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ASSOCIATION

DIGEST

January/February 2017

VOL. 34 / NO. 1

Protecting Pollinators and Ourselves in Turfgrass Pest Management

**If You Pay Attention,
Weeds Will Tell You
When to Control Them!**

ALSO IN THIS ISSUE:
Meet Your Executive Committee
and Board of Directors

Highlights of Dr. John Cisar's
University of Florida Career

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President's Message

By Bill Kistler, FTGA President

The Spirit of Giving

I hope everyone enjoyed a holiday season full of joy, goodwill and giving. It strikes me as odd that we concentrate on these aspects for only a few weeks each year when they ought to be a part of our everyday lives.

While I was caught up in the holiday spirit, I thought about how we, as members of the Florida Turfgrass Association, could give back to our industry in a simple, yet meaningful, way. As you know, Foundation (FTRF) is the FTGA's philanthropic arm.

The foundation funds grants for vital turfgrass research projects, among them:

- 2007–2009—Economic Impact Research Project
- 2008—USDA Project by Pete Snyder
- 2016—Mobile Web Application for Geolocating Fertilizer Ordinance Jurisdictions by Dr. J. Bryan Unruh

The FTRF also endows scholarships for undergraduate and graduate students currently enrolled in turfgrass science programs at the University of Florida or Florida Gateway College. These young adults are preparing for a career in the green industry, and the FTRF helps to defray the cost of their tuition and books. Scholarships include:

- Col. Frank Ward Memorial Scholarship
- Ralph White Scholarship
- Bill Entwistle Sr. Scholarship
- Max J. McQuade Memorial Scholarship
- James L. Blackledge Memorial Scholarship
- Hans & Otto Schmeisser Memorial Scholarship

The FTGA funds the FTRF through member contributions, raffles at the Turf Seminars, fundraisers at the Conference & Show and member contributions.

Each year, Interlachen Country Club, in cooperation with the Central Florida Golf Course Superintendents Association, holds a golf tournament with proceeds donated to the FTRF. Stuart Leventhal, FTGA member and Wreath of Grass recipient, spearheads the annual effort. The tournament has raised more than \$105,000 for the FTRF.

These fundraisers as well as individual and company donations allow the foundation to continue to fund important research on behalf of members of the entire industry as well as helping to supply graduates with a bright future in the turf sciences.

This year, the association has set a goal of raising \$10,000 in donations. When renewing through YourMembership, consider making a tax-deductible donation to the FTRF. If you have already renewed, you can donate online by selecting the donate button or sending a check to the office.

So, let's start the new year in the spirit of giving. Let's get off our grass to contribute to the foundation so it can continue to fund critical research, which in turn, helps the billion-dollar industry that provides our livelihoods. I want to offer my sincere thanks to everyone who has contributed to this worthwhile cause.

Here's wishing each of you and your families a healthy, happy and prosperous 2017. 🌱

Thank you to 2016 FTRF contributors:

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From the Executive Director

By Heather Russo, Executive Director

Survey Says ...

A survey was distributed to a select group of members for their insight on what they find valuable and what they would like to see in the *Digest*. The editorial committee continually solicits new ideas to keep the interest of our vested members. As ad sales increase, we plan to introduce recurring features in the magazine—"Marketplace," wildlife and environmental photos and featured member profiles.

Since the FTGA now self-publishes the *Digest*, we needed a salesperson. I am excited to welcome Emily Cox, who was hired in November as the media operations manager. Her main responsibility is working with the advertisers, as well as securing new sponsors/exhibitors for the turf seminars and annual conference and show. The FTGA has a great team working diligently to produce a high-quality magazine and to enhance its content and appearance. I would like to thank MJ Plaster, editor, and Eileen Schechner, graphic designer, for all their behind-the-scenes work. We have been researching layouts to stay on top of current trends and visual effects that we hope you will enjoy.

Get to know your board. The FTGA board of directors is our first member profile, featured on page 12. It is important for you to know who manages and oversees your association and represents your concerns in the industry. As we follow the GI-BMPs, there are still many environmental challenges that we face collectively. When an issue arises, contact a board member in your industry segment so we can combine efforts to resolve it. I look forward to working with each of the board members this year, and I thank them for their leadership and dedication to the association and the turfgrass industry.

The FTGA kicks off the first quarter of 2017 with the Turf Seminars. These educational events are extremely popular and require large facilities. We have found three new locations to better suit our audience—Miami Springs, Port St. Lucie and Estero. Each seminar offers up-to-date educational topics and an array of CEUs offered from the FDACS, GCSAA, FNGLA and CCA. For class CEU details, visit the FTGA website under Events/Turf Seminars.

Mark your calendar for the 65th Annual Conference & Show, to be held at Innisbrook Resort and Golf Club, September 25–27, 2017. I welcome all members of the association to contact me with suggestions and information for "Marketplace," a featured member, or a wildlife and/or environmental photo for publication.

