






GREEN & GROWIN' 23 Education

Specialty Classes and Certifications | All programs take place at the Sheraton Greensboro at Four Seasons. Gain marketable skills and career-boosting credentials. Advance registration required.

Schedule is subject to change.

MONDAY, JANUARY 16 Lunch served at 11:30 AM	
8:30 AM-4:30 PM	Designing the Environmentally Responsive Landscape — A Nature Inspired Approach *NEW* <i>Biltmore Meeting Room</i> Dr. Richard Ludwig Bill Slack 
8:30-11:30 AM	Are All Lighting Systems Created Equal and Why Does it Matter? *NEW* <i>Auditorium II</i> Jason Shanabarger, Unique Lighting 
1:00-5:00 PM	Principles of Pruning: From Theory to Topiary *NEW* <i>Auditorium II</i> Bryce Lane, Teacher, Speaker, Horticulturist 
1:00-5:00 PM	NC Certified Plant Professional Exam <i>Auditorium III</i>

TUESDAY, JANUARY 17 Lunch served at 11:30 AM	
8:30 AM-5:00 PM	NC Commercial Pesticide Applicator Training School <i>Auditorium IV</i> Ben Grandon, NCSU Extension Associate Tyler Harran, NCDA&CS Pesticide Section Inspector Tom Bowman, NCSU Extension Associate Esther Morris, NCSU Extension Assistant Wayne Buhler, NCSU Professor 

WEDNESDAY, JANUARY 18 Lunch served at 11:30 AM	
8:30-11:30 AM	NC Commercial Pesticide Applicator Training School <i>Auditorium IV</i> Ben Grandon, NCSU Extension Associate Tyler Harran, NCDA&CS Pesticide Section Inspector Tom Bowman, NCSU Extension Associate Esther Morris, NCSU Extension Assistant Wayne Buhler, NCSU Professor 
1:00-5:00 PM	NCDA&CS Pesticide Exam <i>Auditorium IV</i>

Professional Credits (CEU) Key Attend the sessions of your choice to earn continuing education credits toward state or national accreditations. Look for the icons below.

- **LC** Landscape Contractor License (NC) — Technical CEU
- **NALP** National Association of Landscape Professionals — Landscape Industry Certified
- **LCB** Landscape Contractor License (NC) — Business CEU
- ▲ **SAF** Society of American Foresters — Certified Forester
- **LA** Landscape Architect License (NC)
- ▲ **CPP** Certified Plant Professional
- **IC** Irrigation Contractor License (NC) — Technical Irrigation CEU
- Earn CEUs when you walk the Marketplace floor:**
- **ICB** Irrigation Contractor License (NC) — Business CEU
- (1) ● (2)
- **PA** Pesticide Applicator License (NC)
- See pg. 25 for additional details.
- **ISA** International Society of Arboriculture — Certified Arborist

Monday, January 16

Designing the Environmentally Responsive Landscape — A Nature Inspired Approach

8:30 AM – 4:30 PM



Dr. Richard Ludwig
Bill Slack

(Pending: ISA; Approved: LC-5, NALP-8, SAF- 7.0 Cat. 1, CPP-8, LA-7.5)

This full-day, hands-on workshop is for green industry professionals wishing to create stunning and earth-friendly designs. This residence-centered course focuses on weaving ecologically sound concepts into traditional residential landscape design. Additionally, basic graphics instructions will be provided during this course to show attendees how to efficiently communicate their ideas boldly on paper. An in-depth, interactive discussion of curvilinear based drift designing will be included, as well.

The following materials will be provided: circle template, drafting pencils (8B, HB, 4H), eraser, erasing shield, flexible curve, French curve, tracing paper, gridded vellum.

Monday, January 16

Are All Lighting Systems Created Equal and Why Does it Matter?

8:30 AM - 11:30 AM



Jason Shanabarger, Unique Lighting

(Pending: LA; Approved: LC-3, NALP-3, CPP-3)

Adding lighting can take a landscape from boring to exceptional...if you know what you're doing. This hands-on workshop will expand your knowledge of lighting design by highlighting the current trends in the industry and the options available in the market. Attendees will learn proper wiring techniques and how to troubleshoot common lighting issues. Before the end of the workshop, attendees will learn how properly use night photography to expand their portfolio, ultimately attracting new clients.

Monday, January 16

Principles of Pruning: From Theory to Topiary

1:00 PM - 5:00 PM



Bryce Lane, Teacher, Speaker, Horticulturist and Host of "In the Garden with Bryce Lane"

(Approved: LC-4, LA-4.0, ISA-Certified Arborist: 3.75, BCMA - Practice: 3.75, TW Climber Specialist: 3.75, TW Aerial Lift Specialist: 3.75, NALP - 4, SAF- 4.0 Cat. 1, CPP-4)

Pruning is a cultural practice based on scientific principles and artistic creativity. This workshop is designed to equip landscape professionals with the essential pruning information needed to create the best landscapes possible. Theory, tools, technique and timing of plant pruning is key to any thriving landscape. The session will also cover unique and historical pruning techniques, including topiary, pollarding, espalier, coppicing, pleaching, and formal hedge pruning that may be ideal for the landscapes they create and maintain.

Monday, January 16

NC Certified Plant Professional Exam

1:00 PM - 5:00 PM

The North Carolina Certified Plant Professional Certification is a written and plant identification exam that seeks to recognize proficiency in the green industry's workforce, upgrade the status of industry professionals and provide the public with a means of identifying qualified green industry professionals. All exam takers must be approved to sit for the exam prior to Green & Growin'.

Tuesday, January 17 and Wednesday, January 18

NC Commercial Pesticide Applicator Training School

Day 1: 8:30 AM - 4:45 PM

Day 2: 8:30 AM - 11:30 AM

Day 2, Exam: 12:30 PM - 5:00 PM

(NC Pesticide Applicators Licensing Exam administered by NCDA&CS, separate exam fee required)



Ben Grandon, NCSU Extension Associate

Tyler Harran, NCDA&CS Pesticide Section Inspector

Tom Bowman, NCSU Extension Associate

Esther Morris, NCSU Extension Assistant

Wayne Buhler, NCSU Professor

(Approved: LC-4, ISA-Certified Arborist: 9.5, BCMA - Science: 4, BCMA - Management: 5.5, NALP- 9.5, SAF- 3.5 Cat. 1/ 3.0 Cat. 2, CPP- 9.5)

The school takes place over a 1 1/2-day period and reviews pesticide material (manuals) so that attendees may be better prepared to take the NCDA&CS pesticide exams, NC State Extension Specialists, County Extension Agents, and NCDA&CS Pesticide Inspectors present lessons from the Pesticide Education Program's manuals and answer questions or offer clarification on issues that applicators face.

