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It's easy being (First) Green

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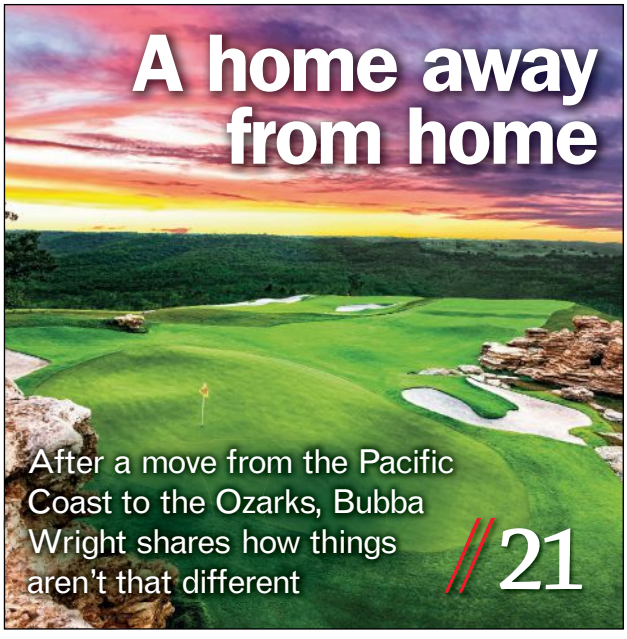

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DEPARTMENTS

COVER PHOTO COURTESY: GCSAA

Golfdom

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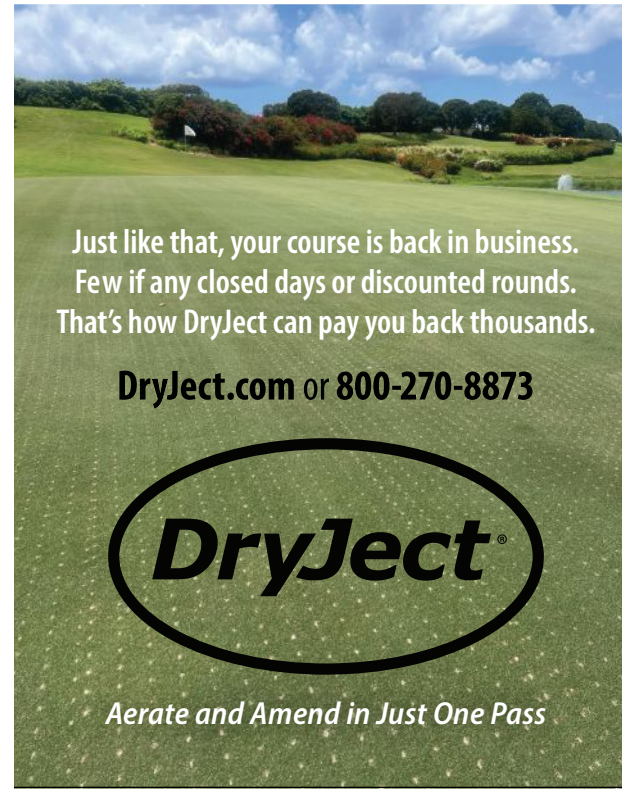


"Whaddya know, a former superintendent was in our group. The daytime golf was a picturesque stroll through rolling hills where the buffalo once roamed."

SETH JONES, *Editor-in-Chief & Associate Publisher*

Two memorable rounds at Bondo Greens

I live in a rural area in northeast Kansas. I'm not far from GCSAA headquarters in Lawrence — about 25 minutes southeast. We've got a lot of countryside views to enjoy out here and the stars are bright.

Last year I was driving to town just about a mile away from my house, when I saw a bunch of cars parking on a country road … and there were guys getting golf bags out of their cars. Intrigued, I slowed down and saw a sign that read "Bondo Greens."

I didn't have enough guts to pull down the road and ask what was going on, but I made a mental note to do a Google search when I got back home. That didn't net me much info, but I did learn that this was an annual event, and I nabbed a mailing address.

I eventually wrote a letter to "Bondo Greens," explaining a little bit about myself *(Hi, I'm the editor of a magazine about taking care of golf courses! And I'm practically your neighbor …)* That got me a call from Jim Bonderat, host of the tournament. He invited me to come out to see his land but warned that by then the golf course was mostly a hayfield.

I drove over and introduced myself. We chatted about golf, and he explained to me what Bondo Greens was. When his sons were in their early teens, they played a ton of golf. When they couldn't get to the course, they used the yard. Eventually, Jim decided to mow some fairways and greens into his property and told the boys to invite their friends — the coveted Bondo Greens jacket was up for grabs.

Apparently, I passed the vetting process, because a few months later, I got the personal invitation to play in the tournament. The all-in meant 10 holes of night golf on Friday, play your own ball, and a 10-hole two-person scramble on Saturday. Golf was followed by a catered lunch by the local wing joint, whose charity they support, and the presentation of the Bondo Greens jackets.

I booked my kids for night golf and my golf buddy, Joe, for the scramble.

Tournament weekend arrived and the weather couldn't have been better. That Friday was also the same evening that a solar eruption meant the Northern Lights might be viewable as far south as Kansas. I took my wife and kids, and we played glow-in-the-dark balls and fired away at illuminated flag sticks. We even caught a brief and faint view of the Northern Lights.

Saturday rolled around, and Joe and I were ready. We met our playing partners and this experience just kept getting better — *whaddya know,* a former superintendent was in our group. The daytime golf was a picturesque stroll through rolling hills where the buffalo once roamed.

Our playing partners were brothers Colby and Andrew Jones. Colby is the CFO for the Kauffman Center for the Performing Arts in downtown Kansas City, while Andrew is business development manager — golf for SiteOne Landscape Supply. Andrew, the former superintendent, met Jim's son in college — they're all Kansas Staters — and has been playing in the tournament ever since. As you might guess, the flagsticks were donated by Andrew years ago.

Andrew won the tournament when he was still in college. His win coincided with when the Bonderats moved, and Jim didn't host the tournament for a few years. Andrew held on to the jacket for longer than expected. "That jacket made plenty of trips to Aggieville (K-State's bar district)," Andrew said. Jim was shocked when he revived the tournament and Andrew returned the jacket, unscathed.

How cool is it that a group of high school buddies still meet up every spring in their friend's dad's driveway, to hit golf balls on farmland? What other sport delivers that?

When it was all wrapped up, the Jones brothers played like they'd done this before, finishing third.

Joe and I played like rookies, so the Bondo Greens jacket will not be making an appearance at Rick's in Lawrence any time soon. But hopefully we get invited to play again, because this really was a field of dreams.

Email Jones at: sjones@northcoastmedia.net.

The Golfdom FILES

FROM THE ARCHIVE

Caring for your equipment is crucial to ensuring the turf you manage lives its best life. How much has the routine for equipment changed over the last 95-plus years? Not much as it turns out. See what Jon MacGregor from Chicago Golf Club had to say in the February 1927 edition of *Golfdom* about keeping tractors, mowers and more in working condition. To read the full article, visit **Golfdom.com**.

Equipment care that pays

BY JON MACGREGOR // *Greenkeeper, Chicago Golf Club*

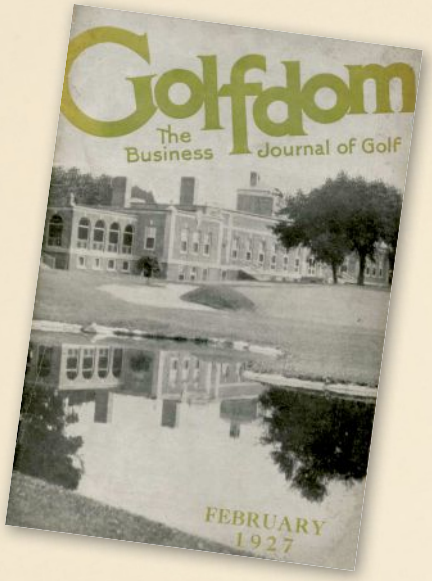
The subject of golf course maintenance is receiving more attention than it has heretofore from the men who are responsible, so I believe it is well for me to remind my fellow greenkeepers at this time that there is one branch of our profession which has been given very little thought. It is the care of golf course equipment.

First comes machinery, which includes tractors, green, tee and power mowers, compost mixers, compost screens, compost distributors, seeders, wagons, spraying outfits, etc.

Treat this equipment as something of great importance. There should be an understanding that when a machine does not operate properly there is something materially wrong and the cause most usually is an accident, or that the operator does not fully understand the working of this particular machine.

