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### ACKNOWLEDGMENTS

The biennial Northeast Greenhouse Conference is co-sponsored by New England Floriculture, Inc., a group of grower representatives from the Northeast, in collaboration with University and Cooperative Extension staff in each state who specialize in greenhouse crops and management.

#### **MEMBERS & BOARD OF DIRECTORS**

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### ACKNOWLEDGMENTS

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#### **PROGRAM COLLEAGUES**

#### Team at Delaney Meeting & Event Management

Trade Show, Marketing, Registration & Treasurer Delaney Meeting & Event Management One Mill Street, #315 Burlington, VT 05401 P: 802-865-5202 E: cindy@delaneymeetingevent.com Leanne S. Pundt, Publicity UConn Extension Torrington CT 06790 P: 860-626-6855 E: leanne.pundt@uconn.edu

### **GENERAL INFORMATION**

#### NAME BADGE FOR ENTRY

All attendees, exhibitors, speakers and moderators MUST check in at the Conference Registration Desk onsite to pick up their nametag, and prominently display it during the conference. Nametags will be required for entry into all areas, and special designated nametags will be required for entrance into the educational workshops.

#### FLORICULTURE PEST MANAGEMENT GUIDE

Floriculture Pest Management Guides are available at a special rate for conference attendees! The New England Greenhouse Floriculture Guide: A Management Guide for Insects, Diseases, Weeds and Growth Regulators has been the reference of choice for hundreds of greenhouse growers throughout New England since its inception. The latest edition will be available at this conference at a reduced rate of \$30. Stop by the Conference Registration Desk to purchase your copy onsite. After the conference, it will be available for \$40 each, and can be purchased from the website at www.negreenhouse.org.

#### PERSONAL SHOPPING GUIDE

New to the show? Our veteran planning committee and board will be on hand to give you one-on-one guidance on how to make the best of your trade show shopping experience. Sign-up is required in advance. Please check the Conference Registration Desk for availability.

#### PESTICIDE RECERTIFICATION CREDITS



Pesticide applicator recertification credits will be available at the conference for the six New England states plus New York and Pennsylvania. A total of 12 one-hour presentations (credits vary by state) will be offered; check the program for the symbols. If you want to earn recertification credits, attend the appropriate sessions. Check at the Pesticide Credit Information Table outside the meeting rooms to determine the process you should follow to complete credit submission for your state. **Attention New York and Massachusetts applicators**: please check in at the pesticide credit information table BEFORE you attend a session!

#### TRADE SHOW

Visit with participating companies in the exhibit hall and discover the newest innovations in our industry, learn about new products and services, network with your professional peers, gather information for future purchases, and order products that will enhance what you currently offer. Be sure to check out state resource and non-profit organizations. These displays offer free and low-cost services to help your business. Non-profit displays will be located in the Courtyard.

#### SPANISH LANGUAGE TRACK

Wednesday's schedule includes a day-long track of sessions offered in Spanish. The Spanish-Language track will be held in the Seminar room and includes both sessions offered in English at other times and sessions offered only in Spanish.

### **GENERAL INFORMATION**

#### FOOD OPTIONS

Food concessions will be available for purchase each day in the Terrace (across the hall from the entrance to the exhibit hall). The Minute Man Grille also offers convenient restaurant dining adjacent to the hotel lobby.

#### HARVEST MARKET LUNCH

The Planning Committee worked closely with the Boxboro Regency to develop lunch options showcasing local farms and producers. This will be located in the Courtyard and open from 11:30 AM -1:30 PM Wednesday and Thursday. Stay and shop during lunch and show your support for the local farms & producers!

#### POST CONFERENCE SURVEY

We value your feedback! Please take a moment to visit www.negreenhouse.org for a link to our online conference evaluation. We'd appreciate your thoughts and comments about your experience at this year's event. Participants will be entered into a raffle for a chance to win two NEGC 2020 registration passes and a Floriculture Pest Management Guide. Thank you!

## **KEYNOTE PRESENTATION: CARMEN JOHNSTON**

#### Wednesday, November 7

#### Social Media and the Future of Gardening 3:45 PM - 5:15 PM // Federal and Colonial Rooms

In the ever-expanding world of digital media, to be successful, growers and retailers alike have to utilize social media. Not only is social media necessary from a business perspective, but it is also dictating the trends in gardening. These days, the ideas clients bring to the table are often those they have found while scrolling through Facebook or Instagram. In this exciting session, Carmen Johnston, nationally renowned garden lifestyle expert, will share the secret to social media success and illustrate how it is forecasting the future of gardening.





### **PESTICIDE RECERTIFICATION CREDITS**

Pesticide Recertification Credit has been approved for sessions indicated by the insect image. All pesticide credit approved sessions are approved for all states, but the number of credits differ by state. Please pick up the state by state guideline for credits at the pesticide credit information table.

### **PESTICIDE CREDIT KEY**

#### KEY TO NY LICENSE CATEGORIES

 Ia=Agricultural Plant

 2=Forest

 3a=Ornamental and Turf

 22=Fruit

 24=Greenhouse and Florist

 25=Nursery, Ornamentals and Turf

#### KEY TO MA/NE LICENSE CATEGORIES 26=Greenhouse (private license) 29=Nursery (private license) 31=Vegetable (private license)

#### KEY TO PA LICENSE CATEGORIES

PC=Private Category
06=Ornamental and Shade Trees
18=Demonstration and Research
22=Interior Plantscape
23=Part/School Pest Control



### **PESTICIDE CREDIT APPROVED SESSIONS**

#### **APPROVED SESSIONS - WEDNESDAY, NOVEMBER 7**

9:00 - 9:50 AM	Diseases of Bacteria and Viruses in the Greenhouse - Beware! NY: .75 credits, categories 1a,24; MA/NE: 1 credit, categories 26,29,31; PA: 2 credits, categories PC,06,18,22,23
10:30 - 11:20 AM	Diseases Caused by Fungi in the Greenhouse - Watch Out! NY: .75 credits, categories 1a,24; MA: 1 credit, categories 26,29,31; PA: 2 credits, categories PC,06,18,22,23
10:30 - 11:20 AM	Identificación y monitoreo de plagas (Identification and Monitoring of Insects and Mites) NY: .75 credits, categories 1a,3a,24,25; MA/NE: 1 credit, categories 26,29,31; PA: 2 credits, categories PC,06,18,22,23
1:30 - 2:20 PM	I.D. of Key Insects and Mites NY: .75 credits, categories 1a,24; MA/NE: 1 credit, categories 26,29,31; PA: 2 credits, categories PC,06,18,22,23

## **PESTICIDE CREDIT APPROVED SESSIONS**

APPROVED SESSIONS - WEDNESDAY, NOVEMBER 7 (CONTINUED)			
2:30 - 3:20 PM	Making the most of Biopesticides in Your Crop Production System NY: .75 credits, categories 1a,24; MA/NE: 1 credit, categories 26,29,31; PA: 2 credits, categories PC,06,18,22,23		
2:30 - 3:20 PM	Application de Agroquimicos (Pesticide Applications) NY: .75 credits, categories 1a,3a,24,25; MA/NE: 1 credit, categories 26,29,31; PA: 2 credits, categories PC,06,18,22,23		
APPROVED SE	SSIONS - THURSDAY, NOVEMBER 8		
9:00 – 9:50 AM	Big Bo and The Mildews Say "Resist" NY: .75 credits, categories 1a,3a,24,25; MA/NE: 1 credit, categories 26,29,31; PA: 2 credits, categories PC,06,18,22,23		
10:30 - 11:20 AM	Insecticide and Miticide Resistance : Basic and Advanced Principles NY: .75 credits categories 1a,3a,24,25; MA/NE: 1 credit, categories 26,29,31; PA: 2 credits, categories PC,06,18,22,23		
1:30 - 2:20 PM	<b>Evaluating Biological Control Recommendations</b> NY: .75 credits, categories 1a,24; MA/NE: 1 credit, categories 26,29,31; PA: 2 credits, categories PC,06,18,22,23		
2:30 - 3:20 PM	Next Generation Biological Control Coming Soon to a Greenhouse Near You? NY: .75 credits, categories 1a,24; MA/NE: 1 credit, categories 26,29,31; PA: 2 credits, categories PC,06,18,22,23		
2:30 - 3:20 PM	<b>Biocontrol in Perennials for Indoor and Outdoor Production</b> NY: .75 credits, categories 1a,3a,24,25; MA/NE: 1 credit, categories 26,29,31; PA: 2 credits, categories PC,06,18,22,23		
3:30 - 4:20 PM	Successfully Implementing BCA's in a Pest Management Program NY: .75 credits, categories 1a,3a,24; MA/NE: 1 credit, categories 26,29,31; PA: 2 credits, categories PC,06,18,22,23		



