a graduate of the Nebraska Ag Leadership Program. She has served on numerous boards and committees in California agriculture and with various academic institutions.

Conference Program Evaluation Survey



We want to hear from you!

Please take a moment to complete this survey and tell us how we did, and how we can improve.

<https://surveys.ucanr.edu/survey.cfm?surveynumber=42117>

Facility Map



Pre-Conference Tour | Tuesday, January 23

- 8:00 AM Buses Depart
- 8:45 AM Plug Connection
- 10:05 AM Devil Mountain Nursery
- 11:20 AM San Diego Growers
- 12:20 PM Lunch on Bus
- 12:50 PM Mariscal Cactus
- 2:20 PM Rain Forest Floral
- 3:55 PM Buses Arrive Back at Pechanga Resort Casino
- 5-7 PM Welcome Reception – EAGLES VIEW BALLROOM
Light appetizers and refreshments

Conference Begins | Wednesday, January 24

- 7:30 AM Registration | Location: Foyer
- 8:45 AM Welcome - Location: Grand Ballroom Main
Hosts: Loren Oki, Dept. of Plant Sciences, UC Davis
Glenn Enomoto
Gerry Spinelli, San Diego County
Cooperative Extension
- 9:00 AM Session I - Location: Grand Ballroom Main
Moderator: Loren Oki, CE Specialist, Dept. of Plant Sciences, UC Davis
Title: “New and Underused Plants for the Western Region”
Speaker: Nicholas Staddon, Company Spokesperson and Planstman, Everde Growers
Title: “Rex Begonia Propagation and Tips and Wivestales Keeping Plants True to Type and Clean for 30+ years”
Speaker: Jim Booman, CEO, Booman Floral
Acquiring New Plants to Sell in the California Wholesale Nursery Trade”
Speaker: Randy Baldwin, President, San Marcos Growers
- 10:30 AM Break

11:00 AM

Session II - Location Grand Ballroom Main

Moderator: Glenn Enomoto

Title: “Nine Native Plants that You Should Be Growing”

Speaker: Jeff Bohn, Vice President, Tree of Life Nursery

Title: “New Woody Shrubs and Trees from Star Roses and Plants”

Speaker: Emily Sluiman, Southwest Territory Manager

Horticulture/Star Roses and Plants

IPPS Western Region Business Meeting

Listening Session I - Location Sumac Room (2nd Floor)

Title “Identifying Ways to Reduce Contaminants (i.e., microplastics, PFAS, etc.) in Water”

Moderators: Alexa Lamm, University of Georgia and Jim Owen, USDA ARS

Note: Limited to 25 participants

12:30 PM

Lunch | Sponsored by Plant California Alliance - Location: Grand Ballroom Main

1:30 PM

Session III Concurrent English - Location: Grand Ballroom Main

Moderator: Gerry Spinelli, San Diego County Cooperative Extension Advisor

Title: “Measuring Pressure, Distribution Uniformity and Improving Irrigation Management in Nurseries and Greenhouses”

Speaker: Gerry Spinelli, Advisor, University of California Cooperative Extension, San Diego County

Title: “Crop Water Requirements for Irrigation Scheduling in Nurseries and Greenhouses”

Speaker: Kosana Suvočarev, Assistant Professor of Cooperative Extension, Land, Air, & Water Resources, University of California Davis

Title: “Disease Challenges and Management Opportunities for the Nursery Industry in California”

Speaker: Johanna Del Castillo Munera, Assistant Professor of Cooperative Extension, Plant Pathology, University of California Davis

Session III Concurrent Spanish - Location: Elderberry Room 2nd Floor

Moderator: Raul Cabrera, Extension Specialist - Nursery Crops Production, Department of Plant Biology, Rutgers University

Title: “Consejos sobre el cloro y otros desinfectantes”

Speaker: Paul Fisher, Professor and Extension Specialist, Environmental Horticulture Dept, University of Florida

Title: “Eficiencia el uso del agua y huella hídrica en cultivos ornamentales”

Speaker: Raul Cabrera, Extension Specialist – Nursery Crops Production, Dept. of Plant Biology, Rutgers University

Title: 1) “Nueva tecnología de tratamiento de agua: ácido hipocloroso” y 2) “¿Porqué usar coco en sus mezclas?”