2023 License Requirements

Proof of Attendance forms will be provided for each session attendees scan into within 30 days of the show closing; a link to these forms will be emailed to attendees. The information provided was extracted from the corresponding licensing boards' websites, for current licensing requirements, please contact your licensing board.

NC Landscape Contractors

- All licensed landscape contractors must personally complete seven (7) hours of Board Approved Continuing Education per year. Three (3) of seven (7) CE credits must be "landscape (technical)" credits and two (2) of seven (7) must be "business" credits. The remaining two (2) may be either landscape or business.
- For more info, visit nclclb.com

NC Irrigation Contractors

- Licensees are required to earn ten (10) continuing education credits each year, six (6) irrigation and four (4) business.
- For more info, visit nclclb.org

NC Landscape Architects

- In order for a licensee to qualify for license renewal as a Landscape Architect in North Carolina, the licensee must have completed ten (10) contact hours of approved continuing education within the previous renewal period.
- For more info, visit ncbola.org
- At the time of publishing, all pending LA credits will be reviewed by the NCBOLA on January 31, 2023.

NC Pesticide Applicators

- The type of credits each session is approved for is listed under the individual session (D, L, etc.)
- For more info, visit ncagr.gov

Out of State Pesticide Applicators

- Several of our pesticide credits have been approved by out-of-state licenses. Please contact education@ncnla.com to confirm the approved sessions for non-NC licenses.
































International Society of Arboriculture

- The type of credits each session is approved for is listed under the individual session (Certified Arborist, Municipal Specialist, etc.)
- At the time of publishing, all pending ISA credits are still under review by the ISA.
- For more info, visit isa-arbor.com


Society of American Foresters




- Candidate Certified Forester's (CCF) must complete 15 CFE credit hours annually.
- Certified Forester's (CF) must complete 60 CFE credit hours within a three-year period.
- For more info, visit eforester.org





TUESDAY, JANUARY 17 • 7:30-8:30 AM: Check-in & Coffee

EDUCATION TRACKS	MANAGEMENT PRINCIPLES	LANDSCAPE OPERATIONS	BUSINESS OPERATIONS	PESTS, WEEDS & DISEASES
Location	Auditorium II	Guilford D	Guilford E	Guilford FG
8:30-9:20 AM	Budgeting & Estimating <i>Ken Thomas, Envisor Consulting</i> <i>Ben Gandy, Envisor Consulting</i>  APPROVED	Nuts & Bolts of Pruning: Theory, Tools, Technique & Timing <i>Bryce Lane, Teacher, Speaker, Horticulturist</i>  APPROVED	Measure What You Manage <i>Connie Hoyes, Southern Garden Inc.</i>  APPROVED	Timely Management of Scale Insects <i>Dr. Juang "JC" Chong, Clemson University</i>  APPROVED
9:30-10:20 AM	Valuation of Landscape Contracting Businesses: What's My Business Worth, and What Are Three Things I Can Do To Increase the Long Term Value? <i>Kurt Bland, Bland Landscaping</i> <i>Matt Bland, Bland Landscaping</i>  APPROVED	Sowing the Seeds of Success with Lighting Design <i>Jason Shanabarger, Unique Lighting</i>  PENDING  APPROVED	How to KNOW How Your Customers Use Your Website <i>Timothy Howard, Clarity Connect, Inc.</i>  APPROVED	Integrated Pest and Pollinator Management for Ornamental Plants <i>Dr. Adam Dale, University of Florida</i> <i>Jaret Daniels, Florida Museum of Natural History's McGuire Center</i>  APPROVED
10:30-11:20 AM	The Importance of Shift, Change, and Innovation in an Uncertain Economy <i>Steve Steele, Steele Dynamic Services</i>  APPROVED	Keys to Success: 15 Perennials for Landscapes <i>Kata Kress Wallace, Walters Gardens Inc.</i>  APPROVED	5 Steps to Safe Digging <i>Tami Groves, NC811</i>  PENDING  APPROVED	Management of Soilborne Diseases in the Greenhouse, Nursery and Landscape <i>Inga Meadows, NCSU</i>  APPROVED
11:30 AM-12:50 PM	11:30 AM-12:00 PM — Lunch • 12:00-12:50 PM — Keynote Marty Grunder, President & CEO of Grunder Landscape Company and The Grow Group More Than Just a Job: How to Be a Great Team Player (LCB-1, ICB-1, NALP-1, SAF-0.50 Cat. 2, CPP-1)  APPROVED			
1:00-1:50 PM	Achieving Sustainable Growth for Your Landscape Company <i>Bryan Mours, Mours Enterprises, LLC</i>  APPROVED	Defining Spaces for Synthetic Grass <i>Dana Heredia, XGrass</i>  PENDING  APPROVED	Intro to Financial Statements — Taking the Mystery Out of Financial Reports <i>Steve Steele, Steele Dynamic Services</i>  APPROVED	Red-Headed Flea Beetle Integrated Pest Management <i>Danny Lauderdale, NCSU</i>  PENDING  APPROVED
2:00-2:50 PM	The Keys to Success: Using Training and Incentives to Set Your Team Up <i>Marty Grunder, The Grow Group</i>  APPROVED	National Pesticide Safety Education Center Pollinator Collaboration Efforts <i>Kara Maddox, NPSEC</i> <i>Diane Johnston, Blackhawk Audio Group</i>  APPROVED	How to Create a Digital Marketing Strategy, Where to Start? <i>Brandon Schmidt, YDOP</i>  APPROVED	Practical Aspects of the Use of Plant Growth Regulators <i>Jozsef Racsko, Mycorrhizal Applications</i>  APPROVED
3:00-3:50 PM	H-2A Discussion <i>Andy Jackson, Andrew Jackson Law</i>  APPROVED	Segmental Retaining Wall Basics <i>Brad Stowe, Chandler Concrete</i>  APPROVED	How Healthy is Your Employee Handbook? <i>Christine Mayhew, Jones Insurance</i>  APPROVED	Integrated Pest Management of European Pepper Moth <i>Dr. Steve Frank, NCSU</i>  PENDING  APPROVED

Professional Credits (CEU) Key Attend the sessions of your choice to earn continuing education credits toward state or national accreditations. Look for the icons below.