# SCHEDULE AT-A-GLANCE

### Tuesday, November 6

10:00 AM - 7:00 PM	Exhibitor Set-Up & Registration	Parade Room
7:30 PM - 8:30 PM	<b>Reception for Early Arrivals</b> <i>Light hors d'oeuvres and cash bar.</i>	Minuteman Grille

### Wednesday, November 7

4-		
7:00 AM - 5:00 PM	Registration & Information Desk Open	Courtyard
9:00 AM - 9:50 AM	Concurrent Educational Sessions	See page 12 for details
10:00 AM - 10:30 AM	<b>Refreshment Break with Exhibitors</b>	Parade Room
10:00 AM - 5:00 PM	Trade Show Open	Parade Room
10:30 AM - 11:20 AM	Concurrent Educational Sessions	See pages 12-13 for details
11:30 AM - 1:30 PM	Harvest Market Lunch Stay and shop during lunch and show your support for the local farms and producers! Lunch available for delivery to trade show booths with advance order.	Courtyard
1:30 PM - 2:20 PM	Concurrent Educational Sessions	See pages 13-14 for details
2:30 PM - 3:20 PM	Concurrent Educational Sessions	See pages 14-15 for details
3:45 PM - 5:15 PM	Keynote Presentation: Social Media and the Future of Gardening Carmen Johnston, Carmen Johnston Gardens	Federal and Colonial Rooms
5:15PM - 7:15 PM	Northeast Greenhouse Conference Welcome Reception (All Invited to Attend) Sponsored by: Ball Seed/S.B. Machinerie	Courtyard

## **SCHEDULE AT-A-GLANCE**

### Thursday, November 8

-		1
7:30 AM - 3:00 PM	Registration & Information Desk Open	Courtyard
8:00 AM - 3:00 PM	Trade Show Open	Parade Room
9:00 AM - 9:50 AM	Concurrent Educational Sessions	See pages 15-16 for details
10:00 AM - 10:30 AM	<b>Refreshment Break with Exhibitors</b>	Parade Room
10:30 AM - 11:20 AM	Concurrent Educational Sessions	See page 16 for details
11:30 AM - 1:30 PM	Harvest Market Lunch Stay and shop during lunch and show your support for the local farms and producers! Lunch available for delivery to trade show booths with advance order.	Courtyard
1:30 PM - 2:20 PM	Concurrent Educational Sessions	See page 17 for details
2:30 PM - 3:20 PM	Concurrent Educational Sessions	See pages 17-18 for details
3:00 PM	Trade Show Closes	
3:30 PM - 4:20 PM	Concurrent Educational Sessions	See page 18 for details

### Thank You to Our Session Moderators

Sue Adams, Adams Greenhouses Teri Boardman, Volante Farms Stephanie Burnett, University of Maine Carla Caballero, University of Connecticut Heather Faubert, University of Rhode Island Ann Hazelrigg, University of Vermont Neil S. Mattson, Cornell University Cora McGehee, University of Connecticut Dustyn Nelson, Frank's Landscape Construction Rosa E. Raudales, University of Connecticut Sarah Salatino, Full Circle Gardens Lisa Tewksbury, University of Rhode Island Mathew Wallhead, University of Maine

## **EDUCATIONAL SESSION GRID - WEDNESDAY**

ROOM	FEDERAL	COLONIAL	COTILLION	DIRECTORS	SEMINAR
TRACK	Plant Disease Management	Basic Production Skills	Strategies to Reach More People	Allied Trade Sponsored Sessions	Taller de Producción Agrícola
9:00 - 9:50 AM	Diseases Caused By Bacteria and Viruses in the Greenhouse - Beware!	Managing the Greenhouse Environment: Light, Temperature, Carbon Dioxide, and Humidity	Transforming the Way Food is Grown	Growing Media – Today and Tomorrow	Entrenando Empleados con Resultados en Mente Espacio limitado, requiere preinscripción.
10:30 - 11:20 AM	Diseases Caused By Fungi in the Greenhouse— Watch Out!	The Art and Science of Watering	Consumer Success with Growing Plants is One of the Best Ways to Sell More Plants	Why Should You Consider Using Mycorrhizae?	Identificacion y Monitoreo de Plagas Espacio limitado, requiere preinscripción.
	×		1 millio		
TRACK 1	Advanced Biocontrol	Basic Production Skills	Business and Marketing	Starting Hydroponic Leafy Green Production	Taller de Producción Agrícola
	Advanced	Production	Business and	Hydroponic Leafy Green	Taller de Producción

Pesticide Recertification Credit has been approved for sessions displaying this image.

# EDUCATIONAL SESSION GRID - THURSDAY

ROOM	FEDERAL	COLONIAL	COTILLION	DIRECTORS	SEMINAR
TRACK	Proper Use of Fungicides and Pesticides	Greenhouse Technology	Growing Vegetables in the Greenhouse	Hands-On Training Sessions	Perennial Production
9:00 - 9:50 AM	Big Bo and the Mildews Say "Resist!"	Lighting Decisions for Greenhouse Production	Choosing Varieties for Greenhouse Leafy Greens and Vegetables	Best E-marketing Practices for Successful Businesses Pre-registration and \$10 fee required.	Propagating Perennials
10:30 - 11:20 AM	Insecticide and Miticide Resistance: Basic and Advanced Principles	Opportunities to Grow Plants Under Sole Source Electric Lighting in Warehouses, Plant Factories, Vertical Farms and Containers	Maximize Vine Crop Production with Proper Environmental Control	Using Low-Cost Environmental Sensors Pre-registration and \$10 fee required.	Natives, A Growers Perspective
TRACK	Advanced Biocontrol	Business	Advanced Hydroponic Veg. Production	Business	Perennial Production
1:30 - 2:20 PM	Evaluating Biological Control Rec.	You Already Have the Most Profitable Tool You'll Ever Ownbut it didn't come with a %\$#!@ manual	Greenhouse Strawberry Production - Physiologies and Technologies for High Quality Fruit Production	Writing Tips for the Green Industry	Nutrient Management With Herbaceous Perennials
2:30 - 3:20 PM	Next Generation Biological Control - Coming Soon to a Greenhouse Near You?	Human Resource Basics to Plan for Success	Benefits and Risks of a Closed- Loop Irrigation	Allied Trade Sponsored Session Getting the Most Out of Your Fertilizer Investment	Biocontrol in Perennials for Indoor and Outdoor Production
3:30 - 4:20 PM		Keys to Business Success(ion)	Successfully Implementing		Deer Resistant Plants and

#### Wednesday, November 7 • 9:00 - 9:50 AM

#### TRACK: Plant Disease Management // ROOM: Federal

#### Diseases Caused By Bacteria and Viruses in the Greenhouse - Beware!

Margery Daughtrey, Cornell University

Margery will cover the basics for diagnosis and treatment as well as some recent research about the different Xanthomonas bacteria that affect begonias, geraniums, or ivy. She'll also cover the latest problems due to Ralstonia and Pseudomonas species. Speaking of hard-to-control diseases, she will also teach the symptoms of tospoviruses (INSV and TSWV) and their kin showing up in flower crops. Knowing what plants to throw out can save you a world of trouble later.

#### TRACK: Basic Production Skills // ROOM: Colonial

#### Managing the Greenhouse Environment: Light, Temperature, Carbon Dioxide, and Humidity

Christopher J. Currey, Iowa State University

The greenhouse environment has a large effect on plant growth and development. Light (daily light integral and day length), temperature (average daily temperature, DIF, and extremes), carbon dioxide, and humidity all impact how our crops grow. Fortunately, we have the opportunity to manage and manipulate these factors as well. This session will focus on how the greenhouse environment affects growth and how you can control it to get the results you want.

#### TRACK: Strategies to Reach More People // ROOM: Cotillion

#### Transforming the Way Food is Grown

Paul Sellew, Little Leaf Farms

Meet Little Leaf Farms — We grow our nutrient-packed lettuces year-round in a pristine, state-of-the-art New England greenhouse using Mother Nature's best ingredients (fresh air, sunlight, filtered water) and nothing else—no pesticides, no herbicides, no chlorine baths. And because we service local New England markets, we can get our greens onto your grocer's shelf the same day it's harvested, and at a reasonable price.

TRACK: Emerging Technologies & Trends (ALLIED TRADE SPONSORED) // ROOM: Directors Growing Media – Today and Tomorrow



Hugh Poole, Oldcastle

There's a revolution occurring in the world of substrates. It's being driven by sustainability, availability, transportation, and most importantly, cost. Although growers have more choices of components and amendments, pressure to reduce production costs limit which options will provide good value. We will explore the options for components and amendments. The components include peat, bark, coir, wood fiber, wood chips and cow fiber. We will also discuss many popular amendments, including biologicals (biofungicides, mycorrhizae, etc.), polymers, fertilizers and "exotics". We will briefly discuss organic and hydroponic options. Tomorrow's substrates will be similar but probably very different from today's in many ways. It's time to join the revolution.