When anything does break it should not be repaired with a piece of wire, but should be inspected by someone who understands machinery, and will, if necessary, secure the parts to repair it from the manufacturer.

The most important point is to teach the operator what he should personally do to keep the machine he operates in proper working order. There are a great many who need much instruction, and who do not appreciate the value of proper care in the operation of the particular machine.



I want to impress on everyone concerned that the operators of machinery be given a thorough understanding of their responsibilities. The importance of lubrication should be made clear to them. When they have finished for the day (especially cutting grass) the hose should be turned on the machines to free them from grit and grass. All bolts and nuts should be gone over every day and tightened where necessary.

Such instructions usually come with machinery, and should be followed more closely. When the equipment has been taken into the barn at the end of the season, work should be started immediately on the overhauling.

OVERHAULING POINTERS

The tractor should be the first to receive attention, the work to be done depending on the age of the machine. If the tractor has been in use for only one season all that is usually necessary is cleaning out the carbon and grinding the valves, going over the bolts and nuts on the chassis and body. All of the grease cups should be taken out and cleaned ready to be filled before operation. If the tractor is two years old or more, it is possible that you have had trouble during the season with fouled spark plugs, which is usually an indication of leaky piston rings.

The best way to remedy this trouble is to take the old rings out and replace them with new ones a little oversize, then the connecting rod bearings may need taking up. There may also be worn knuckles on the steering gear that may need replacing. If you are not familiar with this work it will pay you to spend a few hours in a garage once in a while. You will be surprised at what you can accomplish on your tractors.

Next comes the mowing equipment. Every unit should be taken apart and thoroughly cleaned. The cleaning can be done with kerosene and an old brush. Then all of the bearings must be examined as they frequently show a great deal of wear. If so, they should be replaced as it is impossible to set a mower properly with loose bearings.

Starter

NEWS, NOTES AND QUOTES

//INTERNATIONAL RELATIONS

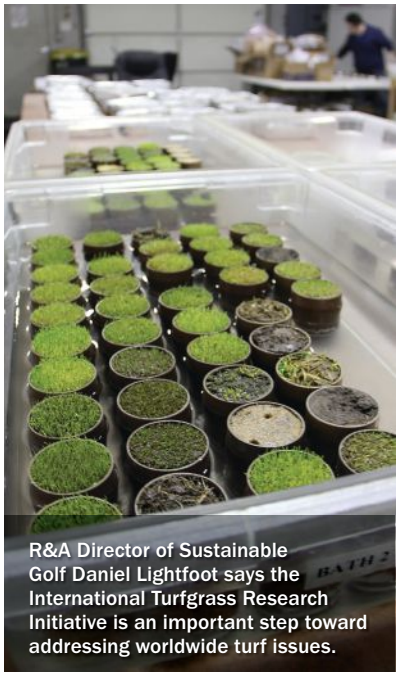
GLOBAL TURF RESEARCH EFFORTS GET A BOOST

USGA and the R&A partner with Scandinavian foundation to improve sustainable golf course and turfgrass management efforts

BY *GOLFDOM* STAFF

A new international effort to advance sustainable approaches to golf course and turfgrass management has launched with the help of the USGA, the R&A and the Scandinavian Turfgrass and Environment Research Foundation (STERF).

The International Turfgrass Research Initiative is a product of the 14th International Turfgrass Research Conference, co-hosted by STERF and the International Turfgrass Society (ITS) in 2022. Development and sustainability were the themes of that conference, and as a result, the three organizations agreed to push for investment in international turfgrass research as an outcome of those meetings. This new initiative is the result.



R&A Director of Sustainable Golf Daniel Lightfoot says the International Turfgrass Research Initiative is an important step toward addressing worldwide turf issues.

The International Turfgrass Research Initiative will fund multi-year research projects to tackle issues such as pest control, water conservation, biodiversity and climate impact on turfgrass. A call for research proposals will be issued in May, with successful applicants announced at the 15th International Turfgrass Research Conference in Japan next year.

This initiative supports existing programs from each organization such as the USGA's Mike Davis Program for Advancing Golf Course Management and the R&A's Golf Course 2030.

Cole Thompson, Ph.D., director, turfgrass and environment research for the USGA Green Section, says, "The future of our game is dependent on the steps we take today. Alongside our colleagues at the R&A and STERF, we encourage an international cooperation among scientists to align on important turfgrass management research topics."

More details can be found at **greensectionresearch.smapply.org.**

//ROCK SOLID PARTNERSHIP

KAFKA, NATIONAL ALLIANCE FOR ACCESSIBLE GOLF JOIN FORCES

The National Alliance for Accessible Golf and Kafka Granite of Mosinee, Wisc., have created a partnership aimed at advancing access and inclusion in the game of golf. Kafka's support will directly contribute to the delivery of education and resources to the golf industry fostering more welcoming, accessible and inclusive places to learn and play the game of golf.

The collaboration between the Alliance, a leading organization dedicated to promoting golf accessibility, and Kafka, a provider of specialty aggregates and crushed stone products, underscores a shared commitment to breaking down barriers and improving accessibility with their array of Kafka products designed with the Americans with Disabilities Act in mind.

"At Kafka Granite, we believe that golf is a game that should be accessible by people with all abilities," says Tiffany Koss, Kafka president. "By partnering with the Alliance, we aim to create meaningful change within the golfing community and create a more inclusive environment where individuals of all backgrounds can come together to enjoy the sport."

//TAKING THE HELMN

INDUSTRY VETERAN HELMN JOINS BERNHARD ACADEMY

The Bernhard Academy recently expanded its leadership team by appointing Phil Helmn as the full-time program leader for agronomy, leadership and management.

Phil Helmn

In his new position, Helmn will take control of the delivery of all Bernhard Academy courses and workshops relating to agronomy, leadership and management subjects. He will work closely with Sami Strutt, the newly appointed education director, and the internal and external teams to ensure a coordinated and positive experience at the Bernhard Academy.

Helmn is a GCSAA Class E (Educator) member and also a Master Greenkeeper — one of only 89 worldwide.

PHOTO BY: WELLGLAD / ISTOCK-GETTY IMAGES PLUS / GETTY IMAGES (GOLFBALL); *GOLFDOM* STAFF

//BIGGER AND BETTER

ROUNDS 4 RESEARCH FUNDRAISER UP 25%

For the third year in a row, the GCSAA Foundation's Rounds 4 Research program supporting turfgrass research broke records, yielding $685,010 during its online auction, an increase of $140,510 (25 percent) over 2023. The GCSAA Foundation is the philanthropic organization of the Golf Course Superintendents Association of America (GCSAA).

Rounds 4 Research enables the GCSAA Foundation to support local GCSAA chapters and the national association to fund critical advocacy, turfgrass research, education and community outreach improving the long-term sustainability of the game ensuring golfer enjoyment now and into the future.

Clubs from around the country donated more than 1,700 rounds of golf for an online auction where more than 3,000 golfers registered and 1,696 rounds were sold. The top bid was $14,020 at Ohoopee Match Club in Cobbtown, Ga. The auction also saw winning bids to play bucket-list courses such as Pinehurst No. 2, Bandon Dunes, Paradise Valley Country Club, Happy Hollow Club, Nanea Golf Club, Old Memorial Golf Club, Innisbrook Resort and Golf Club and Sutton Bay.

"Thanks to our generous donors, bidders and other supporters, Rounds 4 Research continues to grow significantly with each passing year," says Kevin P. Sunderman, CGCS, GCSAA chief operating officer. "Rounds 4 Research helps address the critical shortage in funding for turfgrass research and it allows everyone who loves the game to do their part in helping ensure its future."

Rounds 4 Research, presented in partnership with The Toro Co., has raised nearly $4 million since launching in 2012.

#TurfPostoftheMonth

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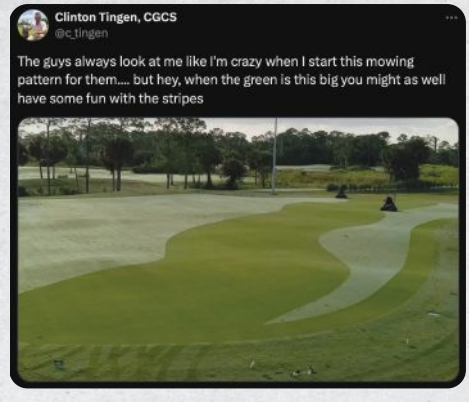
Clinton Tingen, CGCS

@c_tingen

Director of Agronomy at Sandhill Crane Golf Club, Stuart, Fla.



The guys always look at me like I'm crazy when I start this mowing pattern for them.... but hey, when the green is this big you might as well have some fun with the stripes.