Speaker: Marc Englert, Owner/Sales and Marketing, FloRep

3:00 PM

Break



3:30 PM

Session IV Concurrent English - Location: Grand Ballroom Main

Moderator: Raul Cabrera, Extension Specialist - Nursery Crops Production, Department of Plant Biology, Rutgers University

Title: “Tips on Chlorine and Other Sanitizers”
 Speaker: Paul Fisher, Professor and Extension Specialist, Environmental Horticulture Dept, University of Florida

Title: “Water Use Efficiency and Water Footprint in Ornamental Crops”
 Speaker: Raul Cabrera, Extension Specialist – Nursery Crops Production, Dept. of Plant Biology, Rutgers University

Title: 1) “New Water Treatment Technology: Hypochlorous Acid” and 2) “Why Use Coir in your Substrate Blends?”
 Speaker: Marc Englert, Owner/Sales and Marketing, FloRep

5:00 PM

Adjourn

5-6 PM

Visit Your Exhibitors! – No-Host Bar

Session IV Concurrent Spanish - Location: Elderberry Room 2nd Floor

Moderator: Gerry Spinelli, San Diego County Cooperative Extension Advisor

Title: “Como medir presion, uniformidad de distribucion y mejorar el manejo del riego en viveros”
 Speaker: Gerry Spinelli, Advisor, University of California Cooperative Extension, San Diego County

Title: Requerimientos de agua de cultivos para manejar el riego en viveros e invernaderos
 Speaker: Speaker: Kosana Suvočarev, Assistant Professor of Cooperative Extension, Land, Air, & Water Resources, University of California Davis

Title: “Desafíos de enfermedades y oportunidades de manejo para la industria de viveros en California”
 Speaker: Johanna Del Castillo Munera, Assistant Professor of Cooperative Extension, Plant Pathology, University of California Davis

Grower Tours | Thursday, January 25

Group 1

- 8:00 AM ● Buses Depart
- 8:30 AM ● First Step Greenhouses
- 10:10 AM ● Olive Hill Greenhouses
- 11:25 AM ● Altmans Plants Fallbrook
- 12:25 PM ● Lunch on Bus
- 12:55 PM ● Grubb and Nadler
- 2:05 PM ● Everde Growers
- 3:30 PM ● Arrive back at Pechanga Resort

Group 2

- 8:00 AM ● Buses Depart
- 8:30 AM ● Everde Growers
- 9:40 AM ● Grubb and Nadler
- 11:10 AM ● Olive Hill Greenhouses
- 12:10 PM ● Lunch on Bus
- 12:25 PM ● Altmans Plants Fallbrook
- 2:10 PM ● First Step Greenhouses
- 3:35 PM ● Arrive back at Pechanga Resort

Thursday Night Banquet – Grand Ballroom Main

5:30 PM — Reception

6:00 PM — Dinner

6:30 PM — Banquet Speaker | Karen Ross, Secretary of California Food and Agriculture

Final Day | Friday, January 26

7:30 AM

Registration

8:00 AM

Session V - Location: Grand Ballroom Main

Moderator: Don Merhaut, Extension Specialist for Nursery and Floriculture Crops, Dept of Botany & Plant Sciences, UC Riverside

Title: "Substrate, Irrigation and Your Fertilizer"

Speaker: Jim Owens, Research Horticulturist, Appl. Technol. Res. Unit, USDA – ARS

Title: "Growing with Less: Substrate Stratification Can Improve Crop Productivity and Resource Efficiency"

Speaker: Jeb Fields, Assistant Professor & Extension Specialist, Hammond Research Station, Louisiana State University

Title: "How Container Color and Root Zone Temperature Affect Plant Growth and Fertilizer"

Speaker: Jacob Shreckhise, Research Horticulturist, Otis L. Floyd Nursery Research Center, USDA – ARS, U.S. National Arboretum

Title: "Nutrient Allocation from CRFs in Containers During a One Year Growing Cycle for Southern California"

Speaker: Don Merhaut, Extension Specialist for Nursery and Floriculture Crops, Dept. of Botany & Plant Sciences, University of California, Riverside