-  **LC** Landscape Contractor License (NC) — Technical CEU
-  **LCB** Landscape Contractor License (NC) — Business CEU
-  **LA** Landscape Architect License (NC)

-  **IC** Irrigation Contractor License (NC) — Technical Irrigation CEU
-  **ICB** Irrigation Contractor License (NC) — Business CEU
-  **PA** Pesticide Applicator License (NC)

-  **ISA** International Society of Arboriculture — Certified Arborist
-  **NALP** National Association of Landscape Professionals — Landscape Industry Certified
-  **SAF** Society of American Foresters — Certified Forester
-  **CPP** Certified Plant Professional

Earn CEUs when you walk the Marketplace floor:
 (1)  (2)

MANAGEMENT PRINCIPLES

8:30 AM – 9:20 AM

Budgeting and Estimating



Ken Thomas, Envisor Consulting
Ben Gandy, Envisor Consulting

(Approved: LCB-1, ICB-1, NALP-1, SAF- 0.50 Cat.2, CPP-1)

Don't miss Envisor's fact-based approach to budgeting and estimating. Don't get caught without knowing your costs! Budgeting will set the financial plan for the year and bidding starts with a fact-based understanding of costs but ends with a strategic approach to pricing. You will learn how to be proficient at estimating and strategic with your bidding—ultimate keys to success in the landscape industry.

9:30 AM – 10:20 AM

Valuation of Landscape Contracting Businesses; What's My Business Worth, and What Are Three Things I Can Do to Increase The Long Term Value?



Kurt Bland, Bland Landscaping
Matt Bland, Bland Landscaping

(Approved: ICB-1, NALP-1, CPP-1)

Join brothers, Kurt and Matt Bland, for an in-depth session where they will share knowledge gained from their experience with mergers and acquisitions. Under their leadership throughout the past twenty years, Bland Landscaping Company has grown more than 500%. Since recapitalizing their family business in 2017 to include private equity partners, Kurt and Matt have participated in valuation, negotiation and integration of multiple companies as add-on acquisitions to their platform. Along the way, they have been privileged to gain firsthand knowledge about what drives value in landscaping companies and how owners can positively or negatively affect enterprise value through everyday business practices.

This session is intended for landscaping company owners and senior executives.

10:30 AM – 11:20 AM

The Importance of Shift, Change, and Innovation in an Uncertain Economy



Steve Steele, Steele Dynamic Services

(Approved: LCB-1, ICB-1, NALP-1, SAF- 0.50 Cat.2, CPP-1)

It may be difficult to know what the right decisions are to remain successful when there is so much economic uncertainty. Do you continue to do the same things that have brought previous success? Or do you change everything? This session will explore key areas such as economic forecasts, financial reports, ratio analysis, and dashboarding that can help provide the necessary information to support good decision making in some of the most challenging times many of us have ever seen.

1:00 PM – 1:50 PM

Achieving Sustainable Growth for Your Landscape Company



Bryan Mours, Mours Enterprises, LLC

(Approved: LCB-1, ICB-1, NALP-1, SAF- 0.50 Cat.2, CPP-1)

Landscape companies have traditionally been run and grown without truly having good processes in place or a true understanding of the business' performance. In today's world, technology plays a key role in providing business owners a tool to build processes around and to collect data that aid in proper performance analysis. This session will discuss how to identify and utilize technology to achieve sustainable growth.

2:00 PM – 2:50 PM

The Keys to Success Using Training and Incentives to Set Up Your Team for Setting Up



Marty Grunder, The Grow Group

(Approved: LCB-1, ICB-1, NALP-1, SAF- 0.50 Cat.2, CPP-1)

Getting your team to do what you want and need them to do starts with training employees on how to do it and communicating expectations. In this session, Marty Grunder will share how to train and motivate your team at to accomplish all jobs on time and under budget. This session is for owners who want to build a culture where everyone is working towards the same goals.

3:00 PM – 3:50 PM

H-2A Discussion



Andy Jackson, Andrew Jackson Law

(Approved: NALP-1, CPP-1)

Attorney Andrew Jackson represents H-2A and H-2B employers and will share his expertise by providing an overview of the H-2A temporary agricultural visa program for nurserymen. The course will open with a summary of the application process from start to finish; employer eligibility requirements to participate; foreign worker eligibility requirements for a visa; requirement to recruit U.S. workers first; H-2A employer obligations; compliance and enforcement issues; and Q&A session at the end.

LANDSCAPE OPERATIONS

8:30 AM – 9:20 AM

Nuts & Bolts of Pruning: Theory, Tools, Technique & Timing



Bryce Lane, Teacher, Speaker, Horticulturist and Host of "In the Garden with Bryce Lane"

(Approved: LC-1, LA-0.83, ISA- Certified Arborist: 0.75, BCMA - Practice: 0.75, TW Climber Specialist: 0.75, TW Aerial Lift Specialist: 0.75, NALP-1, SAF- 0.50 Cat.1, CPP-1)

This session is designed to equip horticultural professionals in the art and science of pruning. We will talk about how plants grow, pruning theory, tools, technique, timing, and look at unique and historical pruning techniques, such as topiary, pollarding, espalier, coppicing, rejuvenation, and pleaching.

9:30 AM – 10:20 AM

Sowing the Seeds of Success with Lighting Design



Jason Shanabarger, Unique Lighting

(Pending: LA; Approved: LC-1, NALP-1, CPP-1)

Adding lighting can take a landscape from boring to exceptional...if you know what you're doing. This class will expand your knowledge of lighting design by highlighting the current trends in the industry and the options available in the market. We will focus on design elements that can enhance your projects and add more profit to your bottom line as well as creating incredible lighting portraits.

10:30 AM – 11:20 AM

Keys to Success: 15 Perennials for Landscapes



APPROVED

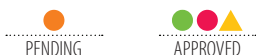
Kata Kress Wallace, Walters Gardens Inc.

(Approved: LC-1, LA-0.83, NALP-1, CPP-1)

Perennials have broad appeal—they're excellent pollinator plants and they offer solutions for many different spaces. But annuals and shrubs have been the traditional go-to plants for landscape design. Contractors aren't always confident about installing and caring for perennials, especially in the heat and humidity of the South. This session will introduce 15 top landscape perennials and cover the keys to using them successfully. You'll find out how to manage them from purchase, to planting, to long-term performance. You'll also get general cultural management tips for perennial success in the South, all allowing you to confidently offer your clients value-added service with the long-term appeal of perennial plants.