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PHOTO BY: CLINTON TINGEN

Ask Thad

BY THAD THOMPSON

Superintendent
Terry Hills GC, Batavia, N.Y.

What is your take on the GCSAA's First Green program?

When I was young, my family owned a residential equestrian summer camp. We worked hard. Feeding horses, maintaining a 120-acre property, building maintenance, grounds, stall cleaning and fence repair. For eight weeks every summer we had campers that came and learned about horses and what real country living was all about. The other 44 weeks of the year were all on us. We grew up knowing the value of hard work, but it was the family business and not really a choice.

I learned about golf when I was 18 years old. I fell deeply in love with the game and my first job on the grounds crew came the following season. I worked at a nine-hole public course, that would eventually become my first superintendent job. My boss told me, "You should go to school for this." My response, with a huge smile, was "You can go to school for this?"

Golf course maintenance back in the 80s felt like an underground profession with secret handshakes and getting hired more for who you know than for who you were. The opportunity to get into the business felt like a quietly kept secret. This isn't the case anymore, and I'm proud to say that it's now one of the most respected positions in the golf industry.

First Green introduces school-aged kids to our industry, many from rural communities like the one I grew up in. Farm life isn't for everyone and to have a light bulb go off and realize there are different avenues to pursue the same kind of business is sometimes the missing piece in a kid's dreams. We're all grass farmers at heart. Is our yield healthy turfgrass, aesthetic beauty, properly managed green space or rounds per year?

I truly appreciate the way I was introduced to this business. Luck, hard work and friendships have gotten me as far as I have come. Having a program like The First Green is the inclusive introduction that so many need to have.

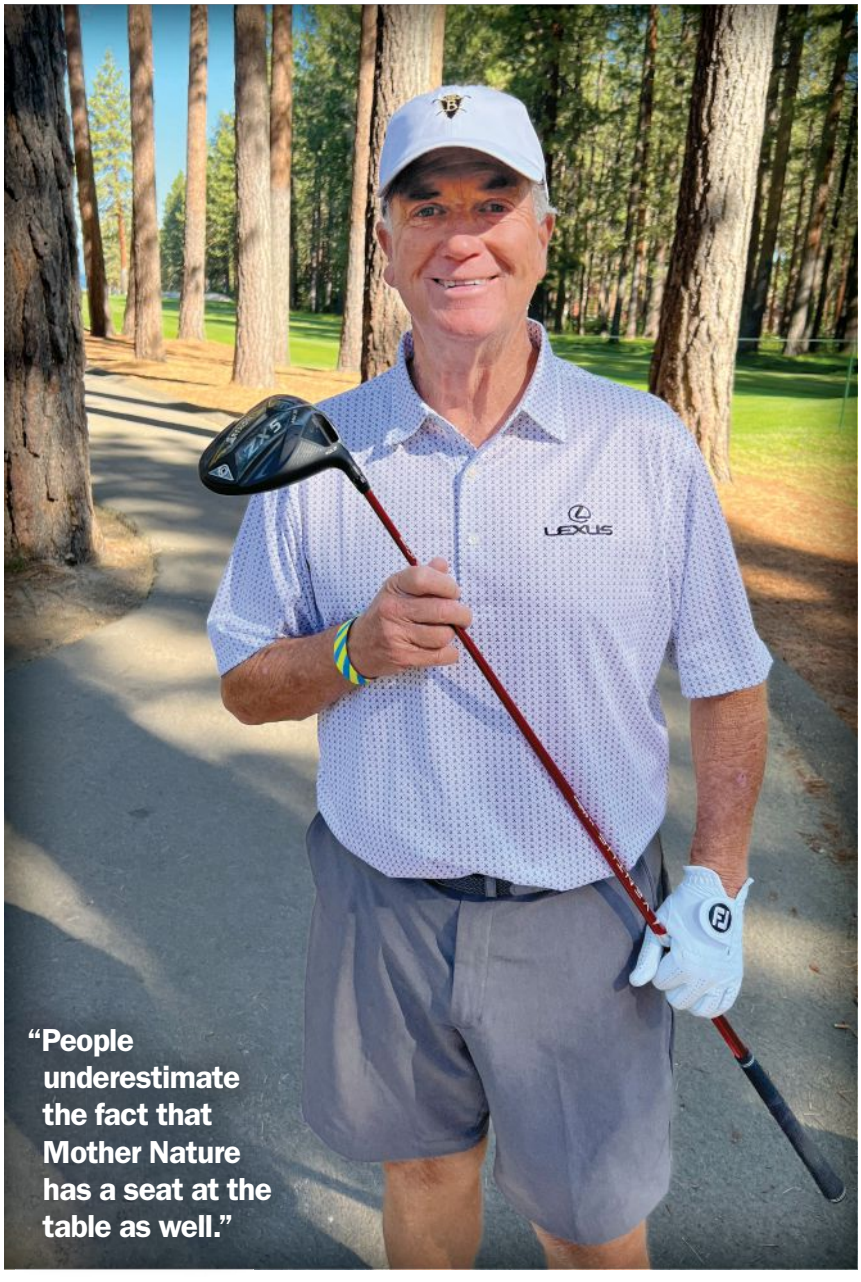
Got a question for Thad? Tweet to ***@TerryHillsMaint*** *and* ***@Golfdom*** *or email Thad at* ***thadthompson@terryhills.com***

Friends in High Places

#THANKASUPERINTENDENT

Peter Jacobsen, professional golfer and commentator

A TWO-TIME SENIOR MAJOR CHAMPION as well as a longtime golf commentator, Peter Jacobsen has been good to superintendents over the years. So good, in fact, that he was named the GCSAA's Old Tom Morris Award winner in 2012.



"People underestimate the fact that Mother Nature has a seat at the table as well."

PHOTO BY: *GOLFDOM* STAFF

"Peter has done so much for the game of golf, and he has been an advocate for golf course superintendents," then-GCSAA president Robert Randquist, CGCS, said of Jacobsen being honored by the association. "He has also been quite giving of himself for charitable events. He is a perfect fit for the Old Tom Morris Award."

A native of Portland, Ore., Jacobsen played college golf at the University of Oregon before turning pro in 1976. He won seven times on the PGA Tour, including the Colonial in 1984, the Bob Hope Chrysler Classic in 1990 and the AT&T Pebble Beach National Pro-Am in 1995. His last win on the PGA Tour came at the Greater Hartford Open in 2003, when he was 49.

— Seth Jones // *Editor-in-Chief*

"I think too many people take (conditions) for granted. They show up at a golf course like Edgewood Tahoe or L.A. Country Club for the U.S. Open, and the golf course is in spectacular shape. And people will complain if it's not perfect. But people underestimate the fact that Mother Nature has a seat at the table as well. And if Mother Nature doesn't agree with you or you have some weather problems, it's hard to keep the golf course perfect.

I think some of the biggest advances in the game have been in the technology of agronomy — greensmowers, bed knives, all of the deep tine machines, everything that superintendents use to create this perfect playing surfaces. And I just don't think people appreciate that enough.

I have huge respect for everybody with the GCSAA and what they do."

Golfdom Gallery

1 Security detail for the president GCSAA Chief Operating Officer Kevin Sunderman, CGCS (left), and Shane Conroy, GCSAA Great Lakes field staff representative (right) stand guard for GCSAA President Jeff White, CGCS, from Indian Hills CC in Mission Hills, Kan. (center) at the 2024 PGA Championship at Valhalla GC.

2 PopStroke with Zinger (Left to right) Dana Fry, ASGCA, of Fry/Straka Global Golf Course Design; Paul Azinger and Tyler Bloom, Tyler Bloom Consulting, take a moment for the camera during an event in Bradenton, Fla.

3 Casual Friday Jon Dodds, regional manager, IGM (left) with *Golfdom* Publisher Craig MacGregor at the 2024 TOCA Annual Meeting in Lake Las Vegas, Nev. Forgive Mac for the T-shirt on the golf course; his next stop was to help clean up a local park with the folks at Project EverGreen!

4 An afternoon at Bondo Greens (Left to right) *Golfdom*'s Seth Jones with Colby Jones, Joe Sharp and Andrew Jones, business development manager, golf, SiteOne Landscape Supply. To read about this round of golf, check out page 4.

5 Then and now at Valhalla John Ballard, CGCS at Valhalla GC, with the course's previous superintendent, Roger Meier, who is now the senior director of golf course management operations for the PGA of America, at the 2024 PGA Championship.

6 Miakka groundbreaking We caught up with two Friends of *Golfdom* at the recent groundbreaking of Miakka GC in Florida — Jason Straka, ASGCA and Ben Wheeler of Fry/Straka Global Golf Course Design.