10:00 AM

Break

10:30 AM

Session VI

Moderator: Don Merhaut, Extension Specialist for Nursery and Floriculture Crops, Dept of Botany & Plant Sciences, UC Riverside

Title: "Automation Opportunities at Everde Growers"

Speaker: Matt Gold, Everde Growers

Title: "Tuning in to Your Plants: Using RFID for Plant Inventory"

Speaker: Tom Fernandez, Professor, Dept. of Horticulture, Michigan State University

Title: "Integrating Substrate, Plant, and Atmospheric Water Demands for Precision Irrigation and Nutrient Demands"

Speaker: John Lea-Cox, Professor & Extension Specialist of Nursery and Greenhouse Research, Dept. of Plant Science and Landscape Architecture, University of Maryland

11:00 AM

Listening Session II: Discussion on identifying ways to reduce contaminants (i.e., microplastics, PFAS, etc.) in water - Location: Sumac Room (2nd Floor)

Moderators: Alexa Lamm, University of Georgia and Sarah White, Clemson University

Note: Limited to 25 participants

12:00 PM

Lunch

1:00 PM

Session VII

Moderator: Chris Shogren, Environmental Horticulture Advisor, Cooperative Extension Los Angeles County, University of California

Title: "Reservoir Design and Water Quality"

Speaker: Sarah White, Professor and Nursery Extension Specialist, Dept. of Plant & Environmental Sciences, Clemson University

Title: "Calculations to Improve Nursery Irrigation Efficiency"

Speaker: Amy Fulcher, Professor & Extension Specialist for Sustainable Ornamental Plant Production and Landscape Management, Dept. of Plant Sciences, University of Tennessee

Title: "Nitrogen Management in Nursery Production and Irrigation Training for Green Industry"

Speaker: Bruno Pitton, Staff Research Associate, Dept. of Plant Sciences, University of California, Davis

1:30 PM

Break

Final Day | Friday, January 27 (Continued)

3:00 PM

● Session VIII - Location: Grand Ballroom Main

Moderator: Chris Shogren, Environmental Horticulture Advisor, Cooperative Extension Los Angeles County, University of California

Title: "Emerging Pests and Pathogens"

Speaker: Chris Shogren, Environmental Horticulture Advisor, University of California Cooperative Extension, Los Angeles County

Title: "Integrating Biocontrol into Propagation and Production"

Speaker: Clint Taylor, Program Assistant, North Willamette Research and Extension Center, Oregon State University

Title: "Managing Eriophyoid Mites on Agave and Aloe"

Speaker: Eric Middleton, IPM Advisor, University of California Cooperative Extension, San Diego County

4:30 PM

● Nuggets of Knowledge

5:00 PM

● Conference Adjourn

Our Speakers



Baldwin, Randy

Randy Baldwin is President and General Manager of San Marcos Growers, a wholesale nursery in Santa Barbara, California known in the nursery industry for the diversity of plants that it grows and for the introduction of new plants suitable for cultivation in California. In his spare time Randy speaks to groups about his love of plants and writes the web pages for the San Marcos Growers Horticultural website. Randy and his family have lived in a turn of the 20th century farm house on the nursery property since 1985. The gardens surrounding the house are a demonstration garden of many of the grasses, flax, and drought tolerant plants that San Marcos is known for.



Bohn, Jeff

Tree of Life Nursery is the largest producer of California native plants in the state for the past 40 years. Located on the historic Rancho Mission Viejo, the 34-acre leasehold is a jewel. As co-owner Mr. Bohn has been involved in all aspects of the nursery operation with a primary role in production and introduction. Their large and diverse inventory boasts over 400 species and varieties, and through contract growing, rare plant recovery, environmental restoration and overall interest in plants, the nursery has handled over 1000 native taxa in its 40-year history. Tree of Life Nursery has a tissue culture lab to experiment with rare and difficult to propagate plants. In the propagation and growing facilities, Tree of Life maintains a keen focus on quality control through a strict BMP program. In the 1990's they developed their own in-house program for incorporating beneficial mycorrhizal fungi into all phases of their production and since then uses biological control methods as a focus for pest control.