TRACK: Taller de Producción Agrícola // ROOM: Seminar

#### Entrenando Empleados con Resultados en Mente

Javier E. Lopez, Altman Plants

En esta presentación discutiremos los beneficios de entrenamiento continuo. La educación continua de empleados es esencial para la seguridad del empleado, la calidad de las plantas, y la sostenibilidad de una empresa. (Espacio limitado, requiere preinscripción)

#### Wednesday, November 7 • 10:30 - 11:20 AM

#### TRACK: Plant Disease Management // ROOM: Federal

Diseases Caused By Fungi in the Greenhouse-Watch Out!

Cheryl Smith, University of New Hampshire

Cheryl will cover the essentials on recognition and management for many of the fungal and water mold diseases that continually challenge growers. Growers of bedding plants or flowering potted crops will learn about the kinds of fungi that can be your crop's nemesis: powdery mildews, Botrytis, Thielaviopsis, Phytophthora, Pythium, and Rhizoctonia will all be featured in this rogue's gallery of fungal pathogens.

#### TRACK: Basic Production Skills // ROOM: Colonial

#### The Art and Science of Watering

Rosa E. Raudales, University of Connecticut

Training employees how to water crops is an important and difficult task. Inadequate watering leads to crop loss caused by excessive or insufficient water in the container. In this presentation, we will discuss the importance of tracking moisture in the media and understanding the water needs of the crop species at different stages.

TRACK: Strategies to Reach More People // ROOM: Cotillion

Consumer Success with Growing Plants is One of the Best Ways to Sell More Plants

Janeen Wright, Greenhouse Grower Magazine

Every year breeders introduce hundreds of new plants to the market. With so many choices, it can be difficult to separate the top-performers from the flops. Plant performance in real-world conditions is often the dividing line. This presentation will highlight some of the new, top-performing plant intros for 2018, based on field trial results from the Northeast region. It will cover plant performance, breeder feedback, and ways to position the plants in the market.

TRACK: Emerging Technologies & Trends (ALLIED TRADE SPONSORED) // ROOM: Directors

#### Why Should You Consider Using Mycorrhizae?

Blair Busenbark, Mycorrhizal Applications

Learn how beneficial symbiotic soil fungi, known as mycorrhizae, can benefit your professional growing operation and, ultimately, your business' bottom line. The benefits of mycorrhizae are vast and long-term: expanded plant root mass, increased soil nutrient efficiency and improved water acquisition and storage. These primary benefits transform to improved shelf life, drought tolerance, improved fruiting and flowering, enhanced transplant success and landscape survivability. Whether you are a skeptic, a believer, or not sure where you stand, this seminar will help you to better understand this cutting edge greenhouse, nursery and landscape technology. Blair will explain the science behind these beneficial microbes, as well as give recommendations on their usage in your greenhouse, nursery or landscape.

TRACK: Taller de Producción Agrícola // ROOM: Seminar

Identificacion y Monitoreo de Plagas

Ana Legrand, University of Connecticut

Esta charla cubrirá los fundamentos de monitoreo de plagas del grupo llamado artrópodos. Los participantes aprenderán a monitorear e identificar plagas importantes en los invernaderos. (Espacio limitado, requiere preinscripción)

#### Wednesday, November 7 • 1:30 PM - 2:20 PM

#### TRACK: Advanced Biocontrol // ROOM: Federal

ID of Key Insects and Mites

Suzanne Wainwright-Evans, Buglady Consulting

To run a successful biological control program you must know what pests you are dealing with. This class will cover the basics of insect ID as well as detailed ID information on common greenhouse pests.

TRACK: Basic Production Skills // ROOM: Colonial

Nutrition: Fertilizers and Substrates

Ryan Dickson, University of Arkansas

Join us as we cover advanced fertilizer strategies to control substrate pH and nutrients in container crops, and how to prevent and correct nutritional problems. We will also discuss new substrate components and how they impact your fertility program.

#### TRACK: Business and Marketing // ROOM: Cotillion

#### Savvy Marketing Tips to Help Your Business Grow

Dustyn Nelson, Franks Landscape Construction; Maggie Bridge, Sam Bridge Nursery & Greenhouses, LLC; and Sue Adams, Adams Greenhouses

Fill your marketing tool kit with information and ideas that will take your business to the next level. Walk with us through the front doors of businesses and check out the do's and don'ts of merchandising. Get the skinny on digital marketing tools you may not be using like geofencing, video pre-rolls and hear why you should be on Instagram. Think outside the window box and increase traffic and sales during challenging seasons like fall.

TRACK: Starting Hydroponic Leafy Green Production // ROOM: Directors

#### Production Systems for Leafy Greens and Herbs

Neil S. Mattson, Cornell University

Many factors play into selection of your hydroponic system: cost, maintenance, ease of use, and automation. Learn the pros and cons of the two most common systems for growing leafy greens and herbs: deep water culture (DWC) and nutrient film technique (NFT). We will show common commercial systems and example do-it-yourself setups. The basics of using each system and care and management will be discussed. (Space is limited, requires pre-registration)

TRACK: Taller de Producción Agrícola // ROOM: Seminar

#### Riego: Arte y Ciencia

Rosa E. Raudales, University of Connecticut

Uno de las tareas más difíciles y más importantes de aprender es como regar los cultivos a un nivel óptimo. El riego inadecuado resulta en perdida de plantas a causa de mucha o poca agua. En esta presentación vamos a discutir la importancia de monitorear la humedad en el sustrato y entender las necesidades de cada cultivo. (Espacio limitado, requiere preinscripción)

#### Wednesday, November 7 • 2:30 - 3:20 PM

TRACK: Advanced Biocontrol // ROOM: Federal

#### Making the Most of Biopesticides in Your Crop Production System

Michael Brownbridge, Vineland Research and Innovation Centre

Historically, the greenhouse industry has relied on synthetic insecticides to meet its pest control needs. However, growers are increasingly faced with the loss or failure of pest control products, declining access to new chemistries, stricter environmental/health and safety regulations, and satisfying the needs of a retail/consumer driven market. Integrated crop production systems are the 'new normal', where microbial biopesticides can play a critical supporting role.

#### TRACK: Basic Production Skills // ROOM: Colonial

#### Controlling Height: Chemical, Cultural, and Environmental Approaches

Christopher J. Currey, Iowa State University

One of the biggest challenges with containerized crops is controlling growth. This session will discuss a range of approaches to controlling growth, including scheduling and cultivar selection, modifying fertilization and irrigation, manipulating temperature and light, and applying plant growth regulators.

#### TRACK: Business and Marketing // ROOM: Cotillion

#### E-commerce and E-marketing in the Green Industry

Ariana Torres, Purdue University

The green industry has been historically one of the fastest growing sectors of the U.S. economy, but recent reports show that some segments have become stagnant or declined. As technologies evolve and become more accessible, green industry operations can use e-commerce (online sales) and e-marketing (online marketing campaigns) to boost sales, build new partnerships, and pursue up- and down-stream integration strategies. This presentation will address the impact of e-commerce and e-marketing on green industry businesses and will characterize drivers and barriers to adopting technology in the Amazon era.

#### TRACK: Starting Hydroponic Leafy Green Production // ROOM: Directors

Nutrient Solution and pH Management for Hydroponic Crops

Ryan Dickson, University of Arkansas

Learn how to manage nutrient solutions and pH for leafy greens, herbs, and vine crops. Discuss common tips and pitfalls when designing nutrient solution recipes and optimizing nutrient management practices. (Space is limited, requires pre-registration)

TRACK: Taller de Producción Agrícola // ROOM: Seminar

#### Aplicación de Agroquímicos

#### Javier E. Lopez, Altman Plants

En esta presentación discutiremos el uso seguro y efectivo de pesticidas. También discutiremos como las cosas han cambiado ahora que no podemos usar neonicotinoides. (Espacio limitado, requiere preinscripción)

#### Thursday, November 8 • 9:00 - 9:50 AM

#### TRACK: Proper Use of Fungicides and Pesticides // ROOM: Federal

Big Bo and the Mildews Say "Resist!"

Margery Daughtrey, Cornell University

Resistance management for diseases is especially important when the pathogens, like you, are ace propagators. . . making lots and lots of spores. The most notorious examples are Botrytis cinerea and the downy and powdery mildews. There are documented cases of fungicide resistance to each of these, so your IPM programs should always emphasize rotation when these are the plant enemies you care about. Learn about instances of resistance development in these pathogens, and how to use FRAC group information to outwit them. And don't forget that bacteria, too, say "Resist!"—so your management strategy for bacterial diseases also needs to incorporate resistance management.