PHOTOS BY: *GOLFDOM* STAFF

SPONSORED CONTENT

QUALI-PRO

Ridgeway Country Club photo by: Brian Digise

THE QUALI-PRO DIFFERENCE: Empowering Golf Courses to Thrive

Brian Digise, superintendent of Ridgeway Country Club in Neenah, Wis., relies heavily on Quali-Pro products to keep his greens in top shape. "We use about 50-percent post-patent products, the majority of which are from Quali-Pro. 100-percent of my post-patent fungicides and growth regulators are Quali-Pro brand."

One of Digise's favorite products he uses from Quali-Pro is their Enclave Flowable Fungicide. The first product of its kind in North America, Enclave is formulated with combination chemistry that delivers effective, long-lasting protection from anthracnose, brown patch, dollar spot, snow mold and a broad range of ornamental diseases.

"Enclave is a product that I've used at multiple properties for the last handful of years. I love the versatility; the combination of active ingredients covers me across the board. It's also as good in the summer months as it is in the winter, as it's a tremendous option for snow mold protection," he explains.

Digise and his team are committed to staying current on the newest Quali-Pro products and technologies as well. He has participated in Quali-Pro's early order program, Simply Grow Together, in the past and plans to continue doing so in the future. "My Quali-Pro Territory Manager, Bob Kane, and distributors do a great job of keeping me in the know and up-to-date. I'm always one to try the new product, and love to do trials on our nursery. It's a great way to watch things react before moving them onto the big stage."

Digise is looking forward to trying Quali-Pro's newest products: 3-D Foam Herbicide and Prodoxaben SC & G, he anticipates testing them over the summer.

"I really enjoy using the Quali-Pro line and the relationships built through that process."

> "Enclave is a product that I have used at multiple properties for the last handful of years. I love the versatility; the combination of active ingredients covers me across the board. It is also as good in the summer months as it is in the winter, as it is a tremendous option for snow mold protection."

Brian Digise

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"DMPs emphasizing open-source collaboration with companies that make up the rest of the turf tech ecosystem will see the most success ... solving the problem of too many apps plaguing phones of supers everywhere."

BENTON HODGES, *Owner, Mountain West Turf Technologies*

The foundations of turf tech

In my debut column last month, I shared my background with technology and why I have decided to focus my efforts on helping superintendents incorporate turf tech into their programs. In this column, I break down the five foundations of turf tech to begin to paint a more digestible picture of the technology ecosystem we are working towards in 2050.

1 Digital management platforms The digital management platforms of today will be the turf tech command center of tomorrow. With the rise in data-driven decision making, superintendents are likely familiar with the many options of digital management platforms (DMPs) available.

There are companies out there that focus on a la carte offerings to allow a "buy-what-you-need" model with others in the space looking to be the one-stop shop type program, handling anything you could imagine in a single dashboard system.

As we look towards the future, DMPs emphasizing open-source collaboration with companies that make up the rest of the turf tech ecosystem will see the most success among superintendents, solving the problem of too many apps plaguing phones of supers everywhere.

2 Sensing tech We've all heard the adage, "You can't manage what you don't measure." Sensors are here to improve our ability to measure what's happening on the course through several different methods. Combining these technologies with the keen eye of a superintendent, you will be able to dial in your agronomic programs.

Hand-held moisture sensors are now commonplace, with early iterations replaced by advanced, integrated versions. In-ground soil sensors have gained in popularity recently, allowing for continuous data collection over weeks, months and years.

More recently, the emergence of equipment-mounted sensors has made passive collection of data a possibility simply by mowing your fairways.

3 Next-gen spraying GPS spraying isn't a new topic, but the depth of options, features and brands to choose from these days is worthy of conversation. The real time kinematics (RTK) network has improved standard GPS position data from a three-foot to a sub-inch accuracy level by using corrections from a fixed base station. Spray applications have increased in efficiency and accuracy.

Boundary control and overlap prevention are standard features on most units, but there are now options for turn compensation, autosteer and variable rate spraying.

4 Robotics in turfgrass The hottest topic in turf tech, without a doubt, is robotic autonomous mowers. Current integration for properties has focused on areas such as clubhouse grounds, driving ranges, practice areas, par-3 courses, roughs and fairways.

Utilizing the same RTK network as sprayers, this technology has evolved from requiring boundary wires to fully wireless connectivity, which has driven the increased adaptation in the past year.

5 Aerial turf management Golf courses use drones in a variety of ways. The most common is for photos and videos for communication or marketing material. Drones equipped with multi-spectral cameras are now conducting flights on golf courses for plant health monitoring.

Accurate surveying and mapping applications are especially useful for renovation and construction projects, along with irrigation mapping and building maps useable by GPS sprayers or autonomous mowers.

Logistical limits and heavy regulation for agriculture spray drones mean they are not currently a practical option in golf. However, native grass weed management has been identified as a use case for drone spray applications.

Hodges started his career in the turfgrass industry as a researcher at Mississippi State University followed by nearly a decade at high-end golf clubs as an assistant superintendent in the Mountain West. He now focuses his efforts on helping golf courses leverage technology-driven solutions while maintaining a people-first mindset. Find him on X at @BPHTurf or LinkedIn.

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It's easy being (First) Green

BY SETH JONES

Program introducing school kids to careers in golf maintenance keeps growing

When PGA Tour player Akshay Bhatia won the Valero Texas Open in April, it made for a fun story. This was the first time a competitor in the Drive, Chip and Putt National Finals — contested at Augusta National, home of the Masters — qualified to play *in* the Masters.

To see a player go from a contest for youths to one of the pinnacles of the game was a win for Bhatia and for golf. Not only was it a win for the game, but it got us here at *Golfdom* thinking.

The First Green has been teaching school kids about the field of golf course maintenance since the late 1990s. So, how long until a First Green student becomes a head superintendent? Or hosts a professional tournament? Or a major?

"That'll be a really big goosebumps moment for me when it happens," says Leann Cooper, director of First Green and workforce development for the Golf Course Superintendents Association of America (GCSAA).

Leann Cooper

Cooper recalls first pondering that question after her first or second First Green event, in 2019. A superintendent was asked by a sixth-grade girl if he was the course's superintendent. After he said yes, she asked him, 'How much money do you make?'

"You know kids, they get right to the heart of things," Cooper says. "He said, 'I do alright for me and my family … why?' She replied, 'Because I might want to do this for a living someday.' And I kind of got goosebumps right then, because this is what it's all about — that interaction right there."

15 and counting

First Green is a program administered by the GCSAA that strives to teach schoolchildren about career opportunities in golf maintenance. The program allows students to get out of the classroom and out on the golf course where they rotate from station to station, learning about the effort that goes into maintaining a golf course. The curriculum is ready-made by GCSAA and includes stations about mowing and equipment, water conservation, irrigation, green speed and more.

The first step in hosting a First Green event is to visit **GCSAA.org** and register to host. GCSAA staff then connect with the superintendent to see if they have a local school already in mind — perhaps where their own kids attend school. If they don't have a school already selected, GCSAA goes to work to find one nearby.

Ryan Kraushofer, CGCS, is the general manager and superintendent at Westminster (Md.) National GC, and has plenty of experience in hosting First Green events. He's hosted 14, maybe 15 already, and when *Golfdom* spoke with him in mid-May, he was ready to add another event to that total — 100 kids were scheduled to arrive at Westminster later that week.

Ryan Kraushofer

Why is he so dedicated to teaching youths about golf maintenance?

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SERGEY KURILENKO / ISTOCK-GETTY IMAGES PLUS / GETTY IMAGES (BACKGROUND)

The First Green held 89 on-course sessions in 2023. The goal for 2024 is 100. "We've had 13,000 students go through the program in 32 states," says Leann Cooper, GCSAA.

Brett Oxley, CGCS, Red Tail Run GC, Decatur, Ill., says it's fun when the students are stunned by things he takes for granted. "They're amazed at the technology that's within the irrigation system … being able to throw an irrigation head up across the course with a radio that's in my hand just by punching numbers up? They were blown away."

David Phipps, GCSAA field staff representative for the Northwest, notes that GCSAA offers $500 grants to help offset First Green expenses. "That will offset the costs for the busing or lunches or whatever you want to use the money for," he says.

PHOTOS BY: *GOLFDOM* STAFF

Brian Gietka, CGCS, USGA Green Section agronomist for the east region, shows students how a Stimpmeter measurement is taken at Westminster (Md.) National.

Many of the First Green's lessons are interactive, which keeps the students highly engaged.