1:00 PM – 1:50 PM

Defining Spaces for Synthetic Grass



PENDING

APPROVED

Dana Heredia, XGrass

(Pending: LA; Approved: LC-1, NALP-1, CPP-1)

This presentation will bring to light, the environmental benefits of synthetic grass and how it can enhance everyday applications in commercial and residential settings. We will cover safety with regards to playgrounds and IPEMA certification. Additionally, this course will provide a general knowledge of installation, manufacturing, and how turf has evolved since its development.

2:00 PM – 2:50 PM

National Pesticide Safety Education Center (NPSEC) Pollinator Collaboration Efforts



APPROVED

Kara Maddox, NPSEC

Diane Johnston, Blackhawk Audio Group

(Approved: LA-0.83, PA-H : 1.0, L : 1.0, N : 1.0, D : 1.0, X : 1.0, PA-Certified Arborist: 0.75, BCMA - Management: 0.75, NALP-1; SAF-0.50 Cat. 1, CPP-1)

The NPSEC supports and serves extension Pesticide Safety Education Programs to be the premier national source of high-quality research-based pesticide safety education. NPSEC's Creative Director of Communication, Kara Maddox, joins Diane Johnston from Blackhawk Audio Group to discuss NPSEC's Collaboration Teams and how their work benefits industry professionals. The NPSEC has introduced a pollinator webinar series to feature Rights-of-Way for Habitat working groups and utilizing an NTAE grant to expand pollinator education to underserved populations. This session will present Oregon State University's study on nurseries and public pollinator messaging and identify how landscape contractors, landscape architects, and pesticide applicators can embrace this messaging and communicate the importance of pollinator health to their clients.

3:00 PM – 3:50 PM

Segmental Retaining Wall Basics



APPROVED

Brad Stowe, Chandler Concrete

(Approved: LC-1, LA-0.83, NALP-1, CPP-1)

Retaining walls may seem simple, but without proper knowledge of the basic steps, precautions, and products available to make your next retaining wall project a success, your next project may set your business up for litigation concerns. This session will also show a step-by-step guide on building a Segmental Retaining Wall and cover practices to avoid that contribute to the most common wall failures. Other topics covered will include Gravity Walls vs. Reinforced Walls and when an Engineer should be consulted on your project.

BUSINESS OPERATIONS

8:30 AM – 9:20 AM

Measure What You Manage



APPROVED

Connie Hoyes, Southern Garden Inc.

(Approved: LCB-1, ICB-1, NALP-1, SAF-0.50 Cat.1, CPP-1)

Learn to use spreadsheet management tools to allow all team members to work with uniform quantities, costs, budget man hours, and unexpected costs. This session will show how to streamline a job (contract) from estimating through job costing and completion.

9:30 AM – 10:20 AM

How to KNOW How Your Customers Use Your Website



APPROVED

Timothy Howard, Clarity Connect, Inc.

(Approved: ICB-1, NALP-1, CPP-1)

Your website is too important to guess how it may be utilized. Relying on a handful of customers who talk to you about your website is equally as dangerous. Instead, you can use inexpensive and/or free technology to KNOW how your website is used.

Learn how to identify pain points by reviewing the most common pages that receive 'angry clicks'. This session will also cover how to increase your focus on not-so-obvious 'website wins'.

- Tools and data used include:
- Automatic screen recordings of how your customers use the site
- Heat Maps showing where customers click on a page
- Live Chat
- Statistics on how long customers are on your site in general, but also on specific pages
- What pages your customers leave your site from most frequently

This will be an interactive presentation. Attendees will leave with a list of ideas and solutions they can implement immediately, with very little time or money required.

10:30 AM – 11:20 AM

5 Steps to Safe Digging



PENDING

APPROVED

Tami Groves, NC811

(Pending: ISA; Approved: LC-1, ICB-1, NALP-1, SAF-0.50 Cat.2, CPP-1)

In this session, you will learn about the resources available from NC 811, a non-profit organization created to promote damage prevention and safe digging through communication of excavation activities and educating facility operators, excavators, and the general public. Parrish Reddick will not only present safe excavation practices, but also review NC laws and the Underground Damage Prevention Safety Act to help you ensure you aren't digging your business into a hole by not knowing the laws that apply to your practices.

1:00 PM – 1:50 PM

Intro to Financial Statements – Taking the Mystery Out of Financial Reports



APPROVED

Steve Steele, Steele Dynamic Services LLC

(Approved: LCB-1, ICB-1, NALP-1, SAF-0.50 Cat.2, CPP-1)

Now that you are a manager, does it seem assumed you understand financial reports such as the profit and loss statement and balance sheet? Or the terms associated with them, like gross margin, net contribution margin, overhead, fixed and variable costs, and dozens of others you are suddenly expected to know to manage your branch, division or department? In this session, we'll explore the most common financial terms and reports you need to know and understand to be successful in your role as a leader in your organization.

2:00 PM – 2:50 PM

How to Create a Digital Marketing Strategy, Where to Start?



Brandon Schmidt, YDOP

(Approved: ICB-1, NALP-1, CPP-1)

Are you confident your company's digital marketing campaigns are growing your business? Are you even using the right strategy to grow? If you are like some landscape company owners or managers, you are unsure exactly how much of an impact your digital marketing is having on your business growth.

In this session, you will discover a framework for building a digital marketing strategy in the green industry. We'll go over important topics like identifying your audience, crafting your unique message, narrowing down your marketing channels, budgeting for marketing growth, and measuring the results and effectiveness of your digital marketing efforts.

3:00 PM – 3:50 PM

How Healthy is Your Employee Handbook?



Christine Mayhew, Jones Insurance

(Approved: LCB-1, ICB-1, NALP-1, SAF- 0.50 Cat.2, CPP-1)

No two employee handbooks will ever be the same due to company terminology, policy variations and the desired amount of detail wanted by management. Providing your employees with a complete handbook will foster better employer-employee relations by informing employees of the company expectations. The keys to creating a successful employee handbook will be explored in this session and include how to enforce the policies, remain consistent and approach training.