#### TRACK: Greenhouse Technology // ROOM: Colonial

#### Lighting Decisions for Greenhouse Production

Neil S. Mattson, Cornell University

While lighting can be among the most expensive greenhouse costs, supplemental lights can help you produce higher quality crops with shorter crop cycles and may actually make you money. This session will discuss what to look for when purchasing new lights for flower or vegetable production. Examples will be presented of upfront cost and operating cost comparing LEDs to traditional HID fixtures.

TRACK: Growing Vegetables in the Greenhouse // ROOM: Cotillion

#### Choosing Varieties for Greenhouse Leafy Greens and Vegetables

Andrew Mefferd, Growing for Market Magazine

Using the right varieties can make a big difference in greenhouse vegetable production. The first step is choosing crops that will be profitable in a greenhouse. For this reason, most of the breeding, and our focus, will be on tomatoes, cucumbers, lettuce, greens, peppers, eggplant, and basil. We will discuss what criteria to use to evaluate varieties of these crops for greenhouse production.

#### TRACK: Hands-On Training // ROOM: Directors

#### Best E-marketing Practices for Successful Businesses

Ariana Torres, Purdue University

This hands-on workshop will provide businesses with the best practices to start and plan your social media marketing strategies. The workshop will also provide participants with applications of key marketing concepts and how to use them to draw customers and increase sales. (space is limited, \$10 pre-registration required)

#### TRACK: Perennial Production // ROOM: Seminar

#### **Propagating Perennials**

Stephanie Burnett, University of Maine

Perennials can be both challenging and rewarding to propagate. In this session, you will learn about a variety of techniques for vegetatively and reproductively propagating popular perennials for spring forcing. You'll also understand how to manage light and substrate moisture in the propagation environment in order to improve rooting.

#### Thursday, November 8 • 10:30 - 11:20 AM

#### TRACK: Proper Use of Fungicides and Pesticides // ROOM: Federal

Insecticide and Miticide Resistance: Basic and Advanced Principles

Richard S. Cowles, The Connecticut Agricultural Experiment Station

The development of insecticide resistance is a straightforward example of evolutionary principles in action: intensive selection combined with genetic variability in pest susceptibility leads to our pest populations becoming unmanageable with insecticides. There have been several methods suggested for managing resistant pest populations,

#### TRACK: Greenhouse Technology // ROOM: Colonial

### Opportunities to Grow Plants Under Sole Source Electric Lighting in Warehouses, Plant Factories, Vertical Farms and Containers

Chieri Kubota, The Ohio State University

Controlled environment agriculture (CEA) using sole-source electric lighting has been emerging as a new type of crop production independently from climate conditions. Warehouse-based crop production began in the U.S. decades ago, but recent advancement of efficient lighting technology made this type of production system more efficient in a small footprint. This presentation will review current technologies in these systems and research areas needed to increase efficiency and profitability.

#### TRACK: Growing Vegetables in the Greenhouse // ROOM: Cotillion

#### Maximize Vine Crop Production with Proper Environmental Control

Richard McAvoy, University of Connecticut

This talk will focus on management of the plant growth environment in order to optimize crop production with a focus on greenhouse tomatoes. Crop management factors that the grower can control to influence plant response include light, temperature, humidity, carbon dioxide, water, nutrition as well as crop scheduling and pruning.

#### TRACK: Hands-On Training // ROOM: Directors

#### Using Low-Cost Environmental Sensors

Ryan Dickson, University of Arkansas

Join us as we discuss how to monitor and control environmental factors (light, temperature, CO2, and relative humidity) and improve irrigation practices using a variety of low-cost sensor technology. (space is limited, \$10 pre-registration required)

TRACK: Perennial Production // ROOM: Seminar

Natives, A Growers Perspective

Peter van Berkum, Van Berkum Nursery LLC

With 30 years of experience growing natives, Peter will help define what a native is (not as simple as we all thought), and talk about some of the challenges of growing them.

#### Thursday, November 8 • 1:30 - 2:20 PM

TRACK: Advanced Biocontrol // ROOM: Federal

**Evaluating Biological Control Recommendations** 

Suzanne Wainwright-Evans, Buglady Consulting

Learn how to think critically about proposed biological control programs, to see if they are really going to work for you.

#### TRACK: Business // ROOM: Colonial

You Already Have the Most Profitable Tool You'll Ever Own...

#### but it didn't come with a %\$#!@ manual

Erin Pirro, Farm Credit East



Join Erin as she discusses why financial benchmarking is critical for long-term success, and provides tips for how you can start benchmarking in your business today.

#### TRACK: Advanced Hydroponic Vegetable Production // ROOM: Cotillion

**Greenhouse Strawberry Production - Physiologies and Technologies for High Quality Fruit Production** *Chieri Kubota, The Ohio State University* 

This presentation will review key physiologies (e.g., photoperiodic response for flowering and photosynthesis for production), and technologies that enable off-season or year-round production of strawberries under controlled environment.

#### TRACK: Business // ROOM: Directors

#### Writing Tips for the Green Industry

C.L. Fornari & Rochelle Greayer, GWA

Whether you're writing for a company blog, newsletter, or marketing, there are specific ways you can improve your communications in order to sell the excitement about plants and gardening. Learn how to quickly connect with your customers, capture the attention of the public, and convey your message clearly. Discover how to use the power of storytelling, easily edit your work and overcome writers block. Hear how in the digital age writing skills that compliment your visuals are vital to the promotion of plants and horticulture.

#### TRACK: Perennial Production // ROOM: Seminar

#### Nutrient Management With Herbaceous Perennials

Sinclair Adam, Penn State Extension

Herbaceous perennials are a diverse group of plant species and cultivars. Some commercial growers of perennials list over 500 varieties in their offerings. A fertilization plan in such operations can be a tricky management puzzle. The grower works to deliver the optimum rate of nutrients to the diverse species and cultivars being produced.

#### Thursday, November 8 • 2:30 - 3:20 PM

#### TRACK: Advanced Biocontrol // ROOM: Federal

#### Next Generation Biological Control - Coming Soon to a Greenhouse Near You?

Michael Brownbridge, Vineland Research and Innovation Centre

Innovations in formulation and delivery methods for various natural enemies continue to evolve to allow biocontrol agents to be applied in crop settings where traditionally they have had limited impact. Practitioners now have (or soon will have!) new options that will allow them to expand their biocontrol programs. See some of those coming to a greenhouse near you soon!

#### TRACK: Business // ROOM: Colonial

#### Human Resource Basics to Plan for Success

Rebecca Adams, Adams Fairacres Farms

This session will discuss some basic HR functions that you are already doing and find out how to do them better, as well as discussing ways to keep your business out of trouble. Topics include recruitment and selection, harassment, terminations, laws that affect your business, and worker's compensation.

#### TRACK: Advanced Hydroponic Vegetable Production // ROOM: Cotillion

Benefits and Risks of a Closed-Loop Irrigation

Rosa E. Raudales, University of Connecticut

Water quality for irrigation is determined by chemical, biological, and physical parameters that affect plant health and irrigation efficiency. These parameters individually or in combination affect nutrient availability, and the incidence and severity of plant diseases and clogging of irrigation emitters in fresh water and recirculated nutrient solutions. In this presentation, we will discuss how to monitor and manage water quality and recirculated nutrient solutions in hydroponics.

#### TRACK: Basic Production Skills (ALLIED TRADE SPONSORED) // ROOM: Directors

Getting the Most Out of Your Fertilizer Investment



Fred Hulme, ICL\Specialty Fertilizers

Discussion will focus on strategies to save money and resources, growing better plants and creating more valuable crops employing water soluble fertilizers, wetting agents and controlled release fertilizers. Topics will include fertilizer selection, best management practices, optimizing water use, decreasing shrinkage in the retail environment and offering a better performing plant at the consumer level. Please attend to hear useful tips to improve your nutrient management program. Note: attendees to this talk will be entered into a drawing to win a free audit of their fertilizer program by ICL Technical Service. Winner will receive a comprehensive report and some free product samples to try based on this report.

#### TRACK: Perennial Production // ROOM: Seminar

#### Biocontrol in Perennials for Indoor and Outdoor Production

Roger McGaughey, Pioneer Gardens, Inc.

Roger will discuss how to start and maintain a biological control program for indoor and outdoor production of perennial plants. He will talk about Pioneer Garden's lessons and innovations to monitor and apply beneficial insects.

#### Thursday, November 8 • 3:30 - 4:20 PM

#### TRACK: Business // ROOM: Colonial

#### Keys to Business Success(ion)

Erin Pirro, Farm Credit East



Succession planning is a lot more than just a retirement plan. Erin will discuss why having a strong Succession Plan is a key component of business profitability, and what you need to know about creating a Succession Plan for your business.