PHOTOS BY: *GOLFDOM* STAFF (BOTTOM); RYAN KRAUSHOFER (TOP)

Continued from page 14

Maybe it's because he was only 12 when he started working at Westminster himself. A family-owned club, he's had about every job there is at Westminster.

Kraushofer first learned about the program years ago when GCSAA hosted a First Green class at the association's annual conference in San Diego. Kraushofer immediately knew he wanted to bring this program out east, and that he'd have the support of his chapter.

"We were all looking for workers then and I was on the Mid-Atlantic GCSA Board of Directors at the time … I thought it'd be a good program to bring back to the Mid-Atlantic," Kraushofer says. "We make it a chapter event here in the Mid-Atlantic. A superintendent is not on his own when he hosts one. We advertise it in our weekly e-newsletters; we get sponsors."

You get out of it what you put into it, Kraushofer adds.

"It's rewarding; it's good PR for the golf course," he says. "My first one I was a little nervous, but we had a good plan and good stations, which get the kids thinking along the way. It's great to see the kids out of the classroom, enjoying the golf course."

Big Paape

Count Mike Paape as another superintendent who found employment in the game of golf young — he started working at Southview CC in Burnsville, Minn., as a caddie at age 13, then joined the grounds crew when he was 16. He went to school for agronomy and held various positions in the industry, but when the superintendent position opened at his childhood home course six seasons ago, it was a job he "had to have."

But he won't take credit for the idea of hosting the youth of today at Southview. That was the idea of Brad Smith, his friend and sales rep for Heritage Professional Products Group. Smith was familiar with the First Green and, with a son who is a student at a nearby school, he broached the idea with Paape.

"I emphatically said I 100-percent would want to be a part of that, and I

would love to host one," Paape says. "That was the first time I had heard about a First Green event, and I just loved the concept."

Paape has "a whole pile" of kids (five total) and is married to a third-grade teacher, so he went into the event feeling confident. He says Smith dotted all the I's and crossed all the T's while also lining up many of the volunteers.

"It was super easy, super smooth. The planning process was simple," Paape says. "We had all winter long (to prepare). Winters get long here in Minnesota, so we had lots of time to do the planning. We were able to line up all of our volunteers, get all the different stations we wanted and figure out who would be best for each one of those stations. We had a number of people that had experience with First Green events coming to our location, and that made it even easier."

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PHOTO BY: *GOLFDOM* STAFF

Jake Straub discusses soil testing with students at a First Green event at LedgeRock GC in Mohnton, Pa.

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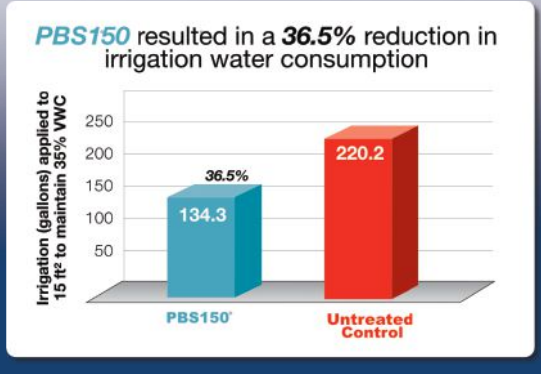

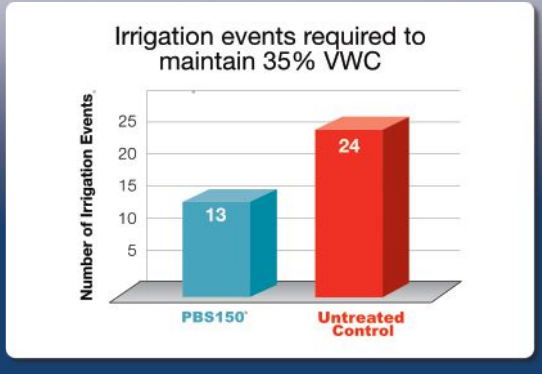

Evaluation of Two Soil Surfactants for Soil Water Management of Creeping Bentgrass on a Wettable Clay Loam Rootzone During a Dry-down Period

Nolan, G. and M. Fidanza. 2016. Penn State University

Penn State University research study showed that creeping bentgrass plots treated with **PBS150** resulted in a ***36.5% reduction in irrigation water consumption*** over a 63-day dry-down period versus plots only treated with irrigation water.

Turfgrass plots that were treated with 3 applications of ***PBS150*** prior to the 63-day dry-down period required ***40% less irrigation events*** versus untreated plots that only received irrigation with no soil surfactant.

AQUA·AID SOLUTIONS

Continued from page 17

Southview hosted 74 kids — sixth, seventh and eighth graders. Paape and JT Hauser, superintendent at Rochester (Minn.) G&CC, manned the station where they discussed how greens are mowed, and the difference between a rotary mower and a reel mower.

Paape says of the 74 kids, maybe only two had any understanding at all of how a golf course is maintained.

"And one of those kids was Brad's," Paape laughs. "It was great to see some eyes light up and some astonishing reactions as far as when we talked about how short we cut the grass on greens compared to how long they mow their lawn at home."

Looking back, Paape says after he agreed to host the First Green, his excitement eventually turned into trepidation as the day drew nearer. His biggest concern before hosting was that he wanted the areas where the kids would be standing well prepared in advance of their arrival.

"It almost became a little bit of a distraction in a way, but when it was all said

Ryan Kraushofer, CGCS, Westminster (Md.) National, shows students how a TDR Soil Moisture Meter works.

Learn from experience

Advice from veterans of hosting First Green classes

Ask the kids lots of questions

"It's just like a classroom … if they feel like they might get asked a question, the more they're going to listen, the more they're going to engage," says Mike Paape, Southview CC, Burnsville, Minn. "They don't want to have a stupid answer and they don't want to not know what's going on. I tried to continually ask as many questions to them as possible, but I do truly think that these kids were interested in all the things we were talking about for the most part."

Don't do it alone

"Pull in your chapter colleagues. All the chapters are aware of this program and are very supportive of it and want to volunteer," says Leann Cooper, GCSAA's director, First Green and Workforce Development. "Many of the superintendents I'm working with are using First Green as a great way to help develop their assistant superintendent … they're giving this over to their assistants to organize and lead."

Find a supportive teacher

"There are so many ways to do these field trips, there's no one way that makes them happen," says David Phipps, GCSAA field staff representative for the Northwest. "But the first thing you have to do is find a teacher who is interested and wants to do it … then everything else is going to fall into place."

Request parent chaperones

"The parents get as much out of it as the students do," says Ryan Kraushofer, CGCS, Westminster (Md.) National GC. "I've had parents leave here asking as many questions as the students. Plus, they help keep the kids paying attention."

Have fun with it

"These kids are getting off the bus, and they're happy to be out of school most of the time — you've got a chance to show them what you really get to do on the golf course every day," says Brett Oxley, CGCS, Red Tail Run GC, Decatur, Ill. "Make a memory with them."

— S.J.

PHOTO BY: *GOLFDOM* STAFF; MICHAEL BURRELL/ ISTOCK-GETTY IMAGES PLUS / GETTY IMAGES (NOTEBOOK PAPER)

Carl Thompson, CGCS hosts seventh-grade students from Liberty Christian in Richland, Wash., to learn of the importance of oxygen in the root zone with a demo of the Air2G2 machine.

PHOTO COURTESY: GCSAA

and done, I was like, 'Oh, man, that was totally worth it for the three or four kids in each group that really got something out of it and may end up pursuing a career like this someday,'" Paape says. "I felt like, little by little, if this becomes more and more of a thing, this might be what turns around our industry at the end of it all."

Help from headquarters

One common message from those familiar with hosting First Green classes is that GCSAA, its field staff and a group of 30-plus supers designated 'First Green Liaisons' around the country are happy to help courses host these events. Don't hesitate to reach out for that assistance, says Brett Oxley, CGCS, Red Tail Run GC, Decatur, Ill., and a First Green Liaison.

Brett Oxley

"Get a hold of your GCSAA Field Staff for the different regions — they're a great resource," he says. "And any other superintendents who have hosted the First Green or your First Green Liaison, get a hold of any of them. We're always willing to help set up, help give you some advice, kind of help you align things out along the way."

David Phipps, GCSAA's Field Staff representative for the Northwest, says he's seen First Green events hosted by just the superintendent and the assistant of a course — but there's no need to keep it so small when others are happy to help.

Continued on page 20

Golfdom *asks:*

Did you learn about the industry via First Green?

Our curiosity has gotten the best of us … how many golf course maintenance employees are out there today who first learned about the industry after attending a First Green event as a kid?

