IN A TIME OF CORONAVIRUS

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30 Classes, **30** Days, **$30,000** Cash Prizes

Presented by the Carolinas GCSA with U.S. Partner Chapters and British International Golf Greenkeepers Association

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CONFERENCE COMES TO YOU

IT'S A WIN, WIN, WIN

WIN – **Conference Comes to You takes the place of the Carolinas GCSA's annual Conference and Trade Show**, which draws visitors from across the country and overseas and is the largest regional event for golf course superintendents in the U.S. Since that cannot happen this year because of the coronavirus pandemic, we're coming to you, no matter where you are.

WIN – **Conference Comes to You provides access to first-class education, education points and pesticide credits** but it's more than individuals who benefit. Local chapters across the country and overseas that are partners in this conference will share in the revenue it generates. So, the moment you sign up, you're not only investing in your career, you're also investing in the future of your partner chapter.

WIN – **Thanks to the generous support of our Industry Partners, you have a chance to share in $30,000** in guaranteed cash giveaways. Every class you register for earns you one entry in a drawing broadcast live on the Carolinas GCSA Facebook page at 1pm EST on December 21.

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THIS YEAR, OUR CONFERENCE COMES TO YOU!

On behalf of the board of directors and the more than 1,800 members of the Carolinas Golf Course Superintendents Association, it is my honor and privilege to bring our annual education conference to you, directly to you, wherever you may be in the region, the nation, or the world for that matter.

In response to the ongoing coronavirus pandemic, we have created a stellar online schedule offering 30 different seminars over 30 days this fall. Inside this program, you will find a vast array of educational offerings from some of the leading researchers, scientists and experts in their field. You can take as many classes as you want, whether you are in your office, on the couch at home or even on vacation.

To cap it all off, each class you take gives you one more chance to win a share of $30,000 in cash prizes at an end-of-conference drawing. This is all possible because of the incredible loyalty and support we receive from our industry partners. Please pay particular attention to those who are investing in your continuing education.

We recognize this is not the Carolinas GCSA Conference and Show we have all come to know, love and look forward to every November. The fact is, the best part of our Conference and Show is the people, catching up with friends, colleagues, industry partners and educators. Rest assured, we're planning to return to that format in Myrtle Beach in November 2021.

So, while we will miss that kind of face-to-face time this year, we invite you to make the most of what is possible. Our industry is characterized by professionals who understand the need to be flexible and who have the patience to roll with anything Mother Nature throws our way. That's the approach we took in formulating this one-of-a-kind offering.

Yes, we know this conference is not the same. But 2020 is unlike anything we have seen before. And doing nothing was never an option.

Brian J. Stiehler, CGCS, MG
Highlands Country Club
Highlands, NC

What You Need to Know

WHAT IT IS:

- 30 two-hour seminars with one a day at 1pm Eastern Standard Time on weekdays starting Monday, November 2
- No classes Thanksgiving week – November 23 to 27
- Registration opens at 10am on Friday, September 25
- Registration is **ONLINE ONLY** at www.conferencecomestoyou.org
- Member Fee - $40 per seminar. Member Fee applies to members of all Partner Chapters including the Carolinas GCSA. Partner Chapters receive a portion of their members' registration fees
- Non-Member Fee - $70 per seminar

SIGNING UP:

- Got to www.conferencecomestoyou.org. Once you choose a seminar you will be prompted to create an account
- You will be asked to identify your local chapter from the list of Partner Chapters. Those chapters will also provide a code to qualify you for member pricing
- Enter your state pesticide license number on the payment screen
- Upon payment you will receive an email confirmation and a password for future access to your account
- You will receive reminder emails that may include important materials from your instructor in advance of your seminar
- On the day, simply log in for your seminar from a computer or laptop that has a webcam

IN THE SEMINAR:

- Once you log on, you will see a brief welcome message before your seminar begins
- You must be visible at all times in order to receive state pesticide credit – classes will be audited by state authorities
- There will be a five-minute break at or near the end of the first hour
- At the beginning of the break, there will be a 90-second Industry Partner message. *See below for more on the $30,000 cash giveaway*
- GCSAA education points code will be provided at the end of the session

AFTER THE SEMINAR:

- Remember to register your points with GCSAA and BIGGA
- Be sure to watch all 30 Industry Partner messages (90 seconds each) at your leisure before midnight EST, Friday, December 18 to validate your entry or entries into the drawing for $30,000 in cash prizes. You only need to watch each video once no matter how many seminars you take
- Check back to the Carolinas GCSA Facebook page at 1pm EST on Monday, December 21 to watch a live drawing of the contest winners

CANCELLATION POLICY:

- Cancellations can be made via www.conferencecomestoyou.org up to 3 days prior to scheduled seminar date.

SEMINAR LINE-UP AT A GLANCE

All seminars are 1 – 3 pm EST

NOVEMBER 2, 2020

The Benefits of Oxygen: How to Maintain Oxygen Levels in our Root Zone

Dave L. Doherty, *CEO & Founder, International Sports Turf Research Center, Lenexa, Kansas*

NOVEMBER 3, 2020

Holy Grail – Warm-Season Turfgrass

S. Bruce Martin, Ph.D., *Emeritus Professor of Turf Pathology, Plant and Environmental Sciences Department, Clemson University, Pee Dee Research and Education Center, Florence, South Carolina*

Jim P. Kerns, Ph.D., *Associate Professor of Entomology and Plant Pathology, North Carolina State University, Raleigh, North Carolina*

J. Bryan Unruh, Ph.D., *Professor of Environmental Horticulture, University of Florida, Jay, Florida*

NOVEMBER 4, 2020

Talent Acquisition and Recruitment Strategies

Tyler G. Bloom, *Tyler Bloom Consulting, Baltimore, Maryland*

NOVEMBER 5, 2020

Advanced Weed Management – Warm Season

L. Bert McCarty, Ph.D., *Professor of Turfgrass Science, Clemson University, Clemson, South Carolina*

NOVEMBER 6, 2020

So, You've Got Earthworms!

Paige E. Boyle, Ph.D. *Ecology, Utah State University, Logan, Utah*

NOVEMBER 9, 2020

Putting the "Fun" in Fungicides: Fungicide Program Development and Dealing with Bugs and Crud in Cool-Season Turf

Jim P. Kerns, Ph.D., *Associate Professor of Entomology and Plant Pathology, North Carolina State University, Raleigh, North Carolina*

E. Lee Butler, *Extension Coordinator of Entomology and Plant Pathology, North Carolina State University, Raleigh, North Carolina*

NOVEMBER 10, 2020

Aquatic Plant Management - An Introduction to Keeping Your Ponds Free of Unsightly Plants and Algae

Rob J. Richardson, Ph.D., *Professor and Extension Specialist, Aquatic and Non-Cropland Weed Science, North Carolina State University, Raleigh, North Carolina*

NOVEMBER 11, 2020

Mindful Greenkeeping in Stressful Times

Paul MacCormack, *Superintendent and General Manager, Fox Meadow Golf Course, Prince Edward Island, Canada*

NOVEMBER 12, 2020

Advanced Weed Management – Cool-Season Grasses

Fred H. Yelverton, Ph.D., *Professor of Crop and Soil Sciences, North Carolina State University, Raleigh, North Carolina*

NOVEMBER 13, 2020

POA Resistance – The Ins and Outs and Dos and Don'ts

Jim T. Brosnan, Ph.D. *Professor, The University of Tennessee, Knoxville, Tennessee*

NOVEMBER 16, 2020

Bunker Construction – How to Avoid Digging Yourself into a Hole

Adam Moeller, *Director, Green Section Education, USGA, Easton, Pennsylvania*

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Advanced and Cost-Effective Management of Insect Pests of Warm-Season Turf

Rick L. Brandenburg, Ph.D., *Department of Entomology and Plant Pathology, North Carolina State University, Raleigh, North Carolina*

NOVEMBER 18, 2020

Fertilizers – Getting the Right Form and Function

Beth A. Guertal, Ph.D., *Professor of Turfgrass Management and Soil Fertility, Auburn University, Auburn, Alabama*

Grady L. Miller, Ph.D., *Professor and Extension Specialist, Turfgrass Science, North Carolina State University, Raleigh, North Carolina*

NOVEMBER 19, 2020

Annual Bluegrass Weevil Master Class: Proactive Management for Ever-Changing Environments