I hope you had a nice holiday season, and here's wishing you a happy and prosperous 2017. 🍀





WILDLIFE FEATURE PHOTO

"Skaro," a Florida alligator, at Olde Florida Golf Club.

Photo Submitted by and courtesy of Darren J. Davis, CGCS; Golf Course Superintendent; Naples, Florida.



Protecting *Pollinators* and Ourselves in Turf Pest Management

By Adam Dale, Ph.D., Assistant Professor and Extension Specialist, UF/IFAS Entomology & Nematology

Turfgrass insect management in the U.S. is predominantly insecticide driven. This is because insecticides can provide rapid results, address problems frequently created by our highly manipulated landscapes, and are easy to understand as a management tool. Insecticides are critical to landscape pest management because they equip us with tools to manage damaging pests and protect the plants that beautify our landscapes, filter our air and water and cool urban areas. However, these tools do not come without risks to people, businesses and the environment.

By definition, insecticides kill insects. Bees, butterflies and nearly 1 million animal species that live on the planet are insects. However, less than 1 percent of insects on earth are considered pests, the target of insecticides. Many of the others are beneficial in one way or another. Therefore, it is essential that all pest managers be informed of the non-target risks associated with using insecticides. Although commercial pesticide applicators are required to obtain a pesticide applicators license, they do not always understand these risks. This is because the risks are quickly becoming more complicated.

Urban land is rapidly increasing, more people are living in cities, and they care more about their surrounding environment. This means turfgrass management is also growing, but an associated “risk” is that people are watching everywhere, which means pest control operators cannot cut corners. In 2013, a couple of veteran pest control operators in Oregon made an illegal insecticide application to flowering linden trees, which killed hundreds of thousands of bumble bees in a retail store parking lot. Those applicators lost their licenses, jobs and paid the price.

Recently, the pest control industry and scientific community have discovered that the most commonly used insecticides on the globe, neonicotinoids, can show up in the pollen and nectar of treated or nearby plants. Pollinating insects include honey bees, as well as more than 4,000 native bee species in the U.S. in addition to pollinating wasps, flies and beetles. Neonicotinoids have been associated with reduced foraging behavior, pollinator reproduction, and abundance of bees around the world. In addition, many pollinator populations worldwide are in decline. This is a big deal because about three-quarters of the world’s flowering plants and 90 percent of the world’s food crops

depend on pollinators for reproduction.

Two important points worth mentioning are,

1. Turfgrass and ornamental insecticide use makes up a small percentage of neonicotinoid use in the U.S. and world.
2. Global pollinator declines are most strongly attributed to habitat loss, diseases and parasites.

What are Neonicotinoids?

Neonicotinoids are the most widely used insecticides in the world and include the active ingredients imidacloprid, dinotefuran, clothianidin, acetamiprid and thiamethoxam.

These products exhibit both contact and systemic properties and are used to treat a multitude of insect pests on turfgrass and ornamental plants in the landscape. They can be applied through several application methods including foliar sprays, soil drenches, and soil or tree injections. Most industry professionals in Florida use at least one of these products.

Less than 1 percent of insects on earth are considered pests, the target of insecticides.

What are the risks?

Since neonicotinoids have systemic properties, they are expressed in tissue throughout the plant, beyond where they were applied. This is what makes them such an effective pest management tool. However, this also means they can be found in the pollen and nectar of flowers, where pollinators visit. If flowering plants in the area have been recently treated, bees foraging there may be killed in large numbers or experience sub-lethal chronic symptoms. This means that 1) pollinator mortality may reduce pollination services, which reduces plant reproduction and food production; and 2) applicators and/or businesses are liable and may face legal consequences if connected to bee kills.

By now all applicators should be aware of label changes and restrictions made to these insecticides related to pollinator protection. Most neonicotinoid-containing products have a pollinator protection box on the label that highlights specific instructions with language such as, “Minimize exposure to bees and other pollinators” or “Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting

the treatment area.” This is the law and it is protecting pollinators and applicators from the associated risks of application. You cannot apply the products to plants if pollinators are visiting even if you are treating turf and they are visiting the weeds in the turf. This may mean using alternative chemistries, application methods or management strategies.

Changes to neonicotinoid use are also coming to homeowner products. Both Home Depot and Lowe’s are phasing out neonicotinoid products on their shelves by 2018 and 2019, respectively, and some common brands are ending their production of neonicotinoid-containing products.

How can you reduce risk?

Simply put, practice integrated pest management (IPM). Identify and monitor for pests. Utilize multiple management strategies such as mechanical, cultural and biological control to reduce pests in the landscape. Minimize potential insecticide

drift and be aware of flowering plants in the landscape. Use products that are selective for the target pest and relatively non-toxic to beneficial insects. Pest managers running an IPM program have been doing this for decades to reduce non-target effects on biological control organisms.

Unfortunately, neonicotinoids are the most common class of insecticides that people have historically used for high selectivity and low non-target toxicity. Given recent developments, this mode of thought may need to be reconsidered. The key is using these products properly by following the pollinator protection labeling and not applying the products to flowering plants or when bees are foraging. This may change the products being used depending on the host plant being treated and the time of treatment.