If you know someone on your crew who fits this description, we would like to talk to you for a future story in *Golfdom*. Email Editor-in-Chief Seth Jones at **sjones@northcoastmedia.net** so we can hear your story.

Continued from page 19

"Outside environmental groups, like water conservation districts, love doing labs … it's an easy sell to get their help doing that," he says. "But what I like is to engage local superintendents in the area, which then empowers them to host their own event. That's how we're going to grow this thing — it's a grassroots effort to get people involved."

That is Cooper's No. 1 piece of advice when it comes to hosting an event — there's no need to go it alone.

CourseCo's Gary Ingram helps Carl Thompson, CGCS at his First Green event, teaching the properties of water.

Jeff Gullikson, CGCS, has students learn hydraulics by measuring distance from the nozzle.

"Pull in your chapter colleagues, all the chapters are aware of this program, and are very supportive of it and want to volunteer," she says. "Many of the superintendents I'm working with are using First Green as a great way to help develop their assistant superintendent … they're giving this over to their assistants to organize and lead."

The First Green program has become a primary part of Cooper's role with GCSAA. She's worked for the association for 24 years. Previously she was the senior manager of chapter services, but as the First Green program grew, her supervisor, Shelia Finney, senior director of member programs, told her a decision needed to be made: continue her role as normal or switch to the director of the First Green and Workforce Development.

"I put on a different hat because we needed someone to drive these initiatives, because workforce development is huge," she says. "Labor continues to be a challenge, either retaining the folks you have or recruiting new people. I couldn't give up First Green. That's how much I love this program. I was very happy working with chapters, but (First Green) is a passion of mine, so I'm really happy that it's doing well."

PHOTOS BY: *GOLFDOM* STAFF

PHOTO COURTESY: BIG CEDAR LODGE

A home away from home

After a move from the Pacific Coast to the Ozarks, Bubba Wright shares how things aren't that different

BY ROB DIFRANCO

Bubba Wright is a born-and-raised Californian. You wouldn't have guessed that from his name, which is actually Bubba … that *isn't* a nickname.

Luckily for Wright, in his new home — southwestern Missouri — Bubba doesn't stick out quite as much as it did before.

"There aren't too many Bubbas in California," he laughs. "So, I feel a little bit more at home here, that's for sure."

In late 2023 Wright left the scenic coastline at Pebble Beach, after 13 years there, for Big Cedar Lodge in Ridgedale, Mo. The move to the Ozarks has been a big shift for Wright, who spent most of his life on the West Coast, in California and Arizona, except for his college years at Rutgers.

Bubba Wright

"I joke around with everybody that I traded waves for waterfalls," he says. "We're in the heart of the Ozarks, so you get a great mix of flora, fauna and wildlife — we call it nature golf. You can see animals from bass to buffalo to bald eagles on our properties. It's a pretty dramatic environment, sometimes people have a hard time focusing on golf when there's so much nature around you."

Missouri has a very moderate climate compared to the rest of the Midwest. So, Wright says it's been challenging in that aspect as well as a great opportunity to learn. Wright points to Vice President of Golf, Jeff Dean, and all of his superintendents for helping him make a successful transition.

He also points toward his previous experience in a unique

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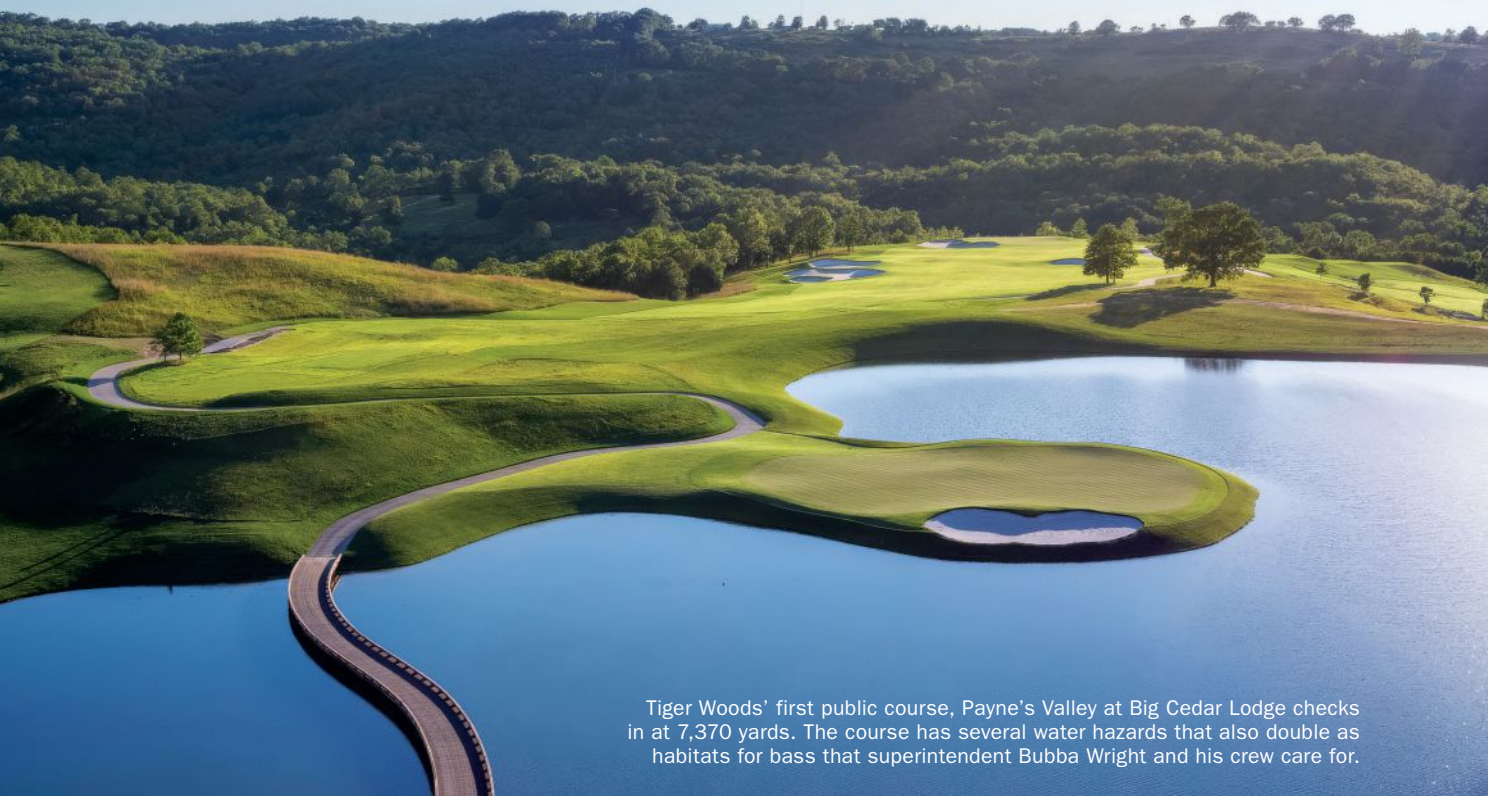

Tiger Woods' first public course, Payne's Valley at Big Cedar Lodge checks in at 7,370 yards. The course has several water hazards that also double as habitats for bass that superintendent Bubba Wright and his crew care for.

Continued from page 21

environment — the Pacific Coast — as something that prepared him for this new position.

"In a sense, it's been a very smooth transition," he says. "Pebble Beach is such a dynamic environment. You have the Pacific Coast right next to you and this beautiful piece of land that you're a caretaker of and trying to assure its success for generations to come, and a seamless transition to the Midwest and these properties."

A slice of heaven

Located near the Show-Me State's southern border with Arkansas, Big Cedar Lodge features five courses — Payne's Valley, Ozarks National, Buffalo Ridge, Top of the Rock and Mountain Top — designed by a murderer's row of golf legends.

The resort was originally developed in the early 1920s as a country retreat for two Missouri-based entrepreneurs. Bass Pro Shops CEO Johnny Morris purchased the property and reinvented it as Big Cedar Lodge in 1988.

In the 36 years since the property became Big Cedar Lodge, Morris has added courses from Jack Nicklaus, Tom Fazio, Gary Player, Tom Watson, Bill Coore and Ben Crenshaw and Tiger Woods.

Johnny Morris might be a familiar name for golf course superintendents as the 2022 Old Tom Morris Award recipient from the GCSAA. As a result of Johnny Morris' history, at Big Cedar, sustainability is the name of the game, especially with its location in the heart of the Ozarks, Wright says.