Ben A. McGraw, Ph.D., *Associate Professor of Turfgrass Science, Penn State University, State College, Pennsylvania*

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Understanding Pesticide Behavior to Optimize Applications and Minimize Collateral Damage

Travis W. Gannon, Ph.D., *Associate Professor, North Carolina State University, Raleigh, North Carolina*

SEMINAR LINE-UP AT A GLANCE

All seminars are 1 – 3 pm EST

NOVEMBER 30, 2020

The Challenge of Managing Nematodes in Turf

S. Bruce Martin, Ph.D., Emeritus Professor of Turf Pathology, Plant and Environmental Sciences Department, Clemson University, Pee Dee Research and Education Center, Florence, South Carolina

DECEMBER 1, 2020

Plant Growth Regulators for Fine Warm-Season Turf

Jim T. Brosnan, Ph.D. Professor of Turfgrass Weed Science, The University of Tennessee, Knoxville, Tennessee

DECEMBER 2, 2020

Badass Leadership! The Power of Purpose, Compassion, and Authenticity

Gina D. Rizzi, President of ARCUS Marketing Group and Radius Sports Group, San Francisco, California

DECEMBER 3, 2020

Plant Growth Regulators for Fine Cool-Season Turf

Bill D. Kreuser, Ph.D., Assistant Professor and Turfgrass Extension Specialist, Agronomy and Horticulture, University of Nebraska, Lincoln, Nebraska
Doug J. Soldat, Ph.D., Professor in the Department of Soil Science at the University of Wisconsin-Madison, Madison, Wisconsin

DECEMBER 4, 2020

Fundamentals of Wetting Agents

Doug J. Soldat, Ph.D., Professor in the Department of Soil Science at the University of Wisconsin-Madison, Madison, Wisconsin

DECEMBER 7, 2020

Making Herbicides Work and Why They Sometimes Fail

Travis W. Gannon, Ph.D., Associate Professor, North Carolina State University, Raleigh, North Carolina
L. Bert McCarty, Ph.D., Professor of Turfgrass Science, Clemson University, Clemson, South Carolina

DECEMBER 8, 2020

Getting to the Root of Managing Soilborne Diseases – Warm-Season Turfgrasses

Jim P. Kerns, Ph.D., Associate Professor of Entomology and Plant Pathology, North Carolina State University, Raleigh, North Carolina

DECEMBER 9, 2020

Bugs in a Jug: Understanding Natural Products for Turf

Joseph A. Roberts, Ph.D. Assistant Professor of Plant and Environmental Sciences, Clemson University, Clemson, South Carolina

DECEMBER 10, 2020

Getting to the Root of Managing Soilborne Diseases - Cool-Season Turfgrasses

Gerald (Lee) Miller Jr., Ph.D. Associate Professor and Extension Turfgrass Pathologist, University of Missouri, Columbia, Missouri

DECEMBER 11, 2020

How Much Shade is Too Much Shade?

Mike D. Richardson, Ph.D., Professor of Horticulture, University of Arkansas, Fayetteville, Arkansas

DECEMBER 14, 2020

Bentgrass Selection Management

Dan Dinelli, Certified Golf Course Superintendent, North Shore Country Club, Glenview, Illinois
Derek Settle. Ph.D., Nematology, Turfdom Diagnostics, Griffin, Georgia

DECEMBER 15, 2020

Management of Ultradwarf Bermudagrass

Jared R. Nemitz, Director of Golf Course Grounds, The Peninsula Club, Cornelius, North Carolina
Nelson J. Caron, Director of Golf Course Grounds, The Ford Plantation, Richmond Hill, Georgia

DECEMBER 16, 2020

BMP HERO! Scene 1: "Bees, Buffers and Bourbon"

Gina D. Rizzi, President of ARCUS Marketing Group and Radius Sports Group, San Francisco, California

DECEMBER 17, 2020

Holy Grail – Cool-Season

Brandon J. Horvath, Ph.D., Associate Professor of Turfgrass Pathology, University of Tennessee, Knoxville, Tennesee
John E. Kaminski, Ph.D., Assistant Professor,Turfgrass Management and Director of the Golf Course Turfgrass Management Program at Penn State University, State College, Pennsylvania
Frank S. Rossi, Ph.D., Associate Professor at Cornell University, Ithaca, New York

DECEMBER 18, 2020

The 'Other' Essential Elements, and Some that Might Be

Beth A. Guertal, Ph.D., Professor of Turfgrass Management and Soil Fertility, Auburn University, Auburn, Alabama

NOVEMBER 2, 2020 1-3:00 PM

The Benefits of Oxygen: How to Maintain Oxygen Levels in our Root Zone

Dave L. Doherty
CEO & Founder
International Sports Turf Research Center
Lenexa, Kansas

Explore the basics of physical properties (solids and pores) and organic matter, and the importance of oxygen in root zones. Examine techniques for maintaining oxygen levels in our root zones, function of clean outs, drain tiles, and four-ways, and finding and repairing drain tiles without tearing up your greens. In this seminar, attendees will learn to quantify the physical properties that are optimal for each green, depending on microclimate and type of turf. They will also evaluate the effects of aerification and topdressing on roots and come to understand the value of oxygen and how to maintain adequate oxygen levels in root zones.

NOVEMBER 3, 2020 1-3:00 PM

Holy Grail – Warm-Season Turfgrass

S. Bruce Martin, Ph.D.
Emeritus Professor of Turf Pathology, Plant and Environmental Sciences Department
Clemson University, Pee Dee Research and Education Center
Florence, South Carolina

Jim P. Kerns, Ph.D.
Associate Professor of Entomology and Plant Pathology
North Carolina State University
Raleigh, North Carolina

J. Bryan Unruh, Ph.D.
Professor of Environmental Horticulture
University of Florida
Jay, Florida

Old Tom Morris may not be as old as King Arthur, but he too cast his followers on a quest for a goal, a grail, that has proved elusive over centuries, the pursuit of the perfect golf course grass. For golf course superintendents, the search will likely never end, but science constantly brings new clues to challenges old and new. In this forum, three experts in their field discuss and explore answers to the ailments affecting warm-season turfgrasses including bermudagrass, zoysiagrass and paspalum. They will also detail avenues for promoting optimal conditioning.

The roundtable format allows each presenter to weigh-in with their unique perspective on key issues that influence the health and performance of warm-season turfgrasses. Attendees will have the opportunity to pose questions to these presenters who draw from decades of experience in some of the game's most concentrated regions in the world. From Florida to the Carolinas, they have talked, walked and worked with superintendents at the far ends of the budget spectrum and all parts in between.

This seminar will deliver strategies for winter management of warm-season grasses and optimizing plant health from agronomic perspectives. There will also be a focus on the take-all root rot complex and causal agents, strategies for root disease control including spring dead spot and capitalizing on cultural practices for putting green management.

NOVEMBER 4, 2020 1-3:00 PM

Talent Acquisition and Recruitment Strategies

Tyler G. Bloom
Tyler Bloom Consulting
Baltimore, Maryland

Securing top talent in today's environment is getting harder and harder. Learn strategies on how to find, develop and keep great employees and rise above the labor crisis. These strategies will inspire you to change the way you recruit, hire and lead your employees with surprising results.

This seminar will help you perfect your workplace culture and leverage the power of community, educational, and government networks and programs. Attendees will also learn techniques to harness the value in under-tapped labor pools like veterans, retirees and people with disabilities, and implement thoughtful, unique and digital job advertising techniques.

NOVEMBER 5, 2020 1-3:00 PM

Advanced Weed Management – Warm Season

L. Bert McCarty, Ph.D.
Professor of Turfgrass Science
Clemson University
Clemson, South Carolina

Agronomic, cultural and pest management strategies for managing and controlling major weed pests on golf courses are the focus of this seminar. Topics to be covered include weed biology, herbicide mode-of-action, application timing, effective products, new products and PGR use. The emphasis will be on integrated weed management that includes herbicides, weed life cycles and cultural control options. A special emphasis will be on herbicide resistant weeds, how to identify them and management options to prevent and/or manage such biotypes.

This seminar will help attendees understand the importance of weed biology and life cycles for successful management of turfgrass weeds; how to manipulate turfgrass agronomic and herbicide practices to prevent weed population shifts to more difficult-to-control or herbicide resistant weeds; and make informed decisions on weed control based on the latest research and experiences of the presenter and attendees alike.