PESTS, WEEDS & DISEASES

8:30 AM – 9:20 AM

Timely Management of Scale Insects



Dr. Juang "JC" Chong, Clemson University

(Approved: LC-1, PA- L : 1.0, N : 1.0, D : 1.0, X : 1.0, ISA- Certified Arborist: 0.75, BCMA - Science: 0.75, NALP-1, SAF- 0.50 Cat. 1, CPP-1)

Scale insects are one of the most common and most difficult to control pests of ornamental plants. Successful management of scale insects relies on applying insecticides or other management tools at the right time which, in turn, depends on the species of offending scale insects. This presentation will discuss the most common scale insect species and the best time in managing their populations, thus helping to achieve the most effective management possible.

9:30 AM – 10:20 AM

Integrated Pest and Pollinator Management for Ornamental Plants



Dr. Adam Dale, University of Florida

Jaret Daniels, Florida Museum of Natural History's McGuire Center

(Approved: LC-1, PA- L : 1.0, N : 1.0, D : 1.0, X : 1.0, ISA- Certified Arborist: 0.75, BCMA - Management: 0.75, NALP-1, SAF- 0.50 Cat. 1, CPP-1)

Integrated pest management (IPM) is a well-established management framework to reduce pests with minimal negative effects on non-target organisms and the environment. In recent years, mounting evidence indicates that several insect pollinators, including bees and butterflies, are declining due primarily to habitat loss and pesticide use. This has triggered a need for pest and plant management strategies that also prioritize protecting pollinators, or integrated pest and pollinator management (IPPM). During this session, we will discuss the importance of protecting pollinators, the effects of insect pests on pollinators, and how pest management strategies can be tailored to reduce damaging pests while still protecting pollinators. We will discuss recent research from the

University of Florida identifying the importance of managing insect pests on wildlife-friendly plants, but also the risks that come with that. We will also discuss recent work evaluating several insecticides and insecticide programs to safely manage insect pests on pollinator-friendly plants. Finally, we will discuss a new professional development opportunity offered through the University of Florida for professionals to obtain a Certificate in Pollinator Protection to benefit you, your businesses, and the environment.

10:30 AM – 11:20 AM

Management of Soilborne Diseases in the Greenhouse, Nursery and Landscape



Inga Meadows, NCSU

(Approved: LC-1, PA- L : 1.0, N : 1.0, D : 1.0, X : 1.0, ISA- Certified Arborist: 0.75, BCMA - Management: 0.75, NALP-1, SAF- 0.50 Cat. 1, CPP-1)

Soilborne diseases can be particularly difficult to manage because they survive for a long time in soil and spread readily by water splash or moving infested soil. No single strategy is effective; rather, an integrated approach is necessary to minimize disease problems. This presentation will help you identify the most common soilborne disease problems, highlight research efforts into tracking species of Phytophthora in greenhouse production, and identify effective fungicides and resistant varieties to help reduce soilborne disease problems.

1:00 PM – 1:50 PM

Red-Headed Flea Beetle Integrated Pest Management



Danny Lauderdale, NCSU

(Pending: ISA; Approved: LC-1, PA- L : 1.0, N : 1.0, D : 1.0, X : 1.0, NALP-1, SAF- 0.50 Cat. 1, CPP-1)

The red-headed flea beetle is a major pest of container-grown deciduous and evergreen shrubs that result in lost or delayed sales, returns, or credits. In this session you will learn about the life cycle of this insect, how to use growing degree days and weather conditions to help determine when and how to scout for larvae and adults, how production techniques, location and inventory management can help manage populations, and options for treating at egg, larvae, and adult stages depending on your production systems in place.

2:00 PM – 2:50 PM

Practical Aspects of the Use of Plant Growth Regulators



Jozsef Racsko, Mycorrhizal Applications

(Approved: LC-1, PA- L : 1.0, N : 1.0, D : 1.0, X : 1.0, ISA- Certified Arborist: 0.75, BCMA - Management: 0.75, NALP-1, SAF- 0.50 Cat. 1, CPP-1)

Mycorrhizal Applications presents this technical session to learn about practical aspects of the use of plant growth regulators in nursery production and landscaping. This presentation will review results from commercial trials and research experiments and provide guidance on how to interpret such research information. This will help growers find the right solution tailored to their crop and growing conditions. We will discuss how growing protocols can be adjusted to specific conditions to take full advantage of plant growth regulator products.

3:00 PM – 3:50 PM

Integrated Pest Management of European Pepper Moth











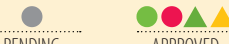





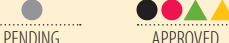

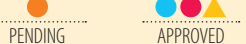

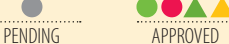

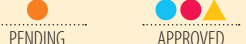





Dr. Steve Frank, NCSU


(Pending: ISA; Approved: LC-1, PA- L : 1.0, N : 1.0, D : 1.0, X : 1.0, NALP-1, SAF- 0.50 Cat. 1, CPP-1)




In this session we will discuss the biology and management of European pepper moth. European pepper moth is an exotic pest that damages greenhouse and nursery crops throughout the southeast. There is little research on this pest, but we have been studying it for the past two years. We will discuss monitoring and scouting protocols, identification, and insecticide management.