"When you work for someone like Mr. Morris and Bass Pro Shops, (sustainability) is not just part of what you do, it's everything that you do," Wright adds.

Keepin' it simple

The 4,500-acre property is home to plenty of unique wildlife including bison, bald eagles, pheasants and more. That all plays into the resort's Audubon Sanctuary status, which everyone from Wright up through Johnny Morris himself takes great pride in.

Wright doesn't claim that his staff does anything too radical in their efforts to provide a sustainable environment in the Ozarks. He says his team's practices start from the ground up, with soil tests and organic fertilizers.

"(It's important) to be able to fully understand your soil tests," he says. "It's how you know what you're putting out, and make sure that there is no waste. All of our fertilizers are organic, and they work in conjunction with our soil tests."

One area where Wright's team does go above and beyond is with its water testing, which takes place once a month by an outside vendor. Wright says this isn't something required by Audubon to become a sanctuary, but with the varied usage of water on the course, it's a necessary step.

"It's something we do to make sure that all of our bodies of water and our courses are protected. It keeps our irrigation water free from bicarbonates and salts," he says. "It also helps us know that we're providing a healthy habitat for our vast ponds and bass populations."

The right blend

Effective use of technology is a crucial part of Wright's success in his eyes. While Big Cedar doesn't employ widespread use of

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PHOTOS COURTESY: BIG CEDAR LODGE

Top of the Rock — a Jack Nicklaus design — was the first par-3 course to play host to a PGA Tour event — the Bass Pro Shops Legends of Golf tournament on the Champions Tour.

"There are so many beautiful spots on this course. It's unbelievable. There is a certain atmosphere about this place that we've never seen before," said Ozarks National GC architect Ben Crenshaw. Crenshaw and Bill Coore designed the course for Big Cedar Lodge which opened in 2019.

Continued from page 22

autonomous mowers or other forms of artificial intelligence, the resort does utilize GPS technology.

"We use soil sensors and moisture meters like many courses do. We have all John Deere equipment and GPS technology," he says. "That really helps us to pinpoint all our applications, ensuring there is no waste and our product is going out as efficiently as possible."

Big Cedar also recently dabbled in using human-piloted drones to scout for potential problem areas. Wright expects that to continue in the future as the resort's agronomy team looks for areas to improve.

"Technology is moving at just a rampant pace right now, and not just on the golf course, but in all of our lives," Wright says. "You look at AI and autonomous vehicles and wonder what that's going to do to the process of maintaining a golf course — who knows? So, for us, trying to keep abreast of technology and utilizing drones, moisture meters and soil sensors is going to be big moving forward."

Wildlife expedition

Wright says his courses' relationship with the wildlife that call the Ozarks and Big Cedar Lodge home is crucial.

"When we create a water feature for the course, we're not just creating a pond. It's a fully sustainable bass habitat where we will put in rocks and trees," he says. "It's an environment for them to thrive in, and, throughout the year, we're checking on that population. Our greenskeepers feed the bass daily in summertime. We don't just put them in there and let 'em go. We also stock our ponds with bait fish and carp to provide a sustainable environment."

With the wide array of wildlife on the property and the course, Wright expects to have to keep his eyes open to avoid any run-ins with his new neighbors.

"I haven't had any crazy interactions yet. I've had the opportunity to catch a lot of fish and that's probably the most exciting interaction with wildlife I've had so far, but I'm sure they're coming," he says. "I'm not looking forward to the snakes coming out in the summertime, I'm going to stay out of our native areas as much as I can."

PHOTO COURTESY: BIG CEDAR LODGE

Hosted by Mike Kenna, Ph.D. | *mpkenna@gmail.com*

Super Science

// **BENT OUTTA SHAPE**

TESTING THE LIMITS OF BIOLOGICAL *PYTHIUM* CONTROL

By J.A. Roberts, L. McBride, K. Russ and A. Lynn

A research trial established in the summer of 2022 aimed to evaluate the impact of biological product applications on *Pythium* root rot development in Penn A1 creeping bentgrass maintained on a sand-based root zone as a golf course putting green.

Researchers mowed the experimental site five times a week at a cutting height of 0.125 inches, and reduced frequency to three times a week in July and August during excessive heat. Fertilizer applications totaled 1 lb. Nitrogen (N) (46-0-0) through foliar applications (0.25 lbs. N/1000 sq. ft.) every 14 days. Researchers applied Harrell's Fleet (polyoxyalkylene polymers) at 4 fl. oz./1000 sq. ft. every 28 days to maintain water infiltration and uniformity in the root zone.

The research team applied Syngenta's Primo Maxx (trinexapac-ethyl) every two weeks at 0.138 fl. oz./1000 sq. ft. to limit vertical growth following standard management practices in the region. Researchers applied Prostar WG (i.e., flutolanil) at 3 oz./1000 sq. ft. on June 7 and Daconil Weatherstik (chlorothalonil) at 3.5 fl. oz./1000 sq. ft. on July 26 as curative applications for brown patch and algae.

Treatment plots measured 3-by-10 feet and were arranged in a randomized complete block design with four replications. The team applied treatments as a foliar spray in water equivalent to 2.1 gal/1000 sq. ft. using a CO2-powered walk-behind sprayer equipped with dual TeeJet 8002 nozzles.

Pythium root rot developed naturally across the experimental site in early July. Researchers observed some variation initially, but continued disease progression resulted in more uniform symptom development. Across all rating dates, Zelto + Select Phite 3 fl. oz. did not significantly impact *Pythium* root rot when compared to the non-treated control. Except for Zelto + Select Phite 3 fl. oz., all remaining treatments significantly reduced *Pythium* root rot compared to the non-treated control on July 7 when disease pressure was low.

Continued disease progression in mid-July showed Azoxy Bio 0.9 fl. oz., Zelto + Select Phite 6 fl. oz., and Segway 0.45 fl. oz. treated plots had significantly less *Pythium* root rot than the non-treated control on July 19, and only Zelto + Select Phite 6 fl. oz. and Segway 0.45 fl. oz. were able to significantly reduce disease compared to the non-treated control on July 29. On the final date, Segway 0.45 fl. oz. was the only treatment able to significantly reduce *Pythium* root rot compared to the nontreated control.

These results show that biological products tested offer some benefit to reducing *Pythium* root rot under low disease pressure, but may break down under severe pressure experienced on creeping bentgrass.

USGA
This project was funded in part by the USGA Green Section.

NEWS UPDATES

SITEONE NOW OFFERS FMC'S DURENTIS

SiteOne Landscape Supply recently expanded its turf maintenance and pest management offerings with FMC's Durentis insecticide.

The proprietary formulation provides golf course superintendents with above- and below-ground protection from chewing pests on golf courses.

"Adding Durentis to SiteOne's offerings is a strong step in ensuring our customers have everything they need to be successful on the job," said Kevin Laycock, director of category management at SiteOne.

Formulated for only one application to last all season, Durentis is a highly concentrated formula of chlorantraniliprole that gives fast-acting protection against pests like grubs, fall armyworms, turf caterpillars, cutworms and annual bluegrass weevils (ABW).

> "ALL TREATMENTS AT NORTH CAROLINA STATE SIGNIFICANTLY SUPPRESSED *PYTHIUM* ROOT ROT BASED ON AUDPC VALUES EXCEPT FOR SUBDUE MAXX"
>
> **Mike Kenna, Ph.D.**
> *(see story on page 26)*

//THREE'S COMPANY

A deeper dive into *Pythium* root rot control on bentgrass and ryegrass

By Mike Kenna, Ph.D.

Researchers at North Carolina State University, Clemson University and Rutgers University evaluated fungicides to control *Pythium* root rot on creeping bentgrass and perennial ryegrass. The research teams conducted two studies on creeping bentgrass putting greens, and the other on perennial ryegrass rough.

Fungicides used in the studies included Segway 3.33 SC (PBI-Gordon), Union 0.79 SC (PBI-Gordon), Serata 20 WDG (FMC), Banol 6 SL (Envu), Subdue MAXX 2 ME (Syngenta) and Fame 3.98 SC (FMC) (see Table 1).

At all three locations, *Pythium* root rot peaked during the summer months in 2022 at Clemson's Pee Dee (S.C.) Research and Education Center, and in 2023 at NC State, Turfgrass Field Lab in Raleigh, N.C., and at Rutgers, Horticulture Farm No. 2 in New Brunswick, N.J.

Overall, at North Carolina State, the disease exhibited moderate severity in 2023, peaking in mid-July, with the combination of Segway and Serata treatments being notably effective in suppressing disease development.