Silent Auction - Grand Ballroom Main

Opens at 10:30 AM on Wednesday, closes at 8 PM on Thursday

Auction items have been generously donated for this event, and the auction has been organized by volunteer members of IPPS -WR. Items may include and are not limited to plants, books, hard goods such as garden and patio accessories, tools, gift cards, event tickets, branded merchandise, and gift baskets. We hope you will participate! May the best bid win!



Booman, James L.

After spending 30 years propagating over 2 million plants a week and managing stock plants in Guatemala, Booman has scaled back and focuses current efforts on Carnivorous Plants, Rex Begonias and unusual foliage plants. Booman has developed and patented over 20 Begonias and Sarracenia, leading market acceptance of both crops in the US. Booman is CEO of Booman Floral, Inc, located in Vista, California, started in 1990. The company specializes in unusual ornamental crops. Booman earned undergraduate and graduate degrees in Horticulture Science from Colorado State University, and the University of Maryland. He also did graduate work in Plant Genetics at the University of Hawaii.



Cabrera, Raul

Raul has a BS in Horticulture from Universidad Agraria “Antonio Narro” (Saltillo, México), and a MS in Plant Physiology and PhD in Plant Biology from UC-Davis. He has been a faculty member at Texas A&M University and Rutgers University, where he currently serves as Extension Specialist in Nursery & Specialty Crops, also reaching allied landscape horticulture activities. He works on applied crop physiology and management, with a focus on the overall use efficiency of water and fertilizers in these green industry commodities.



Del Castillo, Johanna

Dr. Johanna Del Castillo is an Assistant Project Scientist in the Department of Plant Pathology at UC Davis. Since 2020, she initiated the Greenhouse and Nursery Pathology research program. As the principal investigator, Dr. Del Castillo is interested in developing and improving sustainable solutions for disease control through studies of fungal and oomycete pathogens affecting greenhouse grown crops. Before this position, she worked at Bayer Crop Sciences with biological controls. As a post-doctoral scholar at UC Davis and at the University of Maryland, she studied the effect of implementing reduced irrigation on greenhouse crops. Del Castillo obtained her PhD in Plant Pathology from Michigan State University, where she worked at characterizing Pythium species from ornamental crops in the state, and her undergraduate degree and masters from Universidad de los Andes in Colombia.



Englert, Marc

Marc Englert is the founder of FLOREP, which brings cutting edge technology, growing media and genetics to growers and farmers since 2001. Marc comes from a horticulture family just outside Stuttgart, Germany and spent his first years in Puerto Rico. After high school in France and Germany, he continued to study horticulture in The Netherlands, where he graduated in business-horticulture. After working in the family business in Germany for six months, then in Italy for one year and a half and in Southern France for three and a half years, he settled in California in 2000 as Sales & Marketing Manager for a flower seed breeding company. Marc has a passion for hort/ag-business & technology. Marc currently brings coco-coir and substrate blends to growers together with his business partner in Spain. He is also bringing new and innovative technology from Spain to North America and from North America to the world, with the goal to help growers improve the quality of their crops, be more efficient & sustainable while increasing their bottom line. Marc noticed a need for better production practices, inputs and efficiencies that also improve shelf life of final products. Marc works closely with his Spanish business partner in sourcing and developing these new technologies. When not working, Marc can be found spending time on his mountain bike on local California trails or burning rubber on the racetrack with local auto clubs. Marc is also known for his overall positive attitude and high energy.

Poster Session

In keeping with the IPPS motto “To Seek and to Share,” IPPS-WR invited members and the public to share posters. All accepted posters will be published in the conference proceedings. Posters will feature research, development, horticulture practices, plant propagation techniques, production practices, and they will not be commercial in nature.



Fernandez, Thomas (Tom) R.

Dr. Tom Fernandez is a Professor in the Department of Horticulture at Michigan State University. He earned his B.S. and M.S. from the University of Florida from Fruit Crops Department and his Ph.D. from the Michigan State University Department of Horticulture. His research and extension programs focus on water quality management for container nursery production. They investigate methods to conserve water and remediate agrichemicals from irrigation runoff and recycled water. His program also investigates agrichemical transport in container production systems and methods to reduce movement. We are also investigating the use of RFID to facilitate precision agriculture practices for container production. Tom teaches Landscape Plant Identification (HRT211) and Nursery Management (HRT 310).