There will also be a review of the latest information on Poa annua management in warm- and cool-season turfgrasses and an outline of the degradation and transfer processes affecting potential herbicide movement and breakdown. The seminar will also cover the use of PGRs for foliar suppression, improving putting speeds and turf quality, as well as common herbicide misapplication problems and prevention of herbicide/weed resistance using actual field case studies.

NOVEMBER 6, 2020 1-3:00 PM

So You've Got Earthworms!

Paige E. Boyle, Ph.D.
Ecology
Utah State University
Logan, Utah

Earthworms are generally considered beneficial organisms; on golf courses, however, earthworms can cause issues with turf growth and management. Earthworm control is difficult because earthworms remain one of the most poorly understood groups of soil macrofauna and no pesticides are currently labeled for earthworm management. Turf managers usually rely on cultural practices to mitigate casting, with limited or varied efficacy. This presentation will cover earthworm biology, ecology and various management options.

Information presented in this class will help attendees understand earthworm ecology and environmental conditions that favor casting, learn cultural management options for suppressing casts, and understand the effects that certain turfgrass pest management options may have on earthworms.

NOVEMBER 9, 2020 1-3:00 PM

Putting the "Fun" in Fungicides: Fungicide Program Development and Dealing with Bugs and Crud in Cool-Season Turf

Jim P. Kerns, Ph.D.
Associate Professor of Entomology and Plant Pathology
North Carolina State University
Raleigh, North Carolina

E. Lee Butler
Extension Coordinator of Entomology and Plant Pathology
North Carolina State University
Raleigh, North Carolina

This workshop will focus on the most important aspects of developing a fungicide program while trying to keep this topic fun. Given the plethora of fungicides on the market, the workshop will present an historical overview of the development of fungicides. The presenters will cover the factors that govern fungicide performance such as fungicide rates, timing, post-application irrigation, and how fungicides move on and within the plant. The workshop will then move into diseases that are difficult to control such as root diseases, dollar spot, and nematodes. Finally, the presenters will deliver an overview of diseases observed in recent years.

Each attendee will have the option to use a worksheet the presenters have developed to assist them in putting together a strong fungicide program for both bermudagrass and creeping bentgrass. The presenters will instruct attendees how to use the worksheet and will also offer attendees the opportunity to submit the fungicide worksheets for the presenters to review. The presenters plan to leave 15 to 25 minutes for questions and other topics.

This seminar will deliver an understanding on what fungicides do and how they work, as well as how they move on or within a turfgrass plant. Attendees will also learn to develop a fungicide program based on data and science rather than a calendar.

NOVEMBER 10, 2020 1-3:00 PM

Aquatic Plant Management - An Introduction to Keeping Your Ponds Free of Unsightly Plants and Algae

Rob J. Richardson, Ph.D.
Professor and Extension Specialist, Aquatic and Non-Cropland Weed Science
North Carolina State University
Raleigh, North Carolina

Whether ponds serve as visual focal points for your property or an irrigation source, aquatic weeds can interfere with the appearance and use of the waterbody. Proper management techniques can keep these weeds at bay and allow full use of your water body. This seminar will give superintendents a complete overview of how to manage their aquatic resources including water quality, aquatic plant identification, and integrated best management practices for control of the major aquatic weed problems. Specific instruction on the newest aquatic herbicides, use of aquatic herbicides in irrigation sources, and management of marginal areas will be emphasized. An overview of relevant rules and regulations that apply to management of aquatic resources will also be covered.

NOVEMBER 11, 2020 1-3:00 PM

Mindful Greenkeeping in Stressful Times

Paul MacCormack
Superintendent and General Manager
Fox Meadow Golf Course
Prince Edward Island, Canada

This webinar will discuss the vital importance of mindfulness and self-care during times of great stress. Our jobs as superintendents are stressful enough, but add in a global pandemic, the threat of climate change and social upheaval, and the idea of living mindfully makes a great deal more sense. Themes like vulnerability, presence and resilience have taken on new meaning during these difficult times. Attendees will be introduced to the practice of mindfulness, the value of meditation and reflection, and why compassion and kindness mean more now than ever before. We will also discuss the value of mindfully-based leadership and how it can help superintendents be supporters of not only their staff, but also their communities as a whole.

NOVEMBER 12, 2020 1-3:00 PM

Advanced Weed Management – Cool-Season

Fred H. Yelverton, Ph.D.
Professor of Crop and Soil Sciences
North Carolina State University
Raleigh, North Carolina

This seminar will detail weed management strategies for cool-season turfgrasses. Weed control in creeping bentgrass greens will be discussed with an emphasis on Poa Annua, Goosegrass and crabgrass. Also included will be weed management in cool-season fairways, tees, roughs, etc. Weed management with new herbicides will be included as well as new uses of older herbicides. New and emerging weed problems will also be discussed.

NOVEMBER 13, 2020 1-3:00 PM

POA Resistance – The Ins and Outs and Dos and Don'ts

Jim T. Brosnan, Ph.D.
Professor of Turfgrass Weed Science
The University of Tennessee
Knoxville, Tennessee

This seminar will provide an overview of herbicide resistance within Poa populations of golf course turf. There will be a focus on the current status of resistance in Poa populations of golf course turf. This will include different types of resistance, modes of action, downstream consequences and more. Attendees will learn how resistance can evolve as a result of weed management decisions made on the golf course and strategies to mitigate resistance within Poa populations on greens, tees and fairways

NOVEMBER 16, 2020 1-3:00 PM

Bunker Construction – How to Avoid Digging Yourself into a Hole

Adam Moeller
Director
Green Section Education
USGA
Easton, Pennslyvania

Bunker construction methods and sand selection have never been more complex or costly. This seminar will discuss the most important aspects of bunker construction and sand selection, so you can determine the best methods and sands for your course. Liner options for bunkers and their potential benefits and challenges will be a specific focus during this seminar.

Attendees will examine the critical factors that impact bunker performance including surface drainage, internal drainage, and design. There will also be discussion on the advantages, disadvantages, and relative costs of various bunker liners including novel materials such as Better Billy Bunker, Capillary Concrete, Matrix, Bunker Solutions, etc.

NOVEMBER 17, 2020 1-3:00 PM

Advanced and Cost-Effective Management of Insect Pests of Warm-Season Turf

Rick L. Brandenburg, Ph.D.
Department of Entomology and Plant Pathology
North Carolina State University
Raleigh, North Carolina

This seminar will focus on best management practices for turfgrass insects. The seminar will target basic biology to foster an understanding of the conditions that favor insect pest outbreaks. Advanced principles as well as options for highly effective programs and their costs will be discussed in detail for individual pests. Detailed planning will be included through the presentation of case studies. Participants will also learn how to develop site specific and cost-effective insect management programs that also meet environmental concerns and regulations.

NOVEMBER 18, 2020 1-3:00 PM

Fertilizers – Getting the Right Form and Function

Beth A. Guertal, Ph.D.
Professor of Turfgrass Management and Soil Fertility
Auburn University
Auburn, Alabama

Grady L. Miller, Ph.D.
Professor and Extension Specialist, Turfgrass Science,
North Carolina State University
Raleigh, North Carolina

Science continues to make progress but if we're not paying attention, we can find ourselves slipping behind. Today's market is full of new fertilizer technologies and materials. Do you know what's out there? Do you know what it's capable of and how to maximize the benefit in your particular situation?

This seminar will cover the basics of fertilizers, including labeling, products and availability to turfgrass. We will also cover best fertilizer rates and application strategies for high quality turfgrass and a protected environment. When we are done you will know the benefits of foliar and granular fertilizer products to quality turf, be more familiar with nutritional research and industry practices and command a greater knowledge of new and more traditional products for use in fertilization programs.

NOVEMBER 19, 2020 1-3:00 PM

Annual Bluegrass Weevil Master Class: Proactive Management for Ever-Changing Environments

Ben A. McGraw, Ph.D.
Associate Professor of Turfgrass Science
Penn State University
State College, Pennsylvania

The annual bluegrass weevil (ABW) remains the single most destructive insect pest in most regions in eastern North America. Though once a pest solely in the New York City metropolitan area, the weevil has slowly expanded its range to more southern, western, and northern regions. First reports of ABW damage have been documented in Kentucky, Arkansas, and Wisconsin in the last three years. Meanwhile, superintendents that have dealt with the insect for three or more decades are now experiencing difficulty in controlling the insect due to insecticide resistance and extreme weather events.