TRACK: Advanced Hydroponic Vegetable Production // ROOM: Cotillion Successfully Implementing BCA's in a Pest Management Program

Ronald Valentin, Bioline Agrosciences Inc

In this session, Ronald will focus on the keys to successfully implementing BCA's into a pest management program. Timing, choice of BCA's and how to introduce them, planning the program, and the question 'what can I still spray?' will be discussed.

TRACK: Perennial Production // ROOM: Seminar

Deer Resistant Plants and Cultivars

Sinclair Adam, Penn State Extension

This presentation will cover the plants that deer generally don't browse, plants they browse some of the time, and plants deer browse frequently, with emphasis on the plants that the deer generally don't eat. Learn which plants to grow successfully in heavily deer encumbered areas so as to minimize damage to a landscape by deer.

#### SINCLAIR ADAM

Penn State Extension, Lebanon, PA

#### Email: saa19@psu.edu

Sinclair has received a BS from the Univ. of Wyoming in Plant and Soil Science 1983, and a MS from the Univ. of Vermont in Plant and Soil Science 1988. He is an Extension Educator in Floriculture with Penn State Extension, based in Lebanon County PA, and Flower Trial Director since 2013. He has been in education at Univ. of Vermont (Adjunct) 2013, Temple University (Adjunct & Senior Lecturer) 2000-2006, & Temple University Research Fellow 2002-2006. Sinclair has published research on The Penn State Flower Trials, as well as on plant propagation, nitrogen nutrition of perennial plants, stock plant management, germplasm releases from 1990-2013 in ASHS proceedings, Journal of Environ Hort, HortScience, Perennial Plant Assn. Journal, Daylily journal, IPPS proceedings, and American Nurseryman. Holder of 15 plant patents, Sinclair has developed Tiarella, Chrysanthemum, and Phlox selections for industry, and is a member of ASHS, PPA, Pi Alpha Xi, & the Hardy Plant Society. Sinclair has been an invited speaker at numerous venues including IPPS, The Millersville Native Plant Conference, The Northeast Greenhouse Conference, The Perennial Plant Symposium, Western PA Greenhouse Conference, Greenhouse Grower's Day, The Mid-Atlantic Fruit & Vegetable Conference, Vermont Flower Show, and other PSU Extension events.

#### SUE ADAMS

Adams Greenhouses, Poughkeepsie, NY

Email: sooadams@aol.com

Sue Adams is vice-president of Adams Greenhouses, a five acre operation in Poughkeepsie, NY. Their largest account is the family's four garden centers which they supply with over four million garden plants. Sue works closely with Adams' marketing department, creating special promotions, brochures and website information. She is an award winning container designer, graduate of Cornell University, serves on the New England Floriculture Board and is president of New York State Flower Industries.

#### **REBECCA ADAMS**

Adams Fairacre Farms, Poughkeepsie, NY

Email: badams@adamsfarms.com

Rebecca Adams grew up in the greenhouse industry, working at Mark Adams Greenhouses until she left to pursue a career in Human Resources. She currently works in Human Resources at Adams Fairacre Farms in Poughkeepsie, NY, and teaches a course in Human Resource Management at the Culinary Institute of America in Hyde Park. Rebecca has her Master's degree from Penn State in Human Resource Management and specializes in benefits and workplace safety.

#### MAGGIE BRIDGE

Sam Bridge Nursery & Greenhouses, LLC, Greenwich, CT

Email: maggie@sambridge.com

Maggie has been working with plants at her family's garden center since childhood. In 2007 she graduated from the University of Colorado at Boulder with a BS in Business Administration and a dual emphasis in Marketing and Human Resource Management. For the past decade, she has been the Manager of Sales and Marketing at Sam Bridge Nursery & Greenhouses, LLC., a Connecticut Accredited Nursery Professional in 2009 and is a current Board Member of the Connecticut Nursery and Landscape Association.

#### MICHAEL BROWNBRIDGE

Vineland Research and Innovation Centre, Vineland Station, ON

Email: michael.brownbridge@vinelandresearch.com

Michael received his Ph.D. from the University of Newcastle Upon Tyne in the UK and has worked in biological control and crop management systems for over 25 years. His work has taken him to positions in Israel, Kenya, the USA and New Zealand prior to joining the Vineland Research and Innovation Centre in Canada as Research Director, Horticultural Production Systems in July 2009. He leads a diverse research team and an industry-focused portfolio of projects on production, biological control and integrated management systems for greenhouse, nursery, landscape and field vegetable crops.

#### STEPHANIE BURNETT

University of Maine, Orono, ME

Email: sburnett@maine.edu

Stephanie Burnett is an Associate Professor of Horticulture at the University of Maine in the School of Food and Agriculture. She graduated with a BS in Zoology and a MS in Horticulture from Auburn University and a PhD in horticulture from the University of Georgia. Her research focuses on greenhouse irrigation and fertilization; she is also working on improving propagation systems and protocols.

#### **BLAIR BUSENBARK**

Mycorrhizal Applications, Grants Pass, OR

Email: blair.busenbark@mycorrhizae.com

Blair Busenbark brings significant experience in the non-agriculture horticulture markets, where he served in technical, marketing and sales positions with Sun Grow Horticulture for 14 years and Ball Horticulture for 6 years. Blair received his Bachelor of Science from Utah State University, a Master of Science in Horticulture from the University of Maryland, and a Master of Business Administration, also from the University of Maryland. At Mycorrhizal Applications, Blair leads the MA sales team and develops a commercial strategy with a specific focus on the non-agriculture market segments including soil media, arboriculture, land restoration, landscaping, turf seed, nurseries, consumer retail, and others. His responsibilities include the sales and promotion of MA's products to current and new customers within the non-agriculture market segments, assessing new business opportunities, identifying changes in the market, providing technical support, servicing accounts, representing MA at industry events and trade shows, and working with the sales and executive team to develop the non-agriculture portions of MA's strategic marketing plan.

#### **RICHARD S. COWLES**

The Connecticut Agricultural Experiment Station, New Haven, CT

Email: richard.cowles@ct.gov

Dr. Rich Cowles obtained his degrees in entomology from Cornell and Michigan State Universities. He worked for four years at the University of California, Riverside, where he was the statewide research and extension entomology specialist for ornamentals entomology. For the past 24 years, he has worked as a scientist at the Valley Laboratory of the Connecticut Agricultural Experiment Station, where he is given the freedom to try to find practical and environmentally responsible solutions to nursery, forestry, small fruit, and Christmas tree pest problems.

#### **CHRISTOPHER J. CURREY**

Iowa State University, Ames, IA

Email: ccurrey@iastate.edu

Christopher J. Currey is an Assistant Professor of Horticulture in the Department of Horticulture at the Iowa State University, specializing in greenhouse and controlled-environment crop production. Dr. Currey received his B.S from the University of Minnesota. After graduating he went to work as a commercial orchid producer in Minnesota, and was also a horticulturist for the National Park Service, growing native plants for restoration at Glacier National Park. After realizing he wanted to teach, conduct research, and work with commercial growers, he went back to the University of Minnesota for his M.S. and then received his Ph.D. in from Purdue University. Chris has responsibilities in teaching, research, and Extension. He teaches courses on greenhouse operations and management, hydroponic food crop production, floriculture crop production, and landscape crop production. Chris' greenhouse crop and controlled-environment research is focused on providing research-based best-management practices to support commercial producers of ornamental and food crops to improve productivity, profitability, and sustainability using and managing light, temperature, mineral nutrition, and plant growth regulators.

#### MARGERY DAUGHTREY

Cornell University, Riverhead, NY

Email: mld9@cornell.edu

Margery Daughtrey is a Senior Extension Associate with the Section of Plant Pathology and Plant-Microbe Biology of Cornell University. She has conducted a research and extension program on the management of diseases of ornamental plants since 1978, at Cornell's Long Island Horticultural Research and Extension Center in Riverhead, NY. She educates growers on management of greenhouse and nursery crop diseases, runs a diagnostic laboratory and investigates controls for problems such as powdery mildew, impatiens downy mildew and boxwood blight. Daughtrey holds a B.S. degree in Biology from the College of William and Mary and an M.S. in Plant Pathology from the University of Massachusetts. Daughtrey is coauthor of several books, including Diseases of Herbaceous Perennials and the Compendium of Flowering Potted Plant Diseases as well as the new Compendium of Bedding Plant Diseases and Pests. She was named a Fellow of APS in 2012.

#### RYAN DICKSON

University of Arkansas, Fayetteville, AR Email: ryand@uark.edu Ryan is the Assistant Professor of the Department of Horticulture at the University of Arkansas. Areas of interest include nutrient, pH, and irrigation management for ornamental and hydroponic crops. Prior to earning his Ph.D., Ryan was a head grower at a commercial bedding plant and hydroponic greenhouse operation.