WEDNESDAY, JANUARY 18 • 7:30-8:30 AM: Check-in & Coffee

EDUCATION TRACKS	IRRIGATION Coordinated by the Carolinas Irrigation Association	LANDSCAPE OPERATIONS	URBAN FORESTRY & ARBORICULTURE Coordinated by the North Carolina Urban Forest Council	TURF MANAGEMENT Coordinated by the North Carolina Sod Producers Association	
Location	Auditorium II	Guilford D	Guilford E	Guilford FG	
8:30-9:20 AM	Defining Your Value Proposition, Discovering Your Path to Productive Solutions Chris Keating, The Toro Company  APPROVED	Business Tax in 4 Steps Shiloh Johnson, ComplyAnt  APPROVED	Pick it Right - Plant it Right = Successful Projects Dr. Barbara Fair, NCSU  PENDING APPROVED	Using www.turffiles.ncsu.edu and Extension Publications Dr. Grady Miller, NCSU  APPROVED	
9:30-10:20 AM	Regulations Regulating Regulation Chris Keating, The Toro Company  PENDING APPROVED	Hardscaping Options and Selections Erik Hagen, SiteOne  APPROVED	Soil Moisture: Top Factor For Newly Planted Tree Survival Dr. Wei Zhang, Zynnovation, LLC Dan Whitehead, Hortsource  PENDING APPROVED	Managing Insect Pests in Warm and Cool Season Turf using IPM Techniques Terri Billeisen, NCSU  APPROVED	
10:30-11:20 AM	What Do You Mean Drip Irrigation is Inefficient? Kurt Thompson, K. Thompson & Associates, LLC  PENDING APPROVED	The Basics and Necessities of Business Contracts Eric Jones, Turf Teacher  APPROVED	ABCs of Young & Small Tree Pruning Andy Pleninger, NC Forest Service  PENDING APPROVED	Identification and Management of Difficult Landscape Turf Weeds Fred Yelverton, NCSU  APPROVED	
11:30 AM-12:50 PM	11:30 AM-12:00 PM — Lunch • 12:00-12:50 PM — Keynote Kim Eierman, Founder of EcoBeneficial LLC Taking Landscapes to the Next Level: From Leveraging Ecosystem Services to Changing Cultural Norms (LC-1, LA - 0.83, ISA-Certified Arborist: 0.75, BCMA Management: 0.75, NALP-1, SAF- 0.50 Cat. 2, CPP-1)  APPROVED With increasing development and diminishing natural areas, our landscapes have become the final frontier for environmental improvement. Learn the latest strategies to take any landscape to the next level. Enhancing biodiversity, emulating natural systems, leveraging ecosystem services, mitigating the impacts of climate change, storing more carbon, utilizing informed plant selection techniques, and using cues to care, are some of the strategies Kim Eierman will share.				
1:00-1:50 PM	Grounding and Lightning Protection for Irrigation Systems Kurt Thompson, K. Thompson & Associates, LLC  PENDING APPROVED	Perennial Combos for Every Season Shannon Currey, Izel Native Plants Kata Kress Wallace, Walters Gardens Inc.  APPROVED	The Past, Present, Future, and Alternatives for Neonicotinoid Insecticides Patrick Anderson, Rainbow Ecoscience  PENDING APPROVED	Advanced Disease Management in Turfgrass Landscapes Jim Kerns, NCSU  APPROVED	
2:00-2:50 PM	Working Smarter Not Harder Jed Birch, Smith Turf & Irrigation  PENDING APPROVED	Soil Oxygen, or Lack of, is The Difference Maker of Your Soil Dr. Wei Zhang, Zynnovation, LLC  APPROVED	Preventing Tree Loss Before, During and After Construction Ellen LeBrun, Bartlett Tree Experts  PENDING APPROVED	New Challenges and Changes Ahead with Turf Pesticides Travis Gannon, NCSU  APPROVED	
3:00-3:50 PM	Why is Remote Management a Crucial Tool to Add to Your Business? Greg Goudeau, HydroPoint Data Systems  PENDING APPROVED	Ornamental Plant Breeding: Benefits for Growers and Landscapers Dr. Hsuan Chen, NCSU  APPROVED	Spotted Lantern Fly, the New Pest on the Block Patrick Anderson, Rainbow Ecoscience  PENDING APPROVED	Annual Management Strategies for Cool and Warm Season Turf Pests Matt Martin, NCSU  APPROVED	

Professional Credits (CEU) Key Attend the sessions of your choice to earn continuing education credits toward state or national accreditations. Look for the icons below.

-  **LC** Landscape Contractor License (NC) — Technical CEU
-  **LCB** Landscape Contractor License (NC) — Business CEU
-  **LA** Landscape Architect License (NC)

-  **IC** Irrigation Contractor License (NC) — Technical Irrigation CEU
-  **ICB** Irrigation Contractor License (NC) — Business CEU
-  **PA** Pesticide Applicator License (NC)

-  **ISA** International Society of Arboriculture — Certified Arborist
-  **NALP** National Association of Landscape Professionals — Landscape Industry Certified
-  **SAF** Society of American Foresters — Certified Forester
-  **CPP** Certified Plant Professional

Earn CEUs when you walk the Marketplace floor:
 (1)  (2)

IRRIGATION

Coordinated by the Carolinas Irrigation Association



8:30 AM – 9:20 AM

Defining Your Value Proposition, Discovering Your Path to Productive Solutions



Chris Keating, *The Toro Company*

(Approved: LCB- 1, ICB-1, NALP-1, SAF-0.50 Cat. 2, CPP-1)

This class will help each individual contractor determine what is unique about their company and employees. It will help them understand that much of what we do is driven by habit and not actual planning. I will help them understand how to position their company in their market for maximum opportunity. The class also covers how to be an effective leader which is essential to creating a culture of success.

9:30 AM – 10:20 AM

Regulations Regulating Regulation



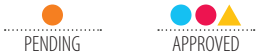
Chris Keating, *The Toro Company*

(Pending: LA; Approved: ICB-1, NALP-1, SAF-0.50 Cat. 2, CPP-1)

This class will explain and raise awareness of the recent laws sweeping the country that ban the manufacture, sale and installation of conventional spray heads. The laws mandate the use of spray heads with built in pressure regulation. The class will cover the reasons for the laws and explain the purpose of the technology and why it is deemed necessary.

10:30 AM – 11:20 AM

What Do You Mean Drip Irrigation is Inefficient?



Kurt Thompson, *K. Thompson & Associates, LLC*

(Pending: LA; Approved: ICB-1, NALP-1, CPP-1)

While the belief that drip emitters apply water at the highest uniformity of any standard irrigation emission device is accurate, connecting that to the efficiency of drip emitters is not valid. In fact, the efficiency of many, if not most, drip zones in landscape beds is not any better than traditional overhead irrigation. This is mostly the result of not being aware of the science of drip irrigation during design and installation and the neglect of maintaining the components and adjusting the scheduling. Designers, contractors, or managers will understand that uniformity and efficiency while related, are two distinctly different measurements and how they are measured.

1:00 PM – 1:50 PM

Grounding and Lighting Protection for Irrigation Systems



Kurt Thompson, *K. Thompson & Associates, LLC*

(Pending: LA; Approved: ICB-1, NALP-1, CPP-1)

Protecting the electrical components in an irrigation system has much different requirements than protection for people and property. Relying on the grounding of a building is not enough defense against the common transient voltage spikes or the super high voltage and frequency of lightning strikes to which an irrigation system is exposed. Learn the physical properties of lightning and electrical surges as well as the industry best practices to provide protection for controllers, wire, decoders, and solenoids.

2:00 PM – 2:50 PM

Working Smarter Not Harder



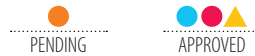
Jed Birch, *Smith Turf & Irrigation*

(Pending: LA; Approved: ICB-1, NALP-1, CPP-1)

Learn how incorporating Wi-Fi and cell access to controllers can be your most valuable resource. We will discuss the newest products that will work on any size system to make your life easier out in the field. These enhancements will also help you manage water usage without having to leave the comfort of your office.