The seminar will present an overview of ABW management, with a focus on the biology of the insect as it relates to management, scouting techniques, and control options. Chemical controls, though limited, will be discussed in depth so that attendees can confidently develop a successful management plan. The latest research that is being conducted at Penn State University will be discussed. The talk will cover the impacts of climate on insecticide efficacy, emphasize the use of management practices that may lessen chemical insecticide use (cultural controls) and frequency, and discuss future threats.

NOVEMBER 20, 2020 1-3:00 PM

Understanding Pesticide Behavior to Optimize Applications and Minimize Collateral Damage

Travis W. Gannon, Ph.D.
Associate Professor
North Carolina State University
Raleigh, North Carolina

Pesticides are commonly used to manage weeds, insects and diseases on the golf course. While pesticides are one component of comprehensive pest management programs, it is imperative for managers to understand how to optimize pesticides without adversely affecting human or environmental health. Attendees will gain a better understanding of pesticide fate and behavior and how to devise best management practices to minimize off-target pesticide injury and maximize pest control. This seminar will cover best management practices to minimize off-target pesticide movement and injury and discuss specific cases of off-target herbicide injury as well as cases where the desired turf was injured.

NOVEMBER 30, 2020 1-3:00 PM

The Challenge of Managing Nematodes in Turf

Bruce Martin, Ph.D.
Emeritus Professor of Turf Pathology, Plant and Environmental Sciences Department
Clemson University
Pee Dee Research and Education Center
Florence, SC

Plant parasitic nematodes persist as perhaps the most difficult of pests to manage in fine turf on golf courses. In spite of the introduction of new products in recent years, the overall challenge of the problem persists. Multiple genera and species of several damaging nematodes including sting, lance and root knot and stubby root occur in sandy soils, whether natural or constructed.

Life cycles and behavior will be discussed for these important and damaging nematodes and how and when to sample for diagnostic and predictive purposes. Also discussed will be realistic expectations of effectiveness (or lack thereof) of all available nematicides labeled for turf. Some topics for consideration will include why certain sand-based root zones make an ideal habitat for nematodes and what might be done about that regarding modifications.

DECEMBER 1, 2020 1-3:00 PM

Plant Growth Regulators for Fine Warm-Season Turf

Jim T. Brosnan, Ph.D.
Professor of Turfgrass Weed Science
The University of Tennessee
Knoxville, Tennessee

Plant growth regulators (PGRs) are commonly applied to golf course playing surfaces for an array of reasons. This presentation will provide an overview of the latest PGR technology for use on warm-season turfgrasses commonly found on golf courses and highlight current research on PGR application scheduling to maximize long-term turfgrass quality. While an emphasis will be placed on PGR programs for use on intensively managed surfaces such as golf course putting greens, effective practices for fairway and rough areas will also be discussed in detail.

Attendees will learn about the latest PGR technology including, but not limited to, Anuew, Primo Maxx + Anuew mixtures and Plateau. There will also be research-based information about PGR scheduling to maximize long-term turfgrass quality and minimize weed and disease infestation, and discussion of how PGR programs can affect the need for intensive cultural management practices on putting greens.

DECEMBER 2, 2020 1-3:00 PM

Badass Leadership! The Power of Purpose, Compassion, and Authenticity

Gina D. Rizzi
President of ARCUS Marketing Group and Radius Sports Group
San Francisco, California

What makes someone a badass leader? It is not being uncompromising or intimidating. It is operating with passion and living authentically. Red-hot, badass leadership is stoked by purpose, compassion, and authenticity. The question is how do we ignite these qualities within ourselves? And within our teams?

Each year 70,000 strangers travel across the globe to Black Rock City, Nevada, to erect a fully autonomous, off-the-grid temporary city - using pure ingenuity, imagination and collaboration. This is Burning Man. And it sets the bar for creating community under extreme conditions.

This global cultural movement imparts dramatic personal growth, inspiration and a sense of humanity based on 10 guiding principles: Radical Inclusion, Gifting, Decommodification, Radical Self-Reliance, Radical Self-Expression, Communal Effort, Civic Responsibility, Leaving No Trace, Participation and Immediacy.

This seminar demonstrates how these 10 principles can be applied in the workplace to spark authenticity, collaboration and innovation. Building on "You Know You're a Badass – What does Everyone Else See? And Why Does it Matter?" presented at the Golf Industry Show and state conferences nationwide – Badass Leadership! brings the authentic fire and flair of Burning Man to the virtual classroom.

Especially in a year like 2020, it's time to harness the power within toward greater self-awareness and positive relationships with others in order to lead like a Badass to generate empowerment and drive productivity.

DECEMBER 3, 2020 1-3:00 PM

Plant Growth Regulators for Fine Cool-Season Turf

Bill D. Kreuser, Ph.D.
Assistant Professor and Turfgrass Extension Specialist, Agronomy and Horticulture,
University of Nebraska
Lincoln, Nebraska

Doug J. Soldat, Ph.D.
Professor in the Department of Soil Science
University of Wisconsin-Madison
Madison, Wisconsin

This seminar will discuss Plant Growth Regulators (PGRs) for use on cool-season, fine turf. Specific attention will be given to multi-year research results on how to use growing degree days (GDDs) to schedule PGR applications for consistent shoot and seedhead growth suppression as applied to creeping bentgrass, annual bluegrass, and Kentucky bluegrass.

Attendees will learn the different classes of PGRs and how they work to affect cool-season turf growth. Instruction will also include how and when to use PGRs for improving turfgrass health, while avoiding negative consequences of PGR overuse.

DECEMBER 4, 2020 1-3:00 PM

Fundamentals of Wetting Agents

Doug J. Soldat, Ph.D.
Professor in the Department of Soil Science
University of Wisconsin-Madison
Madison, Wisconsin

Wetting agents are one of the most important tools in a superintendent's toolbox. They are also one of the most misunderstood and mysterious tools. This seminar will focus on what we know and what we don't know about wetting agents and the differences among the vast array of products on the market. By the end of this seminar, you will feel more confident in your ability to select wetting agents and how to employ them to improve soil water management.

Discussion will cover the terminology and fundamentals of wetting agents and hydrophobic soils, the different classes of wetting agents and which situation each product class is best used for. You will learn to read and understand independent research reports to help you make good economic and agronomic decisions regarding wetting agent selection and use.

DECEMBER 7, 2020 1-3:00 PM

Making Herbicides Work and Why They Sometimes Fail

Travis W. Gannon, Ph.D.
Associate Professo
North Carolina State University
Raleigh, North Carolina

L. Bert McCarty, Ph.D.
Professor of Turfgrass Science
Clemson University
Clemson, South Carolina

As professionals, we often are asked why herbicides do not work to the level expected. Many times, human error is involved in terms of misapplication timing, application method, not understanding how a particular product is designed to work, or sometimes simply using the wrong product. We will cover pre- and post-emergence products, how they are supposed to work, and explore reasons why they might not work as expected. We will also cover herbicide resistance, its occurrence, and what measures can be taken to avoid or manage existing resistant weed biotypes. Numerous examples will be covered of all topics with time for questions and in-depth discussions.

DECEMBER 8, 2020 1-3:00 PM

Getting to the Root of Managing Soilborne Diseases – Warm Season Turfgrasses

Jim P. Kerns, Ph.D.
Associate Professor of Entomology and Plant Pathology
North Carolina State University
Raleigh, North Carolina

Turfgrass diseases are challenging to manage and pathogens that attack roots, stolons and rhizomes are even more challenging. This webinar will focus on diseases of roots, stolons and rhizomes of warm-season grasses and will cover the current state of knowledge surrounding the cause, epidemiology and management of these diseases.

Participants will learn the nature of soilborne diseases and why they are difficult to control and become familiar with fungicide movement in a root zone. Discussion will also focus on how to maximize efficacy of fungicides and the most optimal timings and strategies for targeting these pathogens.