#### C.L. FORNARI

GWA, New York, NY Email: clfornari@gmail.com

C.L. Fornari is an author, speaker and the host of GardenLine on WXTK. She has been on the staff at Hyannis Country Garden, and IGC on Cape Cod, for 25 years and currently writes their blog, presents educational programs and runs their consultation service. As a member of GWA: The Association of Garden Communicators, she is living proof that writing and speaking skills can be taught and improved. When she's not writing and speaking, C.L. cultivates gardens on Poison Ivy Acres in Sandwich.

#### **ROCHELLE GREAYER**

GWA, New York, NY

Email: rochellgreayer@gmail.com

Rochelle has designed many gardens. There was the one for the RHS Hampton Court Flower Show (Bronze Medal, 2003) and the RHS Chelsea Flower Show (accepted by RHS, a someday project - that is forever seeking sponsorship). Also, a large handful of hotels and hospitality properties around the world and countless private gardens in the UK, Middle East, and USA. But she most enjoys teaching and encouraging others to find their own creative inspiration. And coaching them, so that they can build something that is uniquely theirs.

#### FRED HULME

ICL\Specialty Fertilizers, Amherst, MA

Email: Fred.Hulme@icl-group.com

Fred Hulme, Ph.D., is Technical Services Director, Ornamental Horticulture for ICL Specialty Fertilizer serving the greenhouse and nursery markets in USA & Canada. Primary job focus is on product development, technical marketing and sales support, problem solving and product training. He has had extensive experience with the Osmocote<sup>®</sup> controlled-release and Peters<sup>®</sup> Professional water-soluble fertilizer lines, The ICL Testing Lab (as well as professional growing media business) since 1989. Educations: B.S. and M.S. degrees in Plant & Soil Sciences from the University of Massachusetts and a Ph.D. in Ornamental Horticulture Cornell University. He lives in Amherst, MA.

#### CARMEN JOHNSTON {KEYNOTE PRESENTER}

Carmen Johnston Gardens, Columbus, GA

Email: carmen@carmenjohnstongardens.com

Looking at Garden Lifestyle Expert Carmen Johnston's roots, it's easy to figure out where she developed her affection for gardening. Her Austrian dad passed on his love of flora and fauna through the charming window boxes accenting her Georgia childhood home. Although she's earned two bachelor's degrees, it took meeting the love of her life, a greenhouse grower and flower farmer, before she really found her way back to her life's passion – decorating, entertaining and creating lifestyle solutions straight from the garden! Owner of Carmen Johnston Gardens, a nationally renowned commercial, residential and wedding flower and garden design business, Carmen's work and effortless entertaining style gained national attention from the best in the business. Carmen currently serves as a garden lifestyle expert for Southern Living and the popular Southern Living\* Plant Collection. When she isn't traveling across the country for public appearances, she is getting her hands dirty designing the perfect garden for her clients.

#### CHIERI KUBOTA

The Ohio State University, Coumbus, OH

Email: kubota.10@osu.edu

Dr. Chieri Kubota is a professor in the Department of Horticulture and Crop Science, the Ohio State University. Dr. Kubota received a Ph.D. in Horticultural Engineering and a M.S. in Horticultural Science from Chiba University, Japan. Dr. Kubota worked as faculty for 6 years in Chiba University, 16 years in University of Arizona and recently joined the Department of Horticulture and Crop Science at the Ohio State University. Her research program focuses on the development of science-based technologies in the area of controlled environment agriculture (CEA). Dr. Kubota's research includes value-added CEA crop production, vegetable grafting, soilless strawberry production, as well as LED lighting applications.

#### ANA LEGRAND

University of Connecticut, Storrs, CT

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Dr. Ana Legrand holds a PhD in Entomology from the University of Maryland. She is an extension entomologist in the Department of Plant Science and Landscape Architecture at the University of Connecticut. Her research interests include biological control and insect-plant interactions.

#### JAVIER E. LOPEZ

Altman Plants, Perris, CA

Email: jlopez@altmanplants.com

Degrees: B.S. from E.A.P - El Zamorano University (2000 - 2003), Technical Program - University of Florida (2011 - 2014), Current Position: Technical Service Manager - Altman Plants (2015 - current). Experience: I have been working with Altman Plants for almost 4 years, where I have been developing the technical service department in Southern California facilities, as well as the other facilities around the country. My duties are as follow: 1. Soil and Nutrition Management 2. Municipal and Recycled Water Management 3. Training Education Program 4. Pesticide Management 5. Plant Protection Management Laws and Regulation.

#### NEIL S. MATTSON

#### Cornell University, Ithaca, NY

Email: nsm47@cornell.edu

Neil S. Mattson earned a Ph.D. (2007) from the University of California Davis and M.S. (2002) and a B.A. (2000) from the University of Minnesota. He joined Cornell University in 2007 and is currently an associate professor and greenhouse extension specialist in the School of Integrative Plant Science. His research is focused on the physiology of both floriculture and vegetable crops in controlled environments. Research interests include: supplemental lighting strategies to improve crop quality and reduce greenhouse energy use, conventional and organic nutrient management, and plant abiotic stress physiology. He has authored or co-authored 41 peer review journal articles and 140 extension articles (bulletins, trade journal articles, podcasts); and has given more than 180 outreach presentations to 8,000 agriculture industry members. Mattson is director of Cornell Controlled Environment Agriculture group.

#### RICHARD MCAVOY

University of Connecticut, Storrs, CT Email: richard.mcavoy@uconn.edu Ricahrd is Head of the Department of Plant Science and Landscape Architecture at the University of Connecticut. He started working with greenhouse vegetable crops in the 1970's and served as extension specialist for greenhouse crops at UConn for over 25 years.

#### **ROGER MCGAUGHEY**

Pioneer Gardens, Inc., Deerfield, MA

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Roger McGaughey is the senior head grower at Pioneer Gardens in Deerfield, MA. He has a BSc. Honors Degree in Horticultural Science from the University of Reading. After obtaining his degree, Roger conducted practical training for six months in Germany, 1 month in Washington DC and five months in N. Ireland. He was a grower for 15 years at Geest Industries, Spalding, Lincs. in England. Then he moved to the U.S. and has worked in the northern U.S. for 31 years. Roger has 46 years of experience as a grower and is a columnist for GrowerTalks magazine.

#### ANDREW MEFFERD

Growing for Market magazine, Skowhegan, ME

Email: and rew@growing formarket.com

Andrew Mefferd has been the editor and publisher of Growing for Market magazine since 2016. Before that he spent seven years in the research department at Johnny's Selected Seeds, traveling internationally to consult with researchers and farmers on the best practices in greenhouse growing. He put what he learned to use on his own farm in Maine. For more about the magazine, visit www.growingformarket.com. Andrew grew up in Virginia with frequent trips to visit grandparent's farm in Pennsylvania. After going to journalism school at Concordia University in Montreal, Quebec, he wanted to start a farm on the family land. He apprenticed on farmssix states (Pennsylvania, California, Washington State, Virginia, New York State and Maine), started One Drop Farm in Pennsylvania, then moved the farm to Maine before working for Johnny's. In addition to greenhouse and hoophouse growing, he has a passion for helping growers succeed and promoting the local farming movement. One change he would like to see in the world is for more of our food to be produced closer to where it is eaten. Andrew also works as a consultant for natural greenhouse growing and sustainable agriculture. For more information go to www.andrewmefferd.com.

#### DUSTYN NELSON

Frank's Landscape Construction, Somers, CT

Email: dustyncnelson@gmail.com

Dustyn Nelson is a young nursery professional currently working as the inventory manager at the family-owned wholesale nursery and serving as a board member for the Connecticut Nursery and Landscaping Association. Formerly, he was employed as the business development coordinator at The Garden Barn Nursery, as well as the assistant manager at The University of Connecticut's flower and plant shop, UConn Blooms. During his time at each establishment, Dustyn developed locally-grown branding programs and marketing plans that utilized new ways to connect with the upcoming generation of consumers. He encourages companies to feel proud to be the most expensive. Dustyn's primary focus has always been to create a positive customer experience for every consumer, which led him to be selected as the 2016 NENA Young Nursery Professional of the Year for Connecticut.