Fields, Jeb

Dr. Jeb Fields is an Assistant Research Coordinator and Extension Specialist with the Louisiana State University Agricultural Center. Dr. Fields serves as the Director of the Hammond Plant Trials and the Louisiana Super Plants Program as well as managing daily activities and research at the Hammond Research Station. Dr. Fields is an internationally recognized soilless substrate scientist and his work focuses on nursery crops and greenhouse ornamentals. Dr. Fields has led many national collaborations and served in leadership roles with various academic and trade associations. Dr. Fields is leading national research efforts in stratified substrates, publishing the seminal manuscript describing water and fertilizer efficiency as well as subsequent manuscripts demonstrating the potential of peat-use reduction and improved root productivity in stratified substrate systems. Dr. Fields also manages an extensive Extension program, hosting many public and stakeholder events annually, including open houses, field days, educational workshops, and seminar series. In addition, Dr. Fields has started his role as Editor of the Nursery and Landscape Insider, a Ball Publishing biweekly e-newsletter. In 2023, Dr. Fields has been awarded the Distinguished Service Award from the Louisiana Nursery and Landscape Association, the Distinguished Achievement Award for Nursery Crops from the American Society of Horticulture Science, and the Young Extension Faculty Award from Southern Region ASHS. He regularly attends local, national, and international academic conferences and industry events, enjoying visiting with friends, colleagues, and industry members. Prior to his time at LSU AgCenter, Dr. Fields received degrees from University of Florida (B.S.), NC State University (M.S.) and Virginia Tech (Ph.D.).



Fisher, Paul

Dr. Paul Fisher is a Professor and Floriculture Extension Specialist at the Environmental Horticulture Dept., University of Florida in Gainesville, Florida. He has over 30 years' experience in applied research and farm advising for the commercial greenhouse and controlled environment industry. He was the Director of the Floriculture Research Alliance at the University of Florida (FloricultureAlliance.org), a university/industry group focused on greenhouse propagation and production efficiency. He was also the director of Greenhouse Training Online, which provides certificate courses for grower professional development. He led outreach for CleanWater3.org, a multi-university group solving problems in irrigation water quality and conservation. He is the co-author of books on pH management and Greenhouse Lighting, and over 350 articles on floricultural crops in the trade press and scientific journals. He is also a consultant for horticulture-related companies in the U.S. and internationally. He earned his B.Sc. in Ecology from University of Auckland, New Zealand, his Master of Applied Science from Lincoln University, New Zealand, and his Ph.D. in horticulture from Michigan State University, United States.



Fulcher, Amy

Dr. Amy Fulcher is a Professor at the University of Tennessee where her lab focuses on irrigation and pesticide application technology. Her team recently developed a leachate sensor that when used to schedule irrigation reduced water use by more than 65%. She is also part of a multi-disciplinary team that developed, evaluated, and commercialized a laser-guided, variable-rate spray system, which helped nursery producers and orchardists reduce pesticide spray volume by as much as 74% and drift up to 99%. She also coordinates 2 professional development programs for the nursery industry, the Tennessee Master Nursery Producer (TMNP) program and the Advanced TMNP program.



Gold, Matt

Currently Matt Gold is the Director of Continuous Improvement at Everde Growers, headquartered in Houston, TX. His two main focuses are automation projects and process improvement at all 15 sites and departments of the company. Prior to joining Everde Growers, Matt worked for the family business in Oregon as CEO of Gold Hill Nursery (now Gold Family Farms). For a short while, he had peeled off a small business from Gold Hill Nursery that sold automation projects to the nursery industry.