3:00 PM – 3:50 PM

Why is Remote Management a Crucial Tool to Add to Your Business



Greg Goudeau, *HydroPoint Data Systems*

(Pending: LA; Approved: ICB-1, NALP-1, CPP-1)

Managing water and providing outstanding service to your customers requires being where the water is. Since you can't physically be there on a 24x7 basis, an irrigation central control is the next best thing. You'll save time and money, and more effectively manage water and your team.

LANDSCAPE OPERATIONS

8:30 AM – 9:20 AM

Business Tax in 4 Steps



Shiloh Johnson, *Complyant*

(Approved: LCB- 1, ICB- 1, NALP- 1, SAF- 0.50 Cat. 2, CPP-1)

Ever felt totally lost when it comes to your business taxes? Join us for this easy-to-follow guide on all things tax-related so you never have to pay a late fee or worry about an audit again. We'll cover things like setting up your business for future tax success, different types of tax you didn't know you were responsible for, saving for upcoming tax bills and more.

9:30 AM – 10:20 AM

Hardscaping Options and Selections



Erik Hagen, *SiteOne*

(Approved: LC- 1, LA-0.83, NALP- 1, CPP-1)

In today's hardscaping marketplace, there are a variety of options for homeowners to choose from. Whether it's paving slabs or pavers, segmental retaining walls or concrete masonry walls, the combinations are endless. In this class, we will outline the different types of materials available, when they should be used and what benefits each provide. Participants will leave with an understanding of which material will work best for each type of project, based on the project scope, homeowner budget and project timelines.

10:30 AM – 11:20 AM

The Basics and Necessities of Business Contracts



Eric Jones, *TurfTeacher*

(Approved: LCB- 1, ICB- 1, NALP- 1, SAF- 0.50 Cat. 2, CPP-1)

Protect your business by ensuring all your projects are properly contracted. This course will define the 19 sections of a service agreement contract and the different attachments specifically designed for landscape contracting to include hardscapes, tree installation, irrigation, and landscape design.

1:00 PM – 1:50 PM

Perennial Combos for Every Season



Shannon Currey, Izel Native Plants

Kata Kress Wallace, Walters Gardens Inc.

(Approved: LC- 1, LA-0.83, NALP- 1, CPP-1)

Herbaceous perennials add beauty and seasonal appeal to landscapes, and they are powerhouses when it comes to ecological value. This session focuses on using curated combinations of perennials, grasses, and sedges that will delight your clients and provide benefits like pollinator support, weed suppression, and erosion control. Kata and Shannon will lay out simple, easy-care combinations that share cultural requirements and complement each other. They'll touch on selections for spring and summer and discuss how "fall-forward" plantings have unique advantages. After the session, you'll walk away with tips for managing the plantings and developing your own curated combos.

2:00 PM – 2:50 PM

Soil Oxygen, or the Lack of, is the Difference Maker of Your Soil



Dr. Wei Zhang, Zynnovation, LLC

(Approved: LC- 1, ISA- Certified Arborist: 0.75, BCMA - Management: 0.75, NALP- 1, SAF- 0.50 Cat. 1, CPP-1)

If you've ever wondered why most trees do not have deep roots or why compacted soils are bad for your landscape, this session is for you. Many questions such as: why we can't water a plant one time per year with extra water, how long does it take for overwatering effects to show, what is the difference between native vs. imported soils and what construction techniques to use for disturbed or stockpiled soils can be answered with two words...soil oxygen! Dr. Zhang will delve into why soil oxygen is the real limiting factor and what you can do in the field to resolve soil concerns.

3:00 PM – 3:50 PM

Ornamental Plant Breeding - Benefits for Growers and Landscapers



Dr. Hsuan Chen, NCSU

(Approved: LA-0.83, NALP-1, CPP-1)

Have you ever wondered how NCSU's ornamental plant breeding endeavors can positively impact the work of landscapers, growers, horticulture consultants and landscape architects? This session will highlight the basics of plant breeding and its benefits. The goal of plant breeding is primarily to develop new varieties of plants that are adaptive and meet the needs of many sectors of the green industry. Dr. Chen will discuss upcoming plant releases, how current NCSU research benefits field work, explore why local growers are creating their own in-house labs and where to start if you're interested in plant breeding. At the end of the session, Dr. Chen will welcome feedback from attendees, capturing expectations of future NCSU plant releases, to ensure they are on track with the industry's current needs.

URBAN FORESTRY & ARBORICULTURE

Coordinated by the NC Urban Forest Council



8:30 AM - 9:20 AM

Pick it Right- Plant it Right = Successful Projects



Dr. Barbara Fair, NCSU

(Pending: ISA; Approved: LC- 1, NALP-1, SAF- 0.50 Cat. 1, CPP-1)

With a changing climate it is becoming more and more important to select the best plants for the site. What may have been "right" ten years ago may not be anymore. Therefore, selecting the best plant for the job means thoughtful thinking. However, we know it doesn't end there- you've also got to give the plants the best shot at establishing and THRIVING- Planting correctly based on the most up-to- date research will help you get where you want to go.

9:30 AM - 10:20 AM

Soil Moisture: Top Factor For Newly Planted Tree Survival



Dr. Wei Zhang, Zynnovation, LLC

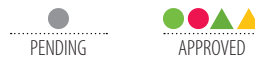
Dan Whitehead, Hortsource

(Pending: ISA; Approved: LC- 1, NALP-1, SAF- 0.50 Cat. 1, CPP-1)

Urban trees tend to struggle due to the fact that it is not an ideal growing condition in between pavements and buildings. Underwatering and overwatering are the most common causes. The commonly found compacted soils in urban environment worsens the problem. Water prescriptions are developed to address this problem, but most watering prescriptions don't consider the losses of specific sites. The most important factor for tree survival is the soil moisture, not how much water is dumped onto the rootball. New methods of stabilizing soil moisture while making use of the abundant stormwater found in the urban area will be discussed.

10:30 AM - 11:20 AM

ABCs of Young & Small Tree Pruning



Andy Pleninger, NC Forest Service

(Pending: ISA; Approved: LC- 1, NALP-1, SAF- 0.50 Cat. 1, CPP-1)

Most young trees never receive proper pruning in spite of the fact that it:

- Requires minimal training to learn proper techniques.
- Requires little time to complete.
- Can be accomplished from the ground using hand tools.
- Can dramatically extend the useful life of trees in the landscape by eliminating life-shortening defects.