What are the alternatives?

Soaps and Oils

Insecticidal soaps and horticultural



oils are among the most widely recognized products that are compatible with natural enemies of plant pests. They can provide excellent control; however, they are not always appropriate depending on the target pest, host plant and landscape requirements.

Biopesticides

Biopesticides are another option for controlling plant pests and have minimal effect on beneficial insects. These include naturally occurring bacteria (e.g., *Bacillus thuringiensis*, *Chromobacterium subtsugae*, *Saccharopolyspora spinosa*), fungi (e.g., *Metarhizium anisopliae*), and plant-derived compounds such as azadirachtin. These products can provide excellent control of pests but require a good understanding of each because some have shorter periods of residual activity, need to contact the pest or have other cultural requirements for good control.

Synthetics

There are also several synthetic insecticides shown to control pests and pose minimal risk to pollinators and beneficial arthropods. These products are classified by the Environmental Protection Agency as “reduced risk” based on several metrics including low non-target toxicity, high selectivity, low use rates and compatibility with IPM practices. Active ingredients that fall into this category include acequinocyl, acetamiprid, chlorantraniliprole, pymetrozine, pyriproxyfen, spiromesifen and tebufenozide. Although acetamiprid is a neonicotinoid, research has found that it does not exhibit the same levels of toxicity to pollinators as others in its class.

Despite the reduced toxicity of these products to pollinators, most remain toxic to pollinators when in direct contact.

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Therefore, they should not be applied directly to flowers or areas where bees are foraging. Although these products will not solve all insect management needs, they do provide alternatives to help pest control managers. A massive amount of ongoing research is investigating the effects of pesticides on pollinators worldwide and regularly providing new information.

The future of landscape pest management

The landscape pest control industry is changing as illustrated by recent pollinator protection labeling on insecticides and big box stores and pesticide brands phasing out product sales. The tides appear to be shifting toward stricter regulation of insecticide use to manage landscape pests. This means that exploring new cultural pest control strategies, biological control tactics, and newer chemistries are more important than ever. When regulations change, you do not want to be left behind.

Exploring new pest control strategies is important now for more reasons than insecticide regulations. As Florida's population grows, land is developed and natural resources such as water become more precious; the tools used to manage pests and turfgrass must adapt. For that reason, stricter regulation may serve as a catalyst to help drive innovative pest management strategies that benefit landscape pest management, the environment and the future of Florida's turfgrass industry. 🌱

Photos courtesy of Nick Sabatino.



Dr. Dale is an assistant professor and extension specialist of turf and ornamental entomology at the University of Florida in Gainesville, Florida. His primary responsibilities

are to address the pest management needs of Florida's green industry and disseminate information to industry professionals across the state. He aims to develop more sustainable pest control strategies by investigating interactions between plants, insects and their environment.

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If You Pay Attention, Weeds Will Tell You When to Control Them!

By **Dr. Ramon Leon,**

West Florida Research and Education Center and Agronomy Department, University of Florida

Making the decision about when to control weeds is not a trivial task. Most of us tend to wait until weeds have come up, to decide whether it is time to apply herbicides or to wait a little longer. Although this approach is valid for situations in which weeds are not a serious problem, in most cases if we use this strategy, we will end up with poor control and a lot of weeds.

Usually by the time most of us decide weeds should be removed, it is too late to receive optimum results with herbicide applications. If planning to apply preemergence (PRE) herbicides (e.g., Dimension, Barricade, Specticle, Kerb, Pennant Magnum, Pendulum, Gallery), it should be done before weeds emerge because most of these herbicides will not control established seedlings. Similarly, postemergence (POST) herbicides (e.g. metsulfuron-methyl, Revolver, Monument, Tribute Total, Celsius, Avenue South, Trimec Southern, 2,4-D) should be applied at a specific time, usually when weeds are less than 3 inches tall or in diameter; otherwise, POST weed control is dramatically reduced. Frequently, by the time weeds are noticed in turf, they are larger than 3 inches, so POST applications will likely allow weed survival, and we will be forced to make repeated applications increasing the cost and environmental impact—or there will be more hand weeding.

Currently, we have limited technologies that allow us to predict weed emergence. However, nature gives hints when it will happen. Because weed species differ in their requirements for germination, especially temperature, they tend to show an emergence