Lea-Cox, John

As a Professor, researcher and extension specialist in the Department of Plant Science and Landscape Architecture at the University of Maryland, Dr. John Lea-Cox has specialized in water, nutrient and pathogen management of intensive ornamental and horticultural crop production systems since 1993. He strives to find ways to provide farmers and urban growers with their own production and environmental information, utilizing sensor networks and intelligent software. His goal is to help people to make better decisions, conserve resources, improve their profitability and reduce the environmental impact of their crop production practices. John was the Principal Investigator of the SCRI-MINDS project (see <https://www.smart-farms.net>) from 2009-14 which focused on improving irrigation and nutrient management efficiency in the nursery and greenhouse industry. You can access his short CV at <https://tinyurl.com/JLC-Summary-CV>



Merhaut, Donald

Donald Merhaut has been an extension specialist at the University of California since 2000. His discipline is plant nutrition and ornamental plants. During the past 24 years, his research has focused on the temporal and spatial aspects of nutrient uptake and movement in plants. Fertilizers studied include granular, coated, and liquid-feed programs. In conjunction with fertilizer programs, research and education programs have also revolved around irrigation management, nursery infrastructure, water quality, and environment, as all of these variables will impact nutrient uptake efficiency in plants.



Owen, Jim

Jim Owen is currently a USDA ARS Research Horticulturist located at the Application Technology Research Unit in Wooster, OH. Jim received his B.Sc. in Plant and Soil Science at the University of Kentucky, his M.Sc. in Environmental Science at the University of Rhode Island, and Ph.D. at North Carolina State University with a major in Horticultural Science and minor in Soil Science. Jim's professional experience includes being an instructor at Univ. of Rhode Island, Asst. Prof. at Oregon State Univ., and a rise from Assist. to Assoc. Prof. at Virginia Tech. Jim's current research investigates horticultural production systems, with a focus on the nexus of water-agrochemicals-substrate and the subsequent physiological impact on crops within controlled environment agriculture including nurseries and greenhouses. Jim's aim is to increase resource efficiency, minimize environmental impact, and maximize profitability.



Pitton, Bruno J.L.

Dr. Bruno J.L. Pitton is a researcher in the Department of Plant Sciences at University of California, Davis. Dr. Pitton studied Environmental Horticulture and worked at the UCD Student Farm and the Arboretum Nursery as an undergraduate student. After graduation, Dr. Pitton was employed in the UCD greenhouses and Agronomy. His PhD dissertation research focused on nitrogen management in nursery production to help growers meet state regulations, increase nitrogen-use efficiency, and reduce the environmental impact of nitrogen loss. He is currently working on improving nutrient and water-use efficiency in nursery and greenhouse production systems in California.



Shogren, Chris

Dr. Christopher Shogren serves the County of Los Angeles as an Environmental Horticulture Advisor for the University of California Cooperative Extension. Dr. Shogren grew up in the horticulture industry, working at his parents' wholesale nursery in Southern California. His undergraduate studies focused on plant production at the California Polytechnic University, San Luis Obispo, where he received degrees in Environmental Horticulture and Agricultural Business. He then went on to receive his PhD in Entomology from the University of California, Riverside, where his research focused on integrated pest management of invasive thrips. Dr. Shogren's current research focuses on management of insects, diseases and weeds and increasing water use efficiencies in nurseries, landscapes, and municipalities.



Shreckhise, Jake

Dr. Jake Shreckhise earned his Ph.D. in Horticulture from Virginia Tech in 2018 and then completed a postdoc with the USDA-ARS Application Technology Research Unit in 2021. Currently, Dr. Shreckhise is a Research Horticulturist for the Floral and Nursery Plants Research Unit of the USDA-ARS in McMinnville, TN. His research program has two areas of emphasis: 1) develop best management practices that improve water and fertilizer efficiency for container nurseries and 2) evaluate underused native woody ornamentals to identify stress-tolerant selections. Having been brought up in the nursery industry himself, Dr. Shreckhise strongly values working closely with stakeholders to develop practical solutions to the industry's current and relevant challenges.



Sluiman, Emily

Emily Sluiman is the Southwest Territory Sales Manager for Star® Roses and Plants. Born and raised in Southern California, her roots in the region have cultivated an infinite love for the outdoors, inspiring her journey into the world of plants and landscapes. Emily has earned a degree in Wildlands Resources and Forestry and is a Certified California Naturalist. She also holds certifications in California native plant landscaping, wildfire defense landscaping, and wilderness first aid. She is a seasoned professional with over 15 years of sales and marketing experience. Prior to her role with Star® Roses and Plants, Emily was the Wholesale Specialist for Tree of Life Nursery and the Director of Sales for Moosa Creek Nursery. In her free time, you can find her with a camera in hand, hiking, camping, botanizing, and searching for rare plants. She is a photo contributor for Calflora and Calphotos, and a volunteer team member for the Calscape website redesign.