#### **ERIN PIRRO**

Farm Credit East, Enfield, CT Email: Erin.Pirro@farmcrediteast.com

*Erin Pirro has been helping farmers large and small make their businesses run better since 2001. As a Certified Agricultural Consultant for Farm Credit East with a background in agricultural economics, Erin's focus has been on benchmarking and profitability improvement because sustainability means economics, too! At home, Erin's small family farm raises and markets sheep and wool products in southern New England.* 

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#### HUGH POOLE

Oldcastle, Anderson, SC

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Hugh has a varied background both academically and in the private sector. He received his BS and MS in Ornamental Horticulture from the University of Florida and his Ph. D. from Cornell University. His academic interests included plant pathology, tropical soils and international agricultural development. He served on the faculty of The Ohio State University, stationed at the Ohio Agricultural Research & Development Center with Research/Extension appointments for Commercial Floriculture and Greenhouse Energy Management programs. Hugh's employment includes managing an independent analytical lab and consulting service for horticultural crops in Florida, consulting activities in the Caribbean and Latin America covering cutting production, cut flowers, cut foliage and other horticultural crops. Hugh has a good understanding of the production practices of a wide range of crops as well as the economics and efficiencies of producing those crops. He has consulted for commercial growers and institutional organizations in over 20 countries. He has taught training classes for Extension personnel and growers in both English and Spanish. His strengths lie within a systems approach to production programs that include all inputs (crop, soil, water quality, nutrition, environmental factors, labor efficiency, crop selection, plant growth regulation and post-harvest care and handling of the crop). He is a keen and patient observer, who tries to keep recommendations practical and simple. Hugh works with a handful of clients predominantly in the area of horticultural substrates, organic fertilizers, crop lighting and sustainable cultural practices. Hugh consults with Oldcastle Lawn & Garden.

#### **ROSA E. RAUDALES**

University of Connecticut, Storrs, CT

Email: rosa.raudales@uconn.edu

Rosa E. Raudales is an assistant professor in Plant Science at the University of Connecticut. Rosa received a Ph.D. in Horticulture from the University of Florida, a M.Sc. in Plant Pathology from The Ohio State University, and a B.Sc. in Agricultural Science and Production Systems from Zamorano University. Rosa's research program focuses on understanding how to use low-quality water for irrigation of greenhouse crops. The Raudales team conducts research on control of plant pathogens in closed-loop hydroponics, evaluating factors that affect clogging of irrigation systems, safe use of reclaimed-water, and water treatment options for control of pathogens, algae, biofilm and residual chemicals. Rosa's research and outreach program address management of biological, chemical and physical parameters in water that affect the plan health and irrigation efficiency of greenhouse crops.

#### PAUL SELLEW

Little Leaf Farms, Devens, MA

Email: paul.sellew@littleleaffarms.com

With over 30 years of experience developing and leading successful companies, Paul has built a career on his belief in local and sustainable agriculture. As the founder and CEO of Little Leaf Farms and Backyard Farms, he brought locally-grown baby lettuce and tomatoes to the Northeast market. Paul also founded and served as CEO of Harvest Power, North America's largest processor of organics. Paul holds a Bachelor of Science in Horticulture from Cornell University.

#### CHERYL SMITH

University of New Hampshire, Durham, NH

Email: cheryl.smith@unh.edu

Cheryl is the Extension Plant Health Specialist with the University of New Hampshire. She received her BA in Biology from Plymouth State College, MS in Plant Pathology and Entomology from the University of Rhode Island, and PhD in Botany and Plant Pathology from UNH. Cheryl is also Director of the UNH Plant Diagnostic Lab, providing plant health diagnostic services for commercial producers, landscapers, arborists, land care firms and home horticulturists. She has been a diagnostic and Extension plant pathologist for over 30 years. Cheryl's additional responsibilities include delivering outreach educational programs on plant health and providing training in the identification and management of plant diseases and disorders. Her current teaching responsibilities focus on Introductory Plant Pathology. Cheryl is an avid gardener, who loves getting her 'hands dirty', talking to trees and sharing her love of plants (and plant pathology) with everyone. Her focus and passion is to help producers, landscape specialists, and home gardeners produce and maintain healthy plants.

#### ARIANA TORRES

Purdue University, West Lafayette, IN Email: torres2@purdue.edu

Dr. Ariana Torres is currently an assistant professor in the departments of Agricultural Economics and Horticulture & Landscape Architecture at Purdue University. Dr. Torres' primary responsibility is to develop and deliver marketing and economics educational programs to the specialty crop industry. Dr. Torres has over 9 years of experience working on the intersection of economics and the specialty crops industry. She works closely with a range of specialty crop growers including vertical farms and ornamental growers. Her expertise includes the economic modeling of adoption of new technologies, the development of decision making tools for specialty crop growers, and the economic impact of growers decision-making processes.

#### RONALD VALENTIN

Bioline Agrosciences Inc, Oxnard, CA

Email: RValentin@biolineagrosciences.com

Ronald Valentin was born in the heart of the greenhouse industry in the Netherlands. His family owned a greenhouse operation and his father started using biological control in 1971. At a very young age Ronald developed an interest for the "bugs" and as a teenager he was managing and producing the biological control agents for the family greenhouse operation. After finishing his education in crop protection management, biochemistry and vegetable production at the State Secondary College of Agriculture in De Lier the Netherlands, he embarked on a career in biological control in 1986. After working in biological control technical support in the Netherlands and several other European countries, he came to Canada for his first visit in 1996. After traveling to Canada once every 6 to 7 weeks in 1996 and 1997 he immigrated to Canada in December 1997. In March 2004 he became a Canadian Citizen. Over the years Ronald has worked with many growers to set up sustainable and effective pest management programs with a focus on using BCAs as a first line of defense. He also has trained and managed technical support teams in Europe, Canada and the USA. Ronald is currently Technical Lead and Commercial Manager for Bioline Agrosciences in North America and Director for Bioline Canada Inc. Ronald is very passionate about making an IPM and biological control approach work for each and every grower as well as reducing the use of pesticides for the betterment of the environment and the future.

#### PETER VAN BERKUM

Van Berkum Nursery, LLC, Deerfield, NH

Email: peter@vanberkumnursery.com

Peter holds a degree in Plant Science from UNH. He studied horticulture for a year in the Netherlands. He and his wife Leslie started Van Berkum Nursery 30 years ago, and currently supply natives and other perennials to the northern New England wholesale market. Peter was a recipient of the 2012 Perennial Plant Association Grower of the Year award.

#### SUZANNE WAINWRIGHT-EVANS

Buglady Consulting, Slatington, PA

Email: sw@bugladyconsulting.com

Suzanne Wainwright-Evans is a graduate of the University of FL with degrees in entomology and environmental horticulture. She has been working in the horticulture industry for more than 25 years. Her focus has been on biological control and using pesticides properly. She has worked throughout the United States and internationally consulting to greenhouses, nurseries, and gardens. She is the owner of Buglady Consulting, now in business 17 years.

#### JANEEN WRIGHT

Greenhouse Grower Magazine, Willoughby, OH

Email: jwright@meistermedia.com

Janeen Wright is Managing Editor of Greenhouse Grower and Greenhouse Grower TECHNOLOGY magazines. She has a B.S. in Horticulture from Brigham Young University in Provo, UT. Prior to working for Greenhouse Grower, Janeen worked as Horticulturist and Educator for The Herb Society of America.



#### ARYSTA LIFESCIENCE/ Booth # 52

Lee Rogers 24 Shore Road Wayne, NJ 07470 Phone: 973-839-9768 Email: lee.rogers@arysta.com www.nutricote-na.com Fertilizers

#### ASB GREENWORLD, INC/ Booth # 71

Trina Saxson P.O. Box Q West Point, VA 23181 Phone: 804-785-9260 Email: trinas@asbgreenworld.com www.Asbgreenworld.com Growing Medium, Peat, Retail Soils

#### AUTOMATED SYSTEMS/ Booth # 44

Patti Cullen 422 Highland Avenue, Suite 13 Cheshire, CT 06410 Phone: 203-250-7226 x2 Email: pattic@amtsystems.com www.amtsystems.com

Growers, Greenhouses, Garden Center, Landscapers

#### BALL SEED /S.B. MACHINERIE/

Booth # 15, 31 Therese LaTelle 622 Town Road West Chicago, IL 60185 Phone: 630-231-3600 Email: tlatelle@ballhort.com www.ballhort.com



Plant Materials, Greenhouse Equipment

#### BASF/ Booth # 69 Jeff Gabric 600 N Gay Street Mt Vernon, OH 43050 Phone: 515-450-1359 Email: jeff.gabric@basf.com Grower Supplies, Greenhouse and Nursery Chemicals

#### BAYER ORNAMENTAL PLANT

PROTECTION/ Booth # 10 Bob Froelich 5565 Hardwell Drive Hilliard, OH 43026 Phone: 614-969-9040 Email: bob.froelich@bayer.com www.backedbybayer.com/productionornamentals Herbicides,Fungicides, Insecticides for Greenhouse and Nursery

#### BIOBEST/ Booth # 81

Elwood Roberts 28777 Goddard Avenue, Suite 206 Romulus, MI 48174 Phone: 315-664-4664 Email: elwood@biobest-usa.com www.biobest-usa.com Insect Biological Controls, Pollination, Bio-stimulants