DECEMBER 9, 2020 1-3:00 PM

Bugs in a Jug: Understanding Natural Products for Turf

Joseph A. Roberts, Ph.D.
Assistant Professor of Plant and Environmental Sciences
Clemson University
Clemson, South Carolina

This seminar will provide an in-depth look of turfgrass microbiology and understanding friends and foes that impact turfgrass health. There are numerous products on the market today with claims to enhance soil or plant associated microbes in an effort to improve plant health. We will look at basic plant-microbe associations (i.e., good and bad) and how management inputs can impact microbes that live and grow in association with turfgrasses. We will also discuss soil amendments and their potential impact on turfgrass health.

30 DAYS OF TURF FOR $30,000

To confirm your entry, you must watch a series of 90-second videos from our Industry Partners, who we all have to thank for making this conference possible. You don't have to watch every video in one sitting. You can spread it out right up until midnight EST on Friday, December 18.

DECEMBER 10, 2020 1-3:00 PM

Getting to the Root of Managing Soilborne Diseases - Cool-Season Turfgrasses

Gerald (Lee) Miller Jr., Ph.D.
Associate Professor and
Extension Turfgrass Pathologist
University of Missouri
Columbia, Missouri

Soilborne turfgrass diseases are particularly difficult to diagnose and manage because the pathogens subversively infect and damage roots well before plant symptoms arise. This seminar will describe the soil environment in correlation with the biology and epidemiology of the pathosystem of soilborne diseases infecting cool-season turfgrasses. The course will also explain the crucial aspects of each disease cycle, highlighting where disease control measures can most effectively impede pathogen development.

Participants will learn to identify when a soilborne disease may be the cause of turf decline, understand the biology and life cycle of pathogens that infect roots of cool-season turfgrasses, incorporate specific cultural practices into a management program that will reduce the incidence or severity of the most common soilborne turf diseases, and select the most effective fungicide for a soilborne disease and apply it in the most efficient manner to maximize control.

DECEMBER 11, 2020 1-3:00 PM

How Much Shade is Too Much Shade?

Mike D. Richardson, Ph.D.
Professor of Horticulture
University of Arkansas
Fayetteville, Arkansas

This seminar will cover a range of topics related to light measurement on a golf course, as well as research information detailing the amount of light that grasses need to perform at expected levels. The first portion of the seminar will define the types of light that grasses need and how to accurately measure that light at a golf facility. The remainder of the seminar will summarize research findings that define the critical light levels needed for various species of golf course turf and how cultural practices and chemical products such as growth regulators and pigments can influence the minimum light requirements. Finally, the seminar will discuss integrated methods to improve turfgrass performance in limited light environments.

DECEMBER 14, 2020 1-3:00 PM

Bentgrass Selection Management

Dan Dinelli
Certified Golf Course Superintendent
North Shore Country Club
Glenview, Illinois

Derek Settle. Ph.D.
Nematology
Turfdom Diagnostics
Griffin, Georgia

Information will be shared on various characteristics including quality rating, disease, spring green-up, organic matter development and more of creeping bentgrass cultivars. The seminar will also explore bentgrass cultivars' competitiveness against Poa annua as well as tolerance to Poa Cure. Participants will also learn about control options for nematodes in bentgrass and practices and inputs to improve playability and plant health.

DECEMBER 15, 2020 1-3:00 PM

Management of Ultradwarf Bermudagrass

Jared R. Nemitz
Director of Golf Course Grounds
The Peninsula Club
Cornelius, North Carolina

Nelson J. Caron
Director of Golf Course Grounds
The Ford Plantation
Richmond Hill, Georgia

With ultradwarf bermudagrass greens becoming more and more prevalent, golfers are demanding that turf managers produce ultradwarf greens that are both visually appealing and conditioned to produce exceptional ball roll. This seminar will give turf managers insight into various types of surface management techniques and other popular cultural practices being practiced at golf courses today.

The seminar attendee will have the opportunity to discuss: topdressing sands, winter covering strategies, aerification practices, the use of data collection and how it can assist in developing management practices that keep growth in a preferred range. Finally, fungicide applications, mowing strategies, growth regulators and green speeds will be discussed.

DECEMBER 16, 2020 1-3:00 PM

BMP HERO! Scene 1: "Bees, Buffers and Bourbon"

Gina D. Rizzi
President of ARCUS Marketing Group and Radius Sports Group
San Francisco, California

Yes, that's right – these three things have something in common. BMPs! Another BMP talk? C'mon, we've been talking about this stuff for years now. True. And it matters. It makes a difference for our courses, our industry, our communities and the environment. But this talk, well, it's different.

This installment of BMP HERO! Bees, Buffers, and Bourbon shows why this effort is so critical - not only for golf course operations and environmental stewardship, but also for community and government relations. By the end of 2020, all 50 U.S. states will have published BMP guides. Superintendents have an opportunity to build on the national and state efforts, now at the facility-level.

While superintendents are being good environmental stewards and working toward optimal performance standards, green roofs and urban gardens are gaining recognition worldwide for the community value they provide – golf course superintendents play a leading role within this story. Golf courses positively impact communities through providing ecosystem services like pollinator and wildlife habitats, stormwater management, and reduction in the urban heat island effect. We will explore the current needs across our communities that the industry helps address through effective BMP adoption, communication and engagement.

And the Bourbon? Not just a catchy title ... what a BMP story! For added fun, we will take a quick stroll down the bourbon trail correlating key BMPs that make a whiskey a bourbon and why these are crucial for quality, credibility and continuity. Assuming many of you will be in the comfort of your own home, tastings are at your discretion. Expect an enjoyable, entertaining, and educational session.

Special Guest! Brian Horgan, Ph.D., Chairperson & Professor, Department of Plant, Soil and Microbial Sciences, Michigan State University

State Pesticide and Aquatic Recertification Credits
Credits will be applied for in each partnering state, where applicable

GCSAA Education Points
Education points have been applied for GCSAA

BIGGA
BIGGA CPD units have been applied for

** The website will be updated as credits are approved.*

DECEMBER 17, 2020 1-3:00 PM

Holy Grail – Cool Season

Brandon J. Horvath, Ph.D.
Associate Professor of Turfgrass Pathology
University of Tennessee,
Knoxville, Tennesee

John E. Kaminiski, Ph.D.
Professor, Turfgrass Science and Director of the Golf Course Turfgrass Management Program
Penn State University
State College, Pennsylvania

Frank S. Rossi, Ph.D.
Associate Professor School of Integrative Plant Science
Cornell University
Ithaca, New York

This session will be a focused discussion on the challenges associated with maintaining high performance cool-season turfgrass surfaces. We will discuss diseases, cultural practices, best management practices, and more to help you get more out of your cool-season turf surfaces. Bring your questions and enjoy a lively discussion.

You will learn about new chemistries and how to best employ chemistries, BMPs and other practices to help your turf achieve its full potential. You will also have the chance to discuss disease and turf management challenges in your area, and hear what these three experts would do to manage those challenges.

DECEMBER 18, 2020 1-3:00 PM

The 'Other' Essential Elements, and Some that Might Be

Beth A. Guertal, Ph.D.
Professor of Turfgrass Management and Soil Fertility
Auburn University
Auburn, Alabama

The seminar will discuss the 'other' essential nutrients - sulfur, calcium, magnesium - and some others that are 'likely' essential elements, such as silicon. Where do these nutrients fit in your management scheme, and do you even need to apply them as a part of your fertility plan? We'll talk about some of these and their possible use in disease suppression, and why you might use others if you have sodic soils.

MEET THE SPEAKERS

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Seminar Education Partner

Tyler G. Bloom

Tyler Bloom is the principal owner of TBloom, LLC and specializes in workforce development and leadership training for the turfgrass, green and hospitality industries. Tyler spent 17 seasons in the golf industry, six as the Golf Course Superintendent at Sparrows Point Country Club in Baltimore, Maryland. His career stops include Merion, Southern Hills, Muirfield Village and Oakmont Country Club. A 2009 graduate of Penn State University, Bloom is a Certified Partner with the Predictive Index, a talent optimization company.

Paige E. Boyle, Ph.D.

Paige Boyle is a Presidential Doctoral Research Fellow at Utah State University. She earned a B.S. in Environmental, Soil and Water Sciences and an M.S. in Horticulture from the University of Arkansas. As part of her doctoral dissertation research at Utah State, she is studying clover inclusion for value-added turf. Her research background includes stream restoration design, in-vessel compost processing and earthworm management on golf course turf.