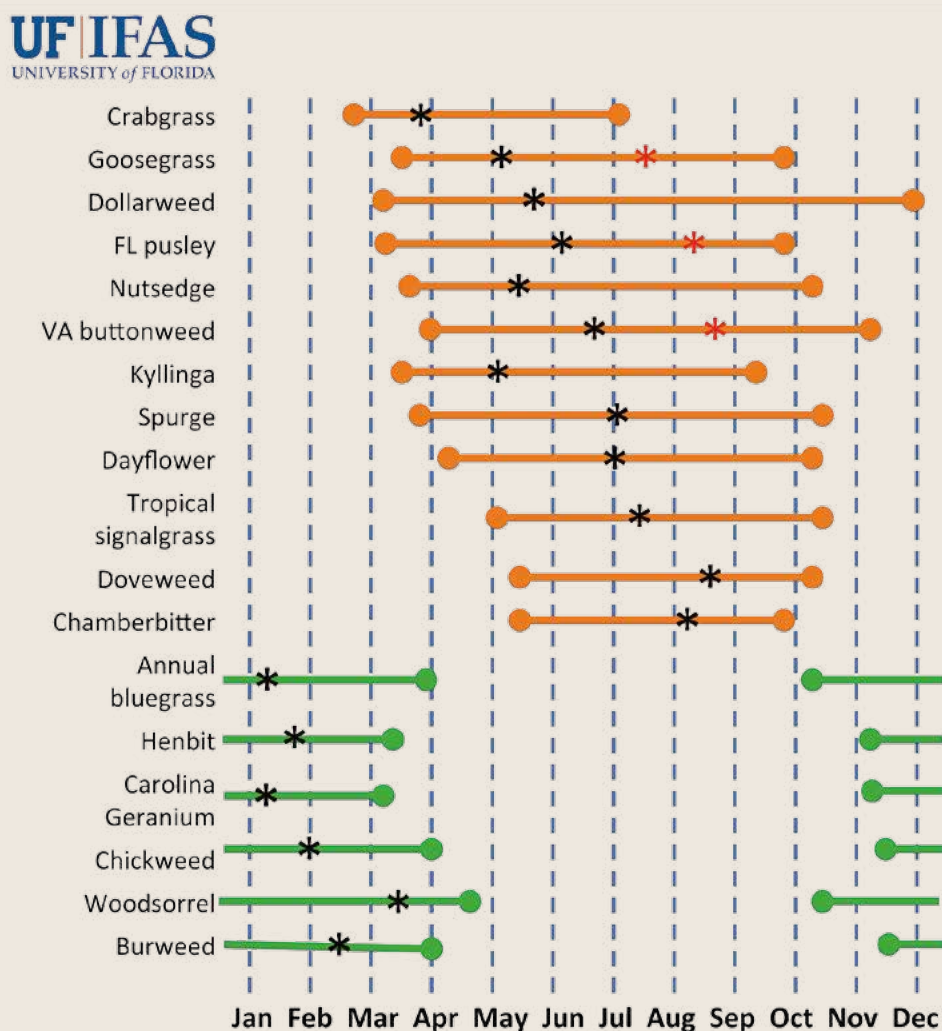


Figure 1 Emergence of important weed species in the northern half of Florida. Bars indicate the time of the year in which conditions are favorable for the emergence of each weed species. Black and red asterisks indicate when weed problems are commonly detected by turfgrass professionals and homeowners, respectively. The chart is based on information gathered by Dr. Ramon Leon.

sequence that is consistent from year to year. If we pay attention to the species that are emerging at a given time, we could anticipate what other weed species will follow and how soon. As shown in Figure 1, summer annual

weed species (orange lines) can have up to two months difference in emergence timing. For example, crabgrass starts emerging in February, while doveweed and chamberbitter will not start germinating until the end of May. This type

of information is useful for weed management decisions. In the previous example, if a PRE herbicide is applied in early February to control crabgrass, it is unlikely that the effect of this application will last long enough to control doveweed and chamberbitter properly, so plan to follow-up actions to manage these two species if they pose a problem in our turfgrass. This weed emergence timing-based strategy can also be used on winter weeds (green lines), because they also follow a temperature-driven emergence sequence.

Knowing the weed emergence sequence also makes it possible to schedule our weed control actions with more accuracy. For instance, if we notice that crabgrass is starting to emerge, then we know that we have approximately three to four and six to eight weeks until goosegrass and tropical signalgrass start emerging, respectively. Based on this information, we can better time our PRE herbicide applications, especially if using split-applications, and we can also anticipate when the POST applications should be done in order to avoid late applications.

In Figure 1 (based on my experience), asterisks indicate when turfgrass professionals (black asterisks) and homeowners or clients in general (red asterisks) notice weed problems in the field. It is evident that the problem is detected one to two months, and up to four months in some cases, after the weed has initiated emergence. It is for this reason that many times the herbicide applications fail. By the time the problem has been detected and control actions have been implemented, a significant number of plants have grown too large to be controlled with the herbicide rate recommended on the label. If we pay attention when we are detecting the problem in our turf, then we will know that actions should be implemented a bit earlier.

In our research group and with several collaborators, every year we have been recording when we notice weed problems in the turfgrass fields we manage. Using this information, we have been scheduling weed control actions (e.g. POST applications) two to three weeks earlier than when we

usually notice the problem, and this has considerably increased the efficacy of our weed control actions and reduced the need for follow-up applications. This timing-based approach also facilitates planning application schedules and routes for those who manage large areas and multiple sites.