Spinelli, Gerry

Gerardo (Gerry) Spinelli is the new Production Horticulture Advisor serving the Nursery and Floriculture industry in San Diego. Gerry conducts applied research, extension, and education to improve viability and profitability of the Nursery and Floriculture industry, while conserving natural resources and complying with regulations. The Nursery and Floriculture industry in San Diego County is the first in California for volume of sales and the second in the U.S. Gerry's primary interests are irrigation management and water quality. These themes are a primary concern for growers given the high cost of water and the pressure from local and state water quality regulators. Nitrogen management is another of the advisor's interests, given its strong relation to water management and its importance in the environmental impact of horticultural industry. Gerry is also interested in other themes unique to San Diego County, including urban agriculture and horticulture in the rural-urban interface and food deserts in low-income areas. Local growers face issues urban development encroaching into rural areas increasing the cost of real estate and the competition for water. Nursery and Floriculture growers in San Diego County have shown the great ability to quickly react to these forces and adapt production practices to keep the industry profitable. Gerry's primary concern is to conduct a research and extension program that serves industry in present and future challenges.



Staddon, Nicholas

Nicholas Staddon has been working with plant breeders, hybridizers, and professional plant explorers for 25 years, scouring the globe for new creations and discoveries in the plant world. Born in England, Staddon received credentials in Agricultural Science from Otley Agricultural College. When he first arrived in the United States, he managed garden centers in Albuquerque and Santa Fe, New Mexico “... where the vistas will move your heart and the gardening will break it,” he says. Staddon went on to work for Monrovia Nursery for 27 years, 15 of which as the leader of the New Plant program.

Staddon resides in California and is working with Everde Growers as their Spokesperson and Plantsman supporting their marketing and new plant introduction programs. He is a sought-after speaker and guest for gardening television and radio shows across the United States. He works closely with professional garden writers, providing information on plants and sharing his views on garden trends and more. He has created a series of informative ‘Plant Savvy’ videos available on YouTube, and recently partnered with Kellogg Garden Products for a video series on soil and soil amendments for the garden and landscape.

Nicholas is proud to be professionally affiliated with the Royal Horticultural Society, Plant California Alliance, and AmericanHort. He is on the Board of Advisors for the Mediterranean Garden Society of Southern California, Climate Ready Landscape Plants, a USDA SCMP Project, and Cal-HIP (California Horticultural Invasives Prevention), which is a voluntary partnership to help gardeners and the horticultural industry to proactively address the problem of invasive plants in the trade. He is also a Regional Director of GardenComm. A community of Garden Writers and Communicators working across the United States providing gardening information and related services.



Suvocarev, Kosana

Kosana Suvocarev is Cooperative Extension Specialist in Biometeorology at UC Davis. She does experiments to determine water use of different plants. Her extension program is mainly focused on innovative practices and how those change water requirements in irrigated agriculture to help develop reliable information for growers’ use.



Taylor, Clint

Clint is an Education Program Assistant at the North Willamette Research and Extension Center in Aurora, OR. He currently works with two programs: Small Farms and Nursery & Greenhouse Management.

In the Small Farms program, Clint’s primary areas of research and education revolve around climate-adaptive strategies for small-scale vegetable farmers. These strategies include irrigation decision tools, reduced tillage practices, and dry farming techniques.

Within the Nursery & Greenhouse Management program, Clint is engaged in research and education related to hydroponics systems, hoop houses, shade houses, irrigation systems, and landscape plants. Outside of his professional pursuits, Clint finds joy in various hobbies, such as gardening, woodworking, and fishing.



White, Sarah

Dr. Sarah White is the Nursery Extension Specialist at Clemson University and is a Professor in the Department of Plant and Environmental Sciences. Sarah has 15+ years of experience developing and optimizing nature-based treatment technologies growers can use to clean water. Her lab is currently investigating the applications of vegetation-based technologies (constructed wetlands, floating treatment wetlands, and vegetated buffers) for cleansing agrichemical and plant disease contaminants from production runoff to encouraging water reuse and conservation and evaluating reservoir design and management to enhance water security.

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