Rick L. Brandenburg, Ph.D.

Rick Brandenburg, Ph.D., is a William Neal Reynolds Distinguished Professor in the Department of Entomology and Plant Pathology at North Carolina State University. He has conducted research and extension programs associated with turfgrass and crop pest management for over 35 years and, for 16 years, served as co-director of the Center for Turfgrass Environmental Research and Education at NC State.

Brandenburg has taught for GCSAA for many years and has been invited to speak in more than 20 countries, written more than a dozen book or book chapters, more than 140 research papers, and hundreds of trade journal articles, extension publications and webinars. He has provided weekly educational videos and blogs on his Facebook page Turf, Bugs, and Rock n' Roll since 2011. Brandenburg has been the recipient of numerous national awards recognizing both his research and educational efforts.

Jim T. Brosnan, Ph.D.

Dr. Jim Brosnan is a Professor in the Plant Sciences Department at the University of Tennessee (UT) and Director of the UT Weed Diagnostics Center. He earned a B.S. in turfgrass science from Penn State University, an M.S. in plant, soil and insect sciences (turfgrass) from the University of Massachusetts Amherst, and a Ph.D. in agronomy (turfgrass) from Penn State University.

His research focuses on controlling unique and problematic turfgrass weeds, particularly those with resistance to herbicides. His extension programs aim to provide education and diagnostic support to Tennessee's $5.8 billion turfgrass industry.

Dr. Brosnan serves as an advisor to the Tennessee Turfgrass Association Board of Directors and is actively involved in the Weed Science Society of America, Southern Weed Science Society, GCSAA and Sports Turf Managers Association. He has consulted at multiple venues on the PGA Tour - including several major championship host sites - in addition to National Football League franchises.

E. Lee Butler

Lee Butler manages the turf diagnostics lab while remaining active in the turf pathology field research program. This allows him to work with turfgrass managers to develop effective disease management plans based on his knowledge of current disease activity and observations made in fungicide efficacy trials. After receiving his B.S. degree in Turfgrass Management from NC State, Lee worked in the golf course and landscape management industries before returning to NC State to pursue an M.S. degree in Plant Pathology. During his graduate studies, Lee developed effective control recommendations for spring dead spot control in bermudagrass turf. In addition to speaking at various conferences and meetings across the United States, Lee gives guest lectures in the College of Agriculture and Life Sciences and in the College of Natural Resources at NC State University.

Nelson J. Caron

Nelson J. Caron is Director of Golf Course Grounds at The Ford Plantation in Richmond Hill, Georgia. He has a B.S. from North Carolina State University and over 20 years of experience in golf course management. He became Director of Golf Course Grounds at The Ford Plantation in 2008. Caron serves on the Georgia GCSA Board of Directors and was a USGA Green Section Committee member for several years. Caron is the principle of a part-time venture; Caron Consulting, which specializes in aiding clients with golf course management, construction, environmental solutions and executive staffing needs.

Dan Dinelli, CGCS

Dan Dinelli, certified golf course superintendent at North Shore Country Club, is a third-generation superintendent with comprehensive success meeting rigorous performance standards for resource management, agronomy, plant science, sustainability, environmental regulations, business operations and staff management. He is known for innovative thinking with significant achievements in ecology, Integrated Pest Management (IPM), organic amendments, applied microbiological principles, turfgrass and use of plant protectants.

He is also known for his focus on continual improvement in developing a systems approach to soil and plant health while delivering high level playing conditions. He is experienced in integrating plant genetics, physical, chemical, cultural practices and biological systems to enhance soil and plant ecology under a sustainable framework. Dinelli has successfully integrated this knowledge into golf course operations culminating in becoming a recognized resource within the golf course management industry.

David L. Doherty

David Doherty is president and founder of the International Sports Turf Research Center (ISTRC). He holds three patents on the ISTRC System, developed to monitor the ageing process of both sand- and soil-based golf greens. Doherty is recognized as the world's foremost authority on the physical properties of golf greens. The majority of the top 100 courses use the ISTRC System to monitor the effectiveness of their agronomic programs from year to year, or from season to season.

ISTRC has monitored the effects of aerification and other cultural practices on more than 2,000 golf courses and thousands of greens in less than 10 years. The patented ISTRC System of undisturbed core testing was developed by Doherty to provide turfgrass professionals with accurate, cost-effective data about root-zone conditions in the field, and the effects of those conditions on turf quality and plant health.

Travis W. Gannon, Ph.D.

Dr. Travis Gannon is an Associate Professor of Turfgrass Science at North Carolina State University specializing in weed management and pesticide environmental fate and behavior. He obtained his B.S., M.S. and Ph.D. from NC State University in the Department of Crop and Soil Sciences. Dr. Gannon's research program focuses on understanding various pests and optimizing pesticide programs for sustainable turfgrass management. Dr. Gannon currently advises five graduate students investigating various aspects of pest management and pesticide environmental fate and behavior and is actively involved in Weed Science Society of America, Southern Weed Science Society, GCSAA and Sports Turf Managers Association.

Beth A. Guertal, Ph.D.

Beth Guertal, Ph.D., is the Rowe Endowed Professor in the Crop, Soil and Environmental Sciences Department at Auburn University. Dr. Guertal received her B.S. and M.S. degrees from The Ohio State University, and her Ph.D. from Oklahoma State University. Her research program focuses on soil fertility issues in turfgrass management.

Guertal served as a technical editor for Crop Science, and as an associate editor for the Soil Science Society of America (SSSA) Journal, Crop Science and Agronomy Journal. Currently she is the immediate past-president of the Crop Science Society of America (CSSA) and a past-chair of Division C-5 (Turfgrass Management). She is a Fulbright Fellow and a Fellow of CSSA, SSSA and American Society of Agronomy.

Brandon J. Horvath, Ph.D.

Dr. Brandon Horvath, Ph.D., is Associate Professor of Turfgrass Pathology at the University of Tennessee. He joined the faculty May 1, 2009 in a role with 75 percent teaching and 25 percent research responsibilities. He earned his Ph.D. in Turfgrass Science from Michigan State University. Horvath's research interests include the epidemiology of turfgrass pathogens and the development of strategies based upon epidemiological research to manage turfgrass diseases.

Jim P. Kerns, Ph.D.

Dr. Jim Kerns is an Associate Professor and Extension Specialist of Turfgrass Pathology at NC State University. His program focuses on the etiology, epidemiology and management of turfgrass diseases of both warm- and cool-season grasses. His program actively researches how fungicides move in the root zone after post-application irrigation, take-all root rot etiology and management, and Pythium root rot management. Each year, his program conducts 50 to 70 different fungicide efficacy trials and examines over 400 samples for disease in the turfgrass diagnostic lab.

John E. Kaminski, Ph.D.

John Kaminski, Ph.D., is a Professor in Turfgrass Science and Director of the Golf Course Turfgrass Management Program at Penn State University. He earned his B.S. at Penn State and his M.S. and Ph.D. at the University of Maryland. Kaminski's research interests focus on golf course pest management and his university appointment includes 75 percent extension and 25 percent research. Kaminski's standing in the turfgrass industry has been well-documented through the numerous awards he has received, including the Musser International Turfgrass Foundation Award of Excellence, the Watson Fellowship Award and the Award for Outstanding Collaboration between basic and applied research from the Potomac Chapter of the American Phytopathological Society.

He serves on the scholarship committee for the Penn State Department of Crop and Soil Science and has been an associate editor for the International Turfgrass Society Journal. In addition to many state and regional turfgrass conferences around the United States, Kaminski has lectured on multiple occasions in England, Scotland, Ireland, Netherlands, South Africa, Canada and Chile on topics relating to chemical and cultural management strategies to reduce turfgrass pests and improve playability. He has been a GCSAA faculty member since 2008.

Bill D. Kreuser, Ph.D.

Bill Kreuser, Ph.D., is an Extension Specialist and Assistant Professor at the University of Nebraska-Lincoln. He earned his B.S. and M.S. degrees at University of Wisconsin-Madison and his Ph.D. at Cornell University. Kreuser's research focuses on winter desiccation and spring green-up, iron layer formation in sand putting greens, and nitrogen fertilization management.