It is important to highlight that Figure 1 is based on information generated in the northern half of Florida. As we move south toward Miami, temperatures tend to be more stable throughout the year, so emergence timings can be wider than those shown in Figure 1. My proposal to you is not necessarily to use this figure to manage your weeds, rather to encourage you to identify the sequence of weed emergence in your locale, so you can develop your own weed emergence calendar. You might not need to follow as many species as found in Figure 1, and perhaps following just three to five

weed species might give you the information you need to improve your weed management program. I am confident that this weed-emergence timing record will quickly become a very useful tool for deciding when and how to control weeds in a cost-effective manner. 🌱



Dr. Leon is a weed science specialist at the West Florida Research and Education Center, Agronomy Department, and Center for Landscape Conservation and

Ecology, University of Florida. The goal of his research and extension program is to develop and implement integrated approaches for weed management that promote crop health and growers' profitability in turfgrass and row crops.



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Meet Your Executive Committee and Board Members

FTGA Executive Committee



William Kistler, President

William Kistler came to the golf industry after spending 14 years in banking as a computer operations manager. His second career in the golf course industry has spanned 25 years. He has worked as a golf course superintendent for the past 15 years, and for the past five years, he has been the golf course superintendent for ABM Onsite Services – West Inc., @ Rogers Park Golf Course. Kistler has served as past president of the West Coast Golf Course Superintendents Association, past president of the Florida Golf Course Superintendents Association and currently serves as president of the Florida Turfgrass Association. He has been married to his wife Sharon for 18 years, and they have two sons, Dustin and Shawn Barnett.



Andrew Jorgensen, Vice President

Andrew Jorgensen is the golf course superintendent for On Top of the World Communities in Ocala. He obtained two associate degrees in golf turf management and commercial turf management from Abraham Baldwin Agricultural College in Tifton, Georgia, and received a certificate in turf management from the University of Georgia. Jorgensen is a Certified Golf Course Superintendent and Certified Lawn Care Manager. He is the recipient of the 2014 Environmental Leaders in Golf Award from the Golf Course Superintendents Association of America and *Golf Digest*. He is dual-certified in Golf and Green Industry BMPs, and licensed as a Commercial Pesticide Applicator and Pest Control Operator. Jorgensen is a board member of the Seven Rivers Golf Course Superintendents Association, Florida Golf Course Superintendents Association, Leadership Ocala/Marion as well as the current vice president of the Florida Turfgrass Association. When not working, he can be found enjoying the outdoors, playing golf or fishing.



Brad Holler, Secretary/Treasurer

We have all heard the cliché about “learning the ropes.” In 1989, Holler’s journey in the Florida turf industry began as a golf course maintenance employee. As a new employee, the ropes included the twine of thousands of pine straw bales. Thankfully, that time served led to course setup, mowing, tournament prep and spray technician responsibilities. After leaving the golf course six years later, Holler began his career in the lawn care industry as a residential lawn and horticultural technician, which led to a position as commercial operations manager with commercial business development responsibilities. Twenty years later, Holler knew that he had more to offer to the commercial and residential markets of Southwest Florida. In February 2016, he became the owner/operator of Agro-Smart Turf & Ornamental Care of SW Florida. As a member of the FTGA Executive Committee, he is honored to represent the lawn care industry.



John Mascaro, Immediate Past President

John Mascaro is president and owner of Turf-Tec International, Tallahassee, Florida. John founded the company with his father, Tom Mascaro, in 1986. Tom was famous for starting West Point Products Corp. in West Point, Pennsylvania, in 1932 and inventing the Aerifier in 1946 and the Verti-Cut in 1955 as well as over 100 other inventions for the turfgrass industry. With Tom’s insight, they invented and marketed several different testing tools such as the Soil Profile Sampler and one of the first moisture sensors available to the turfgrass market. After Tom’s passing in 1989, John followed in his father’s footsteps at Turf-Tec International and continues inventing and testing equipment for the turfgrass industry, with 40 different inventions to his credit. John is also executive director of the North Florida Chapter of the Sports Turf Managers Association and writes a monthly column for *Golf Course Management*.

magazine and *SportsTurf Magazine* called “John Mascaro’s Photo Quiz.” John has spoken at many turfgrass conferences, seminars and field days across the country and internationally. In addition to serving as immediate past president of the Florida Turfgrass Association, he is chair of the Historical Preservation Committee for the Sports Turf Managers Association of America.

FTGA Board of Directors



Tim Allen has been involved in sports for most of his life. He was a member of the golf team at Florida State University from 1974–1978. For the next decade, he coached high school basketball, golf and football, along with Little League and other youth sports. From 1990–1999, Allen represented the Spectrum Group (Rid-A-Bug and Hotshot Products), working with large retailers; Vigoro; and serving as golf distributor for Southeastern Turf Grass. For the past 16 years, Allen has been with PBI Gordon, working with golf, LCO and agricultural distributors—first as regional sales representative for Florida, Georgia, Alabama and Mississippi, and for the past 12 years, in the Florida and the Caribbean territories. Allen and his wife Myrna, dean of teacher education at St. Johns River College, live in St. Augustine. They have five children and six grandsons, with their first granddaughter on the way. In his spare time, Allen enjoys golfing and chasing his grandkids.