BIOLINE AGROSCIENCES/ Booth # 5 Greg Bryant 3623 Etting Road Oxnard, CA 93034 Phone: 805-986-8265 Email: gbryant@biolineagrosciences.com www.biolineagrosciences.com Biocontrol

See list by booth number on page 44 and floor plan on inside back cover

#### BIOSAFE SYSTEMS/ Booth # 45

Laura Bengston 22 Meadow Street East Hartford, CT 06108 Phone: 888-273-3088 Email: lbengston@biosafesystems.com www.biosafesystems.com Bio/Insecticides, Herbicides, Water Treatment

#### BIOWORKS, INC./ Booth # 3

Mark Farnham 100 Rawson Road, Ste. 205 Victor, NY 14564 Phone: 800-877-9443 Email: Mfarnham@bioworksinc.com www.bioworksinc.com Plant Nutrition, Insect Control, Disease Control

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CHESTNUT HILL MARKETING/ Booth # 89 Stan Brehm 75 Hutchinson Road Chichester, NH 03258 Phone: 603-798-4200 Email: chmstan@comcast.net www.chestnuthillmarketing.com Plant Material, Retail Products, Soils

#### COAST OF MAINE ORGANIC PRODUCTS/

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Organic Compost, Organic Potting Soils, Organic Fertilizers

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Email: dwren@leepub.com **GROWER** www.cfgrower.com

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DS COLE GROWERS/ Booth # 93 Douglas Cole 251 N Village Road Loudon, NH 03307 Phone: 603-783-9561 Email: doug@dscolegrowers.com www.dscolegrowers.com Greenhouse, Young Plants, Finished Plants

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#### EASTERN SHORE NURSERY

OF VIRGINIA/ Booth # 88 Robin Rinaca P.O. Box 400 Melfa, VA 23410 Phone: 757-787-4732 Email: rrinaca@esnursery.com www.esnursery.com Nursery Stock

#### FLUENCE BIOENGINEERING, INC/

Booth # 72 Steve Pride 4129 Commercial Center Drive, Suite 450 Austin, TX 78744 Phone: 512-212-4500 Email: steve.pride@fluencebioengineering.com www.fluence.science LED Lighting

FMC/ Booth # 39 Tracy Tudor 116 Fillmore Street Phoenixville, PA 19460 Phone: 215-704-6679 Email: Tracy.Tudor@fmc.com www.fmcprosolutions.com Greenhouses, Nursery, Turf

GREEN ISLAND DISTRIBUTORS/ Booth # 27 Kyle Defriest 730 W. Main Street Riverhead, NY 11901 Phone: 631-727-4993 Email: k.defriest@greenislanddistributors.com *Grower Supplies* 

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#### SONCO PIPE & TUBE/ Booth # 4

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www.stuppy.com Greenhouse, Benches, Greenhouse Accessories

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#### SUSTANE NATURAL FERTILIZER/

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#### SYNGENTA CROP PROTECTION/

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#### NEW YORK STATE FLOWER INDUSTRIES ASSOCIATION Sue Adams Phone: 845-471-8655

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#### RHODE ISLAND GREENHOUSE GROWERS/ RHODE ISLAND FARM BUREAU Joe Polenso Email: PippinOrchard@cox.net www.uri.edu/biocontrol

#### THE MASS FLOWER GROWERS ASSOCIATION(MFGA)

Teri Volante Boardman Phone: 781-444-2351 Email: teri@volantefarms.com www.massflowergrowers.com

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#### UNIVERSITY OF MASSACHUSETTS EXTENSION Geoffrey Njue

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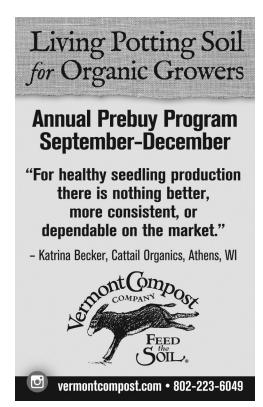
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# NOTES

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# NOTES

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MDAR Worker Protection/ Non-Profit Display Messersmith Manufacturing, Inc./ Booth # 41 Mycorrhizal Applications/ Booth # 48, 49 NESEED/ Booth # 24 New York State Flower Industries Association/ Non-Profit Display Nexus & Rough Brothers, Inc./ Booth # 83 Northeast Nursery, Inc./ Booth # 77, 78 OASIS Grower Solutions/ Booth #9 OESCO Inc./ Booth # 70 OHP/Booth # 50 Oldcastle Lawn & Garden/ Booth # 75, 76 Pace49 Inc./ Booth # 6 **PEX Inc.**/ Booth # 7, 8 Pioneer Gardens, Inc./ Booth # 90 PitMoss LLC/ Booth # 95A Pleasant View Gardens/ Booth # 96, 97 Premier Tech Horticulture/ Tabletop Display Prides Corner Farms/ Booth # 22, 23 Progressive Grower Agricultural Supply/ Booth # 12, 13 Rhode Island Greenhouse Growers/ Rhode Island Farm Bureau/ Non-Profit Display Rimol Greenhouse Systems/ Booth # 80 Secret Garden Herb Farm/ Booth # 1 Skagit Horticulture/ Booth # 82 Sonco Pipe & tube/ Booth # 4 Stuppy Greenhouses/ Booth # 26 Sun Gro Horticulture/ Booth # 29, 36 Sustane Natural Fertilizer/ Booth # 91 Syngenta Crop Protection/ Booth # 73 Texpak, Inc./ Booth # 61, 68 The Jim Reck Company LLC/ Booth # 57 The Mass Flower Growers Assoc. (MFGA)/ Non-Profit Display United Greenhouse Systems, Inc./ Booth # 42 University of Connecticut Extension/ Non-Profit Display University of Massachusetts Extension/ Non-Profit Display USDA-NASS, New England Field Office/ Non-Profit Display Vaughan's Horticulture/ Booth # 46 Vermont Compost Company/ Booth # 84 Vermont Nursery and Landscape Association/ Non-Profit Display Vermont Organics/ Booth # 38 Weaverline, LLC/ Booth # 87 Wellmaster Carts/ Booth # 53

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1 / Secret Garden Herb Farm 2 / East Jordan Plastics, Inc. 3 / Bioworks, Inc. 4 / Sonco Pipe & Tube 5 / Bioline AgroSciences 6 / Pace49 Inc. 7,8 / PEX Inc. 9 / OASIS Grower Solutions 10 / Bayer Ornamental Plant Protection 11 / IPM Laboratories, Inc. 12, 13 / Progressive Grower Agricultural Supply 14 / KOBA 15, 31 / Ball Seed /S.B. Machinerie 19, 20 / Jolly Farmer Products 21 / Lambert Peat Moss 22, 23 / Prides Corner Farms 24 / NESEED 25, 40 / Henry F. Michell 26 / Stuppy Greenhouses 27 / Green Island Distributors 28 / Harrells 29, 36 / Sun Gro Horticulture 37 / Gro 'n Sell, Inc 38 / Vermont Organics 39 / FMC 41 / Messersmith Manufacturing, Inc. 42 / United Greenhouse Systems, Inc. 43 / J R Peters Inc. 44 / Automated Systems 45 / BioSafe Systems 46 / Vaughan's Horticulture 47 / Charter Oak Nursery Sales 48, 49 / Mycorrhizal Applications 50 / OHP 51 / JP Bartlett Co, Inc. 52 / Arysta LifeScience 53 / Wellmaster Carts 54, 55 / Helena Agri-Enterprises, LLC 56 / Jet Harvest Solutions 57 / The Jim Reck Company LLC 58 / ICL Specialty Fertilizers 59 / GrowSpan 60 / King Farm

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- 73 / Syngenta Crop Protection
- 74 / Country Folks Grower
- 75, 76 / Oldcastle Lawn & Garden
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- 87 / Weaverline, LLC
- 88 / Eastern Shore Nursery of Virginia
- 89 / Chestnut Hill Marketing
- 90 / Pioneer Gardens, Inc.
- 91 / Sustane Natural Fertilizer
- 92 / Coast of Maine Organic Products
- 93 / DS Cole Growers
- 94 / Koppert Biological Systems
- 95 / LumiGrow Inc.
- 95A / PitMoss LLC
- 96, 97 / Pleasant View Gardens

#### Non-Profit/Tabletop Displays /

Connecticut Greenhouse Growers Association; Cornell University; Farm Credit East, ACA; Grimes Horticulture; Illumitex, Inc.; Johnny's Selected Seeds; Massachusetts Nursery and Landscape Association, Inc.; MDAR Worker Protection; New York State Flower Industries Association; Premier Tech Horticulture; Rhode Island Greenhouse Growers/ Rhode Island Farm Bureau; The Mass Flower Growers Assoc. (MFGA); University of Connecticut Extension; University of Massachusetts Extension; University of Rhode Island Extension; USDA-NASS, New England Field Office; Vermont Nursery and Landscape Association