His appointment at UNL is 60 percent extension and 40 percent research. Kreuser worked as research manager at UW-Madison where he developed a GDD model to apply PGRs. During his time at Cornell, he also worked as a spray technician at the Robert Trent Jones Golf Course. Kreuser has been a GCSAA faculty member since 2013, teaching both seminars and webinars.

Paul MacCormack

Paul MacCormack is the golf course superintendent and general manager of Fox Meadow Golf Course, located in Stratford, Prince Edward Island, Canada, where he lives with his wife, Jill, and three children, Maria, Lucas and Clara. Paul is also the author of The Mindful Superintendent Blog on TurfNet and a frequent speaker on the value of mindful living.

S. Bruce Martin, Ph.D.

Dr. Bruce Martin is Emeritus Professor of Plant Pathology, and the former research and extension turfgrass pathologist for South Carolina. He has been active in turf research, extension and teaching for 30 years with Clemson University. He holds degrees from Hendrix College, the University of Arkansas and North Carolina State University. Martin's research emphasized disease control programs, nematode control, fungicide efficacy and diseases of turf caused by Rhizoctonia. He has authored or co-authored over 50 refereed journal publications, numerous popular articles and 14 book chapters.

In 2014, he received the Colonel John Morley Distinguished Service Award from GCSAA, among a list of honors that also includes the Fred V. Grau Award for Turfgrass Science from the Crop Science Society of America, the Outstanding Plant Pathologist for the Southern Division, American Phytopathological Society, the Distinguished Service Award from the Carolinas GCSA and the Outstanding Service award from the Turfgrass Council of North Carolina.

L. Bert McCarty, Ph.D.

Dr. Bert McCarty is a Professor of Horticulture specializing in turfgrass science and management at Clemson University in Clemson, South Carolina. In 2014, he received the Fred Grau Award from the Crop Science Society of America as the top national and international turfgrass science researcher, and is a societal Fellow, the highest recognition bestowed by the society. He was also selected as a Fellow of the American Society of Agronomy in 2016.

He has authored or co-authored 11 books, hundreds of book chapters, journal articles, research reports and more. He has delivered nearly 600 scientific presentations and abstracts and is a co-author for the GCSAA seminars, "Weed Control, Advanced Weed Management, Advanced Management of Bermudagrass Golf Greens," and "Advanced Management of Bentgrass Golf Greens."

Ben A. McGraw, Ph.D.

Dr. Ben McGraw is an Associate Professor of Turfgrass Science at Penn State University, specializing in insect pest management. He obtained his M.S. in Entomology from the University of Massachusetts, Amherst and a Ph.D. in Entomology from Rutgers University. Dr. McGraw's research focuses on understanding insect ecology and behavior to develop sustainable turf pest management practices. Current projects in the McGraw lab combine basic and applied approaches to better understand population dynamics and outbreaks to improve cultural and chemical controls, and to develop alternative control strategies.

Gerald (Lee) Miller Jr., Ph.D.

Dr. Gerald (Lee) Miller is an Associate Professor of Turfgrass Pathology in the Division of Plant Sciences at the University of Missouri. Lee received his M.S. in Plant Pathology in 2001 at the University of Georgia and his Ph.D. in Plant Pathology at North Carolina State University in 2010. In between his graduate degrees, Lee served as the Manager of Turfgrass Research at the Chicago District Golf Association. Lee is currently the faculty lead for the MU Plant Diagnostic Clinic and directs both the Missouri IPM program and Pesticide Safety Education Program.

He also directs research and extension programs at MU focused towards disease control in turfgrasses. These responsibilities include providing disease diagnosis and control recommendations for the lawn, golf, sports turf, and sod industries in Missouri. His research activities center on the development of disease management strategies that require fewer inputs and result in sustainable, functional, and aesthetic turfgrass fields.

Grady L. Miller, Ph.D.

Dr. Grady Miller is a Professor and Extension Specialist at North Carolina State University and Co-Director of the Center for Turfgrass Environmental Research and Education. His present University appointment is 50 percent extension, 25 percent research, and 25 percent teaching. In his extension duties, he works closely with the sod, sports turf, utility turf, and golf course industries to address issues and find solutions to common turf problems.

In his career he has taught over 60 university course sections in subjects related to turfgrass culture, golf and sports turf management, and research methodology. His research activities have related primarily to turfgrass nutrition and water issues, cultivar evaluation, and general turfgrass culture.

Adam Moeller

Adam Moeller joined the USGA Green Section's Northeast Region as an agronomist in 2008, conducting course consulting service visits in Pennsylvania, New York, New Jersey, Connecticut and Ontario. He is based at USGA headquarters in Liberty Corner, NJ. In addition to his role as a consulting agronomist, he serves as Director of Green Section Education, guiding education and outreach materials related to golf course management.

Moeller graduated from Purdue University with an M.S. degree from the department of agronomy. His graduate research included the investigation of putting green rootzone management, fertility, PGRs, wetting agents, creeping bentgrass cultivars performance and bunker sands. A Wisconsin native, he received his B.S. in horticulture from the University of Wisconsin. He gained experience working on several golf courses in Wisconsin.

Jared R. Nemitz

Jared R. Nemitz is Director of Golf Course Grounds at The Peninsula Club in Cornelius, North Carolina. He has a B.S. and M.S. from Purdue University. He also studied at The University of Aberystwyth in Wales in the United Kingdom for one semester. Nemitz has worked on many high-end golf courses across the world including The Kampen Golf Course at Purdue University, The Chevy Chase Club in Washington, DC, The Honors Course in Ooltewah, Tennessee, and St. Andrews Links and Trust in Scotland. He was also golf course superintendent at The Ford Plantation in Richmond Hill, Georgia. Nemitz has volunteered and assisted in tournament preparations for NCAA Championships, British Open, U.S. Open, U.S. Mid-Amateur, U.S. Senior Amateur and various PGA events.

Mike D. Richardson, Ph.D.

Mike Richardson, Ph.D., is professor of horticulture at the University of Arkansas. He earned a B.S. from Louisiana Tech University, an M.S. at Louisiana State University and his Ph.D. at the University of Georgia. Richardson's research focuses on cultural practices that impact cool- and warm-season turfgrass production in the transition zone and he has been actively involved with research to screen and develop new turfgrass for a wide range of turfgrass environments.

Richardson's regard in the turfgrass industry is reflected in the numerous awards he has received, including the John W. White Team Award for the Turfgrass Management Program at the University of Arkansas,

Researcher of the Year from Seed Research of Oregon and as a Fellow in the American Society of Agronomy. In 2015, Richardson received the Fred V. Grau Turfgrass Science Award from the Soil Science Society of America. In addition to participation in many state and regional turfgrass conferences around the U.S., Richardson has lectured in China, Italy, and elsewhere in Europe on various topics related to turfgrass physiology and management.

Rob J. Richardson, Ph.D.

Dr. Rob Richardson is a Professor and Extension Specialist at North Carolina State University. His primary appointment focuses on research and extension related to aquatic plant management. Rob has many years of experience in aquatic plant management and advises aquatic managers across the U.S. as well as internationally. He is a past-president of the Aquatic Plant Management Society and former editor of the Journal of Aquatic Plant Management. He currently serves on the Weed Science Society of America board of directors and serves as a subject matter expert to U.S. Environmental Protection Agency on aquatic plant management.

Gina D. Rizzi

Gina Rizzi, President of ARCUS Marketing Group and Radius Sports Group, is a speaker and passionate advocate for helping organizations drive innovation and financial performance while positively impacting society and the environment. Founded in 2010, ARCUS drives marketing strategy, sports marketing, media and corporate social responsibility initiatives for Fortune 500 companies. Radius, a wholly-owned subsidiary, provides sustainability consulting within golf and sports, including BMP development with GCSAA state chapters and facilities.

Gina received her M.B.A., Cum Laude, from the University of Notre Dame, B.A. Advertising, High Honors, from Michigan State, Certificates in GRI Sustainability Reporting Standards, Sustainable Energy Management from Presidio Graduate School, and Sustainability Best Practices from the Global Business Travel Association. She is a member of the U.S. Green Building Council, WE ARE GOLF Diversity Task Force, and a GCSAA affiliate member.

Joseph A. Roberts, Ph.D.