Barry Balavender is superintendent of the North and South Courses at John’s Island Club in Vero Beach. Upon graduation from Gateway College’s Golf Course Operations Program, he was hired as a second assistant at John’s Island’s West Course. Through the years, Balavender has continued his education, completing his B.S. degree from the University of Central Florida and earning an MBA from Florida Institute of Technology. In his free time, he enjoys fishing and spending time with his wife Carrie and daughter Reagan.



Laurie Bland studied at Lake City Community College (now Florida Gateway College), and in May 2006, she received a certification in turfgrass equipment management. Bland received the Hans Schmeisser Memorial Scholarship in 2008 and graduated in May 2008 with an Associate in Science degree in golf course operations and grounds management. During her 11 years in the turfgrass industry, she has worked in various locations throughout Florida, including the University of Florida Golf Course, The Loxahatchee Club and Trump National Doral. Bland’s current position is with the city of Miami Springs as director of golf course maintenance, reviving the 183 acres of the historic Miami Springs Golf & Country Club. During her time off, she enjoys spending time with her family, including her 8-year-old son Terry, kayaking and visiting various natural springs and historic sites throughout Florida and the Southeast.



Brian Bowles started maintaining golf courses at the age of 13, mowing greens and changing cups in Caro, Michigan. After studying turfgrass management and graduating from Michigan State University in 1979, he moved to Alabama and worked at Shoal Creek, which hosted the PGA Championship in 1984. From 1984–1987, Bowles held his first superintendent job at Birmingham Country Club and built the West Course for Pete and PB Dye; next, he worked for PB Dye, building courses throughout the Southeast United States from 1987–2001. Bowles designed and maintained Delaire Country Club from 2001–2007. In all, he has been involved with the Dye family in over 30 projects. In 2007, he purchased the John Deere Golf Dealership for South Florida, South Georgia and Hilton Head; today, his is the largest golf dealership for John Deere in the United States with 48 employees. Bowles and his wife of 32 years moved to Wellington, Florida, in 1987. They have two children, Anna and John.



Alex McCoy (Mac) Briley has worked in the turfgrass industry since 1989. He began his career with the city of Orlando at Dubsdread Golf Course in Orlando, Florida, and in 1996, moved on to managing sports fields throughout the city. In 2006, Briley went to the city of Ocoee where he managed its parks and sports fields. Since 2012, he has worked for BrightView Landscaping (formerly ValleyCrest Landscaping), managing accounts throughout Central Florida. Briley has served the Florida Turfgrass Association since 2007. He was on the Executive Committee from 2009–2013, serving a term as president in 2011–2012. He represents the FTGA on the Environmental Research and Education Foundation of Florida, where he currently serves as chairman.

Member Profile



Eric A. Brown, Ph.D., is director of agronomy for Massey Services Inc., based in Orlando. He earned his doctorate from the University of Florida's Soil and Water Science Department, specializing in soil and plant relationships and environmental stewardship. He spends time as a technical trainer and formulates Massey's agronomic program through research and testing to ensure healthy, vigorous landscapes that help protect the environment. Dr. Brown is an ISA Certified Arborist and has published articles on managing urban landscapes, black layer in soils, soil pH testing and fertigation. In addition, he has taught horticulture-related classes as an adjunct professor at various institutions, including Rollins College, Valencia College, Seminole State College and Santa Fe College. He is married to Dr. Lynette Brown, and they have a son, Emmett.



Ralph Dain graduated from The Ohio State University in 1991 with a degree in turfgrass science and has more than 31 years of experience in the golf industry. He got his start as a superintendent working for Gary Player at the Lost City Course and The Gary Player Country Club in South Africa. The majority of his career has been spent in South Florida as a superintendent at Mayacoo Lakes Country Club, Sailfish Point Golf Club and PGA National Resort & Spa. While working at these facilities, Dain also served on the boards of the Treasure Coast Golf Course Superintendents Association and the Florida Golf Course Superintendents Association. Since he began his role as the Florida regional representative for the Golf Course Superintendents Association of America in October 2008, Dain has worked with the state and local chapters to strengthen their connection with the association and improve services provided to individual members. He currently resides in Daytona Beach Shores with his wife Tennille and their two sons, Gavin and Logan.



John Lammrigh graduated from Lake City Community College (now Florida Gateway College) in 1990 and has been the director of golf maintenance at LPGA International for 17 years. Before moving to the Daytona area, he was the golf course superintendent at Orange Lake Resort & Country Club in Kissimmee for six-and-a-half years. Lammrigh currently serves as vice president of the North Florida Golf Course Superintendents Association and on the Florida Gateway College Industry Advisory Committee.