The ABCs is a systematic and prioritized method for proper tree pruning. An easy to learn and recall acronym-based methodology, directs you where to start, what branches to prune, and when you are finished. Co-author, Andy's presentation will lead you through the ABCs pruning methodology, tips and tools of the trade.

1:00 PM - 1:50 PM

The Past, Present, Future, and Alternatives for Neonicotinoid Insecticides



Patrick Anderson, Rainbow Ecoscience

(Pending: ISA; Approved: PA- L:1, N:1, D:1, X:1, NALP-1, SAF- 0.50 Cat. 1, CPP-1)

Neonicotinoids are a class of insecticides that move systemically within plants and are effective against several insect families including Coleoptera, Hemiptera, and Homoptera. They are one of the most commonly used insecticides groups used in agriculture and landscape. There have been several high-profile cases of miss applied neonicotinoids and data showing these products may move into pollen and nectar of plants. This is leading to some municipalities restricting the use of these products in landscapes. During this talk we will discuss the history of these products for landscape use, what restrictions are in place within the US, what restrictions maybe on the horizon, and alternative products and methods for managing plant feeding insect pests in the landscape.

2:00 PM - 2:50 PM

Preventing Tree Loss Before, During and After Construction



Ellen LeBrun, Bartlett Tree Experts

(Pending: ISA; Approved: LC- 1, NALP-1, SAF- 0.50 Cat. 1, CPP-1)

Jeff will be reviewing current Best Management Practices for managing trees before, during and after construction. He will cover contract specifications for tree protection during a project, while highlighting how to include tree protection before and mitigation after into a bid proposal. Above ground and below ground space is critical for healthy trees, knowing and understanding how to manage a tree and its surrounding area during a project will reduce tree loss due to construction damage.

3:00 PM - 3:50 PM

Spotted Lantern Fly, the New Pest on the Block



Patrick Anderson, Rainbow Ecoscience

(Pending: ISA; Approved: LC- 1, PA- L:1, N:1, D:1, X:1, NALP-1, SAF- 0.50 Cat. 1, CPP-1)

Spotted lanternfly (SLF) was first detected affecting trees in Pennsylvania during the year 2014. SLF has since been detected from New England to the Midwest, and in North Carolina. During this presentation we will discuss the biology, hosts, and impact of this insect on trees and shrubs. In addition, we will cover practical protocols for managing this pest in landscapes.

TURF MANAGEMENT

Coordinated by the NC Sod Producers Association



8:30 AM - 9:20 AM

Using www.turfFiles.ncsu.edu and Extension Publications



Dr. Grady Miller, NCSU

(Approved: LC-1, PA- L:1, N:1, D:1, X:1, NALP- 1, CPP- 1)

Have you ever had a turfgrass question and not sure how or where to find the answer? Or have you ever needed to justify your management practices to a client? The NC State website "TurfFiles" can help you with these issues and so many others. This talk will review components of TurfFiles, highlight new/ revised extension publications, and offer examples of how you can use these resource for your business.

9:30 AM - 10:20 AM

Managing Insect Pests in Warm and Cool Season Turf using IPM Techniques



Terri Billeisen, NCSU

(Approved: LC-1, PA- L:1, N:1, D:1, X:1, NALP- 1, CPP- 1)

Do you know what insect pests are most likely to injure cool and warm season turf in the southeastern United States? This session will provide information on effective insect management for common turfgrass pests found in commercial and residential lawns in this region. Information presented will include the latest research-based information and recommendations on current and forthcoming insecticides as well as cultural management practices for effective insect management. This seminar will also include information on the fate and behavior of insecticides in a turfgrass environment.

10:30 AM - 11:20 AM

Identification and Management of Difficult Landscape Turf Weeds



Fred Yelverton, NCSU

(Approved: LC-1, PA- L:1, N:1, D:1, X:1, NALP- 1, CPP- 1)

This seminar will provide participants information about identification and management strategies to properly control difficult weeds. Weed control products for landscape turf using new herbicide chemistry and herbicide application strategies will be discussed. Attendees will be exposed to weed management practices including chemical and cultural turf weed control techniques in the landscape. Participants will learn about specific weeds in NC with an emphasis on common and troublesome weeds in landscape environments and effective control programs.

1:00 PM - 1:50 PM

Advanced Disease Management in Turfgrass Landscapes



Jim Kerns, NCSU

(Approved: LC-1, PA- L:1, N:1, D:1, X:1, NALP- 1, CPP- 1)

Diseases are a seasonal problem in landscape in cool and warm season turf. In this seminar, information provided will focus on effective disease management and identification for commercial and residential lawn care operators in North Carolina. Information presented will include the latest research-based information and recommendations on current and forthcoming fungicides as well as cultural management practices for effective disease management.

2:00 PM - 2:50 PM

New Challenges and Changes Ahead with Turf Pesticides



Travis Gannon, NCSU

(Approved: PA- L:1, N:1, D:1, X:1, NALP- 1, CPP- 1)

Pesticides are commonly incorporated into comprehensive pest management plans; however, pesticides have permeated news outlets in recent months and years. Unfortunately, much of the disseminated information has been misconstrued and/or contains misinformation and the scrutiny around their use will likely continue to increase in the future. While pesticides are an integral component of pest management plans, it's imperative for personnel to understand intricacies of how pesticides perform and behave to optimize efficacy without adversely affecting human or environmental health. It is also very important to keep up with the latest pesticide laws and pesticide registrations changes. In this session participants will learn about the latest upcoming pesticide registration changes as well as the fate and behavior of pesticides in a turfgrass environment. Information provided will be the latest NCSU pesticide research concerning how pesticides react in a turfgrass system.

3:00 PM - 3:50 PM

Annual Management Strategies for Cool and Warm Season Turf Pests



Matt Martin, NCSU

(Approved: LC-1, PA- L:1, N:1, D:1, X:1, NALP- 1, CPP- 1)

This seminar will focus on developing an annual pesticide maintenance plan for cool and warm season turf species. Managing turfgrass pests using preventative disease, insect, and weed strategies may provide longer pest control with fewer pesticide applications. Participants will learn how to develop specific programs for reduction of disease, insect, and weed activity, taking advantage of cultural, biological and chemical strategies.