Joe Roberts, Ph.D., is an Assistant Professor and Extension Specialist in Turfgrass Pathology and Microbiology at Clemson University. He joined the Department of Plant and Environmental Sciences in fall of 2019. Joe received undergraduate degrees from North Carolina State University, an M.S. degree at Rutgers University in 2009, and his Ph.D. from North Carolina State University in 2014. Before coming to Clemson, Joe served as Turfgrass Pathologist at the University of Maryland for nearly five years. His research and extension programming focuses on plant pathogen interactions and cultural management tools to reduce fungal, nematode, and bacterial pathogens of amenity turfgrasses.

Frank S. Rossi, Ph.D.

Dr. Frank Rossi (@fsr3) is an Associate Professor in the School of Integrative Plant Science at Cornell University where he leads the Urban Grassland Research and Education Program and teaches courses in plant science and food systems. He has published scientific books, chapters, articles, columns, videos, and podcasts, mostly because he can't stop talking about grass. You can hear him on the popular "Frankly Speaking" Podcast @Turfnet.com.

Frank has had a long career advocating for excellence in environmental stewardship and is passionate about firm, fast, safe, playing surfaces. In fact, he was the lead agronomic consultant for the 2016 Olympic Golf Course in Rio de Janiero, Brazil and the grassland expert for historic venues in the New York metropolitan area such as Green-Wood Cemetery, Central Park, Bryant Park and Yankee Stadium. Frank has been recognized throughout his career among the most influential people in the Green Industry and won numerous awards including the 2018 GCSAA President's Award for Environmental Stewardship.

Derek Settle. Ph.D.

Derek Settle is with Turfdom Diagnositcs, an independent lab, providing research and golf green consulting. He has a B.S. in Landscape Design and an M.S. in Plant Pathology from Kansas State University. His thesis focused on "Disease Development of Tall Fescue and Perennial Ryegrass as Affected by Cultural Practices." Also at Kansas State, he earned a Ph.D. in Nematology. His dissertation focused on "Pathogenicity of the Lance Nematode (Hoplolaimus galeatus) to Creeping Bentgrass."

Doug J. Soldat, Ph.D.

Doug Soldat, Ph.D., is a Professor in the Department of Soil Science at the University of Wisconsin-Madison. Soldat completed his B.S. and M.S. degrees in Soil Science from UW-Madison and earned a Ph.D. in Plant Science from Cornell University. His research and outreach programs are focused on improving turfgrass nutrient and water use efficiency. He advises the turfgrass management students at UW and teaches courses on turfgrass management and general soil science.

J. Bryan Unruh, Ph.D.

Dr. J. Bryan Unruh is a Professor of Environmental Horticulture at the University of Florida, IFAS, West Florida Research and Education Center. Dr. Unruh received his Ph.D. from Iowa State University and his M.S. and B.S. from Kansas State University. Dr. Unruh's turfgrass science research and extension program is at the forefront of improving Best Management Practices (BMPs), understanding and changing consumer preferences and behavior related to landscape management, and testing new and novel grasses that have improved turfgrass performance characteristics and require fewer inputs to maintain them. Dr. Unruh's team was selected to develop the BMP Planning Guide and Template for GCSAA with the end-goal of having golf-centric BMP manuals in all 50 states by the end of this year. Recently, he was made a Fellow of both the Crop Science Society of America and American Society of Agronomy.

Fred H. Yelverton, Ph.D.

Fred Yelverton, Ph.D., is a professor of crop science at North Carolina State University where he co-directs the Center for Turfgrass Environmental Research and Education. His specialties include turfgrass pest management, turfgrass management, fate and behavior of pesticides, heavy metals, and fertilizers in the environment. Yelverton has given 159 national and international invited presentations involving turfgrass science since 1995, traveling to six continents. He has received many awards and has been recognized as "One of the Ten Most Influential People in the Green Industry." Yelverton has been a GCSAA faculty member for many years, teaching both seminars and webinars.

Rounds4Research.com is an online auction birthed in the Carolinas by the Carolinas GCSA. Since its first auction in 2009 over $400,000 has been given to fund turfgrass research projects at Clemson University and NC State University. On behalf of the universities that benefit from your donations to this great cause, we thank you and your facility for participating!!

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Funded projects:

Foliar Nitrogen Use Efficiency of Warm Season Putting Green Turfgrasses Under Salinity Stresses: Haibo Liu, Ph.D. *$20,000*

Investigating Doveweed Biology: Bert McCarty, Ph.D., Fred Yelverton, Ph.D. *$44,000*

Distribution of Plant Pathogenic Nematodes in the Carolinas: Lane Tredway, Ph.D., Bruce Martin, Ph.D. *$25,000*

Promoting BMP Scorecard: Charles Peacock, Ph.D., Dara Park, Ph.D. *$5,225*

Investigating Mini Ring Disease Ecology, Biology, and Control: Bert McCarty, Ph.D., Bruce Martin, Ph.D., Jim Kerns, Ph.D. *$83,240*

Epaphic Factors That Affect Off Target Movement and Injury From Herbicide Applications in Turfgrass Applications: Travis Gannon, Ph.D. *$47,041*

BMP Program – BMP Manual authored by Bert McCarty, Ph.D. and Jim Kerns, Ph.D. Delivered to Class A, B, C members November 2016. *$35,000 +*

Impacts of Using Colored Sand on Ultradwarf Bermudagrass Greens Grady Miller, Ph.D. *$32,000*

Investigating Factors Affecting Fungicide Performance on Golf Course Turf, Jim Kerns, Ph.D., Travis Gannon, Ph.D. *$75,000*

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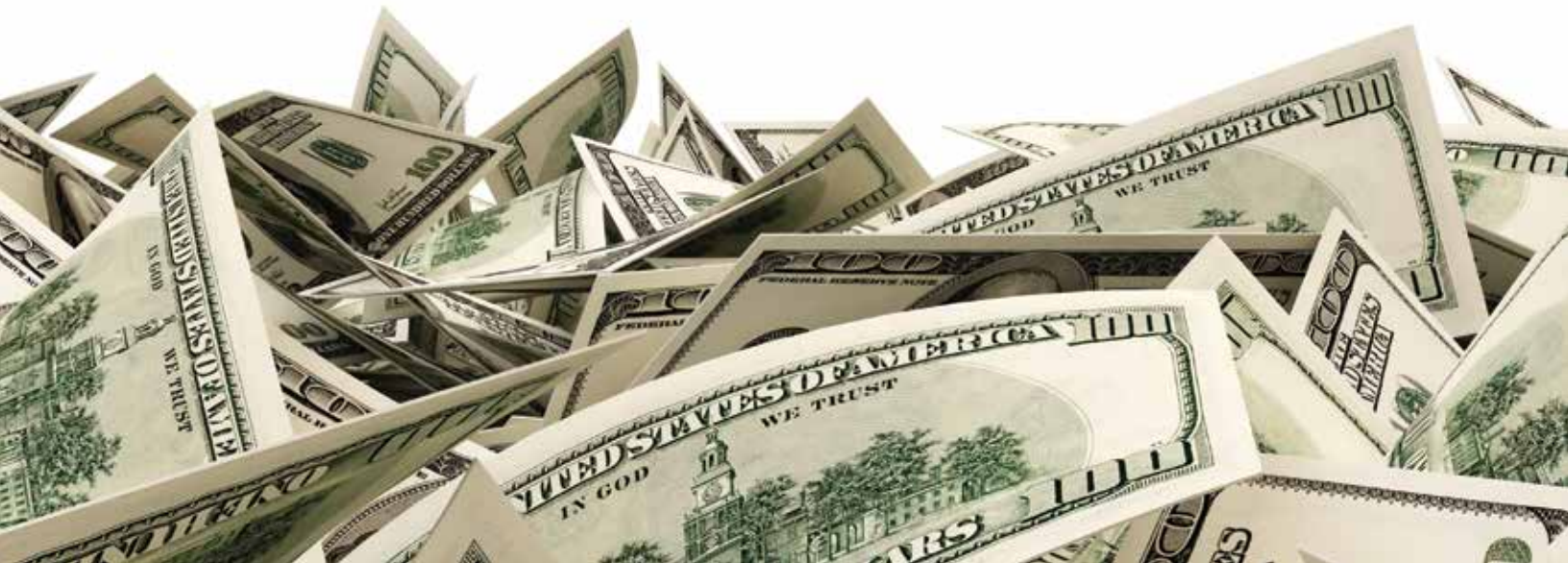

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