Ian Rodriguez, Ph.D., was born and raised in Tampa, Florida, and is currently BrightView's director of technical services for Florida. After graduating from the University of Florida (UF), he began working in the landscape industry on the Gulf Coast. A few years later he returned to UF to pursue a master's degree, studying turfgrass science, and was among the first graduate student residents of the Turfgrass Envirotron. After completing a Ph.D. at Clemson University, he returned to Florida, where he was an instructor in the Golf and Landscaping programs at Florida Gateway College in Lake City for eight years. In 2012, Ian moved to South Florida to begin working for ValleyCrest, now BrightView, where he provides technical support in agronomy, horticulture and pest control.



Lance Tibbetts is the regional grounds manager for GCA Services Group for the state of Florida. He has been involved in the green industry for over 34 years and attained his Certified Sports Field Manager designation from the Sports Turf Managers Association (STMA) in 2004. Tibbetts also represented Parks and Recreation as a board of director for the STMA. He maintained D1 and D2 colleges as well as municipal venues throughout New England until he accepted the position of general manager of grounds at the University of Miami in 2014. Known to many of his friends as the "Miracle Man," he survived a severe type A aortic dissection in 2011, then underwent extensive rehabilitation to become productive again. He is a well-respected member of the green industry.



Cindy Unger has been part of the Florida turfgrass industry since 1986. Her career has encompassed sports fields, golf courses and landscape, and lawn maintenance, and she is currently the owner of C. Unger Turfgrass Consulting. Unger assisted with the initial grow-in and opening of Disney's Wide World of Sports. Unger has held positions as head groundskeeper at Roger Dean Stadium, baseball field coordinator for the 2004 Athens Olympics, superintendent at Palm Beach Gardens Municipal golf course and parks operations manager for the city of West Palm Beach. She most recently assisted with baseball field renovation and construction projects in Havana, Cuba; Ft. Bragg, North Carolina; and Obregon, Mexico. In her spare time, Cindy is an avid runner and enjoys traveling.



Erin Wilder is a seventh-generation Floridian who grew up on her family farm in North Florida, spending summers and weekends playing in the cotton bins, racking tobacco and riding sod fields with her father and grandfather. After graduating from Florida State University, Wilder returned to her family's business to begin her turfgrass career as a sales representative and later as sod production manager. During her time with the family sod business, she sat on the board of Turfgrass Producer of Florida, Tallahassee Builders Association as well as serving on the FDACS License and Bond Committee and the Florida Sod Best Management Practices Steering Committee. In 2006, Wilder joined Sod Solutions, where she is now the executive director of field staff and ex-

ternal affairs. She is a past president of the Florida Turfgrass Association, a Class VII Graduate of the Wedgworth Leadership Institute and serves on several other committees throughout the industry. Wilder and her husband Bedford reside in Tallahassee with their infant son David Knox Wilder. 🌱

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Highlights of Dr. John Cisar's University of Florida Career

By Michael Fidanza, Ph.D.; Professor of Plant and Soil Sciences; Pennsylvania State University, Berks Campus; Reading, Pennsylvania

Dr. John Cisar grew up in Passaic, New Jersey, the youngest of six sons of Michael and Paulina Cisar. His mother, Paulina, was born in Czechoslovakia, and at the age of seven, immigrated alone to the USA after World War I to reunite with her parents, who arrived just before the war. His father was orphaned shortly after birth. His parents dedicated their lives to helping their children get ahead, and John has shared that philosophy with his family and many others throughout his career. He received a B.A. (Honors) in Botany from Rutgers University, an M.S. in Floriculture and Ornamental Horticulture from Cornell University and earned his Ph.D. in Biological Sciences at the University of Rhode Island.

Dr. Cisar began his academic career at the University of Florida (UF)—Ft. Lauderdale Research and Education Center in December 1986 as an assistant professor of Environmental Horticulture. His academic appointment was 70 percent extension / 30 percent research, but he had assembled an impressive record of research and outreach in the following areas: water quality, effluent irrigation on nutrient leaching, nitrogen and pesticide fate, turfgrass nutrition, irrigation efficiency, soil water repellency, soil amendments, evaluation of wetting agents, evaluation of plant health products, turfgrass physiology, bermudagrass and St. Augustinegrass evaluation and management, and much more. His work has been

supported by the United States Golf Association Green Section, Golf Course Superintendents Association of America (GCSAA), Florida Turfgrass Association (FTGA), Florida Dept. of Environmental Protection, Soil Science Society of America and many other segments of the green industry.

After nearly 30 years, Dr. Cisar retired from UF in December 2014, at the rank of full professor. During his tenure in academia, he served many posts including coordinator of the UF's undergraduate turfgrass program. He has mentored and served on the committees of many M.S. and Ph.D. graduate students. His graduate students have been successfully employed in academic positions in universities, director of an agriculture and environmental testing laboratory, research and development positions with global agrichemical companies and consultants in the green industry. Dr. Cisar has many publications in scientific journals and extension and trade journal articles. He has over 400 publication entries listed in the Turfgrass Information Center (www.tic.msu.edu).

Dr. Cisar has been a frequent lecturer at the GCSAA's Golf Industry Show, delivering seminars and workshops on warm-season turfgrass management, irrigation efficiency, and soil and water quality. Once he arrived in Florida, he conducted the South Florida Turf Exposition, typically in March every year, which has become a premier event for Florida's

Top: Cisar (center) with two graduate students, Dr. John Rowland (left) and Dr. Pauric McGroary (right), at the 12th International Turfgrass Research Conference, Beijing, China.

Middle: Dr. Cisar with Dr. Don Loch, a colleague from Australia, inspecting turfgrass research plots.

Bottom: Dr. Cisar (third from right) hosting colleagues on a botanical garden tour during the Boyoucou Conference on Constructed Rootzones in 2012.

turfgrass industry. As noted previously, "Dr. Cisar's influence and willingness to interact with industry in South Florida was unlimited, but more importantly he carried the UF name around the world during sabbatical in New Zealand and many other places where his knowledge, expertise and passion for the industry were gratefully accepted. He produced a research field day on his own along with his assistant, Ms. Karen Williams, which rivaled any turfgrass field day program around the USA with over 500 attendees on a regular basis."

In addition to supporting turfgrass science in Florida and the USA, Dr. Cisar has made international contributions as well. He has been treasurer for the International Turfgrass Society since 1990 and was the co-organizer of their 1993



conference in Florida. He has lectured at Mendel University (Czech Republic), and was co-organizer of the first Bouyoucos Conference on Constructed Rootzones, sponsored in part by the Soil Science Society of America. He recently was involved in developing bermudagrass establishment and maintenance programs for green roofs.

Dr. Cisar has been recognized for his achievements in academia and support of the turfgrass industry: Wreath of Grass Award (FTGA's highest honor that pays tribute to individuals who have shown outstanding service to the association and to the turfgrass industry); Marie Roberts Lifetime Service Award (to honor those persons who through their participation, support and achievements have made significant contributions to the Florida Golf Course Superintendent Association and Florida golf industry); and an unprecedented fellow in both the American Society of Agronomy and the Crop Science Society of America.

Dr. Ed Nangle, Assistant Professor at Ohio State University (Wooster, Ohio), stated, "His approachable persona and gregarious charisma infected all around him and he will leave a huge void not just in South Florida but all around the world in the turfgrass industry." Dr. Cisar did not want a retirement party because he is still engaged in his work. Although Dr. Cisar is retired from UF, he remains active in the green industry as a consultant, lecturer, researcher and adviser. He and his wife, Terry, reside in Broward County, Florida, with their son, Joey. He can be reached at cisarturfdoc@gmail.com. 🌱



Dr. Fidanza teaches undergraduate courses in turfgrass science, soils, botany, pesticide safety, turf research and a graduate course in turf physiology.

His research focus is in turfgrass ecology and integrated pest management, with emphasis on turf disease and weed management and the plant/rootzone interface. Email: maf100@psu.edu Twitter: @MikeFidanza

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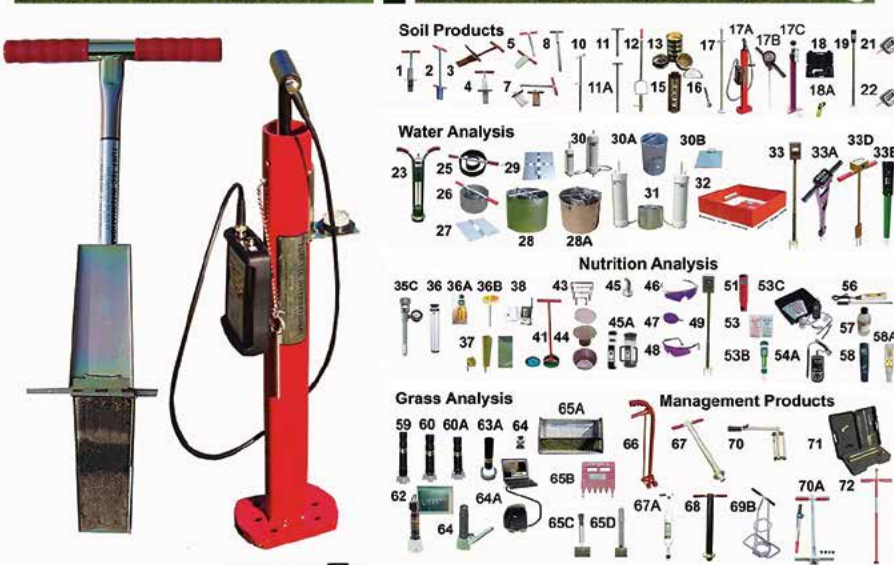
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STMA board meeting. Bruce Bates, second from left.

Our friend and colleague **Bruce H. Bates**, owner of Pro-Grounds Products Inc., lost his fight with lung cancer and passed away on December 30, 2016. Bruce was secretary/treasurer of the South Florida Sports Turf Managers Association (STMA), one of three Florida Chapters of the STMA, and worked with sports turf managers on soil materials to improve the quality and safety of athletic fields across the state. He is survived by his wife Barbara and daughters, Amanda and Carla. We extend our deepest sympathy to his family.



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