"All treatments reduced *Pythium* root rot compared to the nontreated control on July 29 and Aug. 5, when (researchers) observed peak disease pressure. The results show that Serata offers comparable control of *Pythium* root rot disease to Segway."

In 2022 at Clemson, *Pythium* root rot symptoms throughout the summer demonstrated the effectiveness of Serata alone or in combination with Fame SC in controlling *Pythium* root rot and were comparable or superior to Segway. On perennial ryegrass at Rutgers, the Banol treatment was among the best in reducing disease severity compared to untreated plots.

The following is a more in-depth review of experimental methods and results for each fungicide trial to control *Pythium* root rot.

NORTH CAROLINA STATE UNIVERSITY

Researchers at the North Carolina State University Turfgrass Field Lab in Raleigh, N.C., conducted this study on Dominant Plus creeping bentgrass maintained as a golf course putting green. The research teams mowed plots six times per week at 0.150 inches. Researchers fertilized the plots with urea at 0.125 lbs. N per 1000 sq. ft. every other week.

The NC State researchers irrigated

TABLE 1

Fungicide control of *Pythium* Root Rot on a creeping bentgrass putting green at North Carolina State University.

Treatment, formulation, rate/1000 ft[2]	Application code[z]	*Pythium* root rot (percent)			
		July 18	July 31	Aug. 15	AUDPC[y]
Segway 3.33 SC 0.6 fl. oz.	ACEG	5.0 bc[x]	13.8 ab	13.3 abc	342.4 bc
Union 0.79 SC 2.9 fl. oz.	ACEG	3.5 bc	8.3 bc	10 cd	213.3 cd
Segway 3.33 SC 0.45 fl. oz. + Serata 20 WDG 0.6 fl. oz.	AE CG	0.0 c	0.0 c	0.3 d	1.9 d
Banol 6 SL 1.5 fl. oz.	ACEG	7.0 bc	9.3 abc	11.5 bc	261.3 bcd
Subdue MAXX 2 ME 1.0 fl. oz.	ACEG	14.5 ab	20.5 a	22 a	546.3 ab
Nontreated control	—	25.0 a	21.3 a	20.8 ab	615.6 a

[z] Application code indicates date of each treatment: A-21 June, C-6 July, E-19 July, and G-2 Aug.
[y] AUDPC represents Area Under Disease Progress Curve.
[x] Means within columns followed by the same letter are not significantly different according to Fisher's Protected LSD test ($P \leq 0.05$).

TABLE 2

Fungicide control of *Pythium* root rot on a creeping bentgrass putting green at Clemson University.

Treatment and rate/1000 ft²	Application code[z]	*Pythium* root rot (percent)				
		June 28	July 7	July 20	July 29	August 5
Serata 20WG 0.6 oz.	ACEGIK[y]	0.0	0.3 b[x]	1.3	1.2 b	0.0 b
Serata 20WG 0.8 oz.	ACEGIK	0.0	1.3 ab	0.0	4.2 b	0.4 b
Serata 20WG 0.4 oz. + Fame 3.98SC 0.36 fl. oz.	ACEGIK	0.0	0.9 b	2.5	4.9 b	0.0 b
Segway 3.33SC 0.67 fl. oz	ACEGIK	0.5	0.0 b	0.0	1.2 b	0.0 b
Nontreated		1.0[x]	5.8 a	4.7	26.8 a	29.6 a

[z] Treatments were applied at the specified intervals beginning May 17 in 2.1 gal/1000 ft² using a CO_2 walk-behind sprayer equipped with two TeeJet 8002 nozzles
[y] Letter designations represent specific application dates with A – May 17, C – May 31, E – June 14, G – June 28, I – July 12, and K – July 26.
[x] Means within columns followed by the same letter are not significantly different according to Fisher's LSD test ($\alpha < 0.05$)

plots at 5 p.m., 12 a.m., and 5 a.m. daily for 3 minutes starting in May to induce root rot symptoms. Individual plots were 3-by-6 ft. and arranged in a randomized complete block design with four replications.

Researchers applied treatments in a water carrier at 2 gallons per 1000 sq. ft. with a CO2-powered sprayer equipped with a TeeJet AI9508E nozzle at 50 psi. They irrigated all treatments immediately after application with 0.125 inches of water.

The team initiated treatments on June 21 and applied them at 14-day intervals.

Pythium root rot developed naturally in June. The researchers assessed the percent turf area exhibiting *Pythium* root rot symptoms on July 18, July 31 and Aug. 15. Data were subjected to analysis of variance and means separation Fisher's Protected LSD test ($P \leq 0.05$).

Pythium root rot disease severity was moderate in 2023 due to high relative humidity and nighttime temperatures at or above 70 degrees F. Disease severity was highest on July 18 at 25.0 percent in the nontreated control. Disease severity in other treatments continued to increase throughout July and August. All treatments significantly suppressed *Pythium* root rot based on AUDPC values except for NB40950 and Subdue MAXX. The rotation of Segway with Serata almost completely suppressed the development of *Pythium* root rot.

CLEMSON UNIVERSITY

A research team at Clemson University initiated a trial in the summer of 2022 — at the Pee Dee (S.C.) Research and Education Center — to evaluate the impact of product applications on *Pythium* root rot development. Researchers grew Penn A1 creeping bentgrass in a sand-based root zone maintained as a golf course putting green.

Researchers mowed the experimental site five times weekly at a cutting height of 0.125 inches but reduced the frequency to three times weekly in July and August during excessive heat. Fertilizer applications totaled 1.0 lbs. N (46-0-0) through foliar applications (0.25 lbs. N/1000 sq. ft.) made every 14 days.

Fleet (polyoxyalkylene polymers) was applied at 4.0 fl. oz./1000 sq. ft. every 28 days to maintain water infiltration and uniformity in the root zone. Primo Maxx (trinexapac-ethyl) was applied every 14 days at 0.138 fl. oz. per 1000 sq. ft. to limit turfgrass vertical growth following standard management practices in the region.

Researchers applied Prostar WG (i.e., flutolanil) at 3 oz. per 1000 sq. ft. on June 7, and Daconil Weatherstik (i.e., chlorothalonil) at 3.5 fl. oz. per 1000 sq. ft. on July 26 as curative applications for brown patch disease and algae.

Treatment plots measured 3-by-10 ft. and were arranged in a randomized complete block design with four replications. Treatments were applied as a foliar spray in water equivalent to 2.1 gallons per 1000 sq. ft. using a CO2-powered walk-behind sprayer equipped with dual TeeJet 8002 nozzles.

The team applied irrigation immediately after treatment through a hose calibrated to deliver 0.125 acre-inches. Treatments were initiated on May 17 and applied at 14-day schedules through July 26.

The researchers assessed *Pythium* root rot (i.e., percent diseased turf area per plot) every 7 to 14 days throughout the trial period. All data was transformed before analysis of variance, and means were separated using Fisher's least significant difference ($\alpha < 0.05$).

Pythium root rot developed naturally across the experimental site in late June and into early July. They observed some variation initially, but continued disease progression resulted in more uniform symptom development in late July and early August.

On July 7, Serata 0.6 fl. oz., Serata 0.4 fl. oz. + Fame 0.36 fl. oz., and Segway 0.67 fl. oz. all reduced *Pythium* root rot compared to the non-treated control.

Continued on page 28

TABLE 3

Fungicide control of *Pythium* root rot on perennial ryegrass rough at Rutgers University.

Treatment, formulation, and rate/ 1000 ft. sq.	Application code[y]	*Pythium* Severity[z]						
		June-24	June-24	July-24	July-24	July-24	July-24	AUDPC[x]
Segway 3.33SC 0.6 fl. oz.	ACEGI	0.4 b[w]	0.9 b	2.0 b	14.8 b	37.5 b	41.3 b	367.8 b
Segway 3.33SC 0.9 fl. oz.	ACEGI	0.3 b	0.6 b	1.5 b	10.9 b	24.5 bc	28.3 bc	250.0 b
Union 0.79SC 2.9 fl. oz.	ACEGI	0.0 b	0.6 b	1.0 b	10.1 b	22.5 c	24.4 b	224.7 bc
Subdue Maxx 2MEC 1.0 fl. oz.	ACEGI	0.0 b	0.1 b	0.6 b	21.9 b	17.8 cd	17.1 cd	232.6 bc
Banol 6SC 1.33 fl. oz.	ACEGI	0.0 b	0.3 b	0.4 b	11.4 b	3.9 d	5.6 d	86.8 c
Untreated Control	—	4.5 a	8.1 a	10.0 a	58.8 a	77.5 a	78.8 a	921.2 a

[z] *Pythium* blight severity is the mean of the visual estimate of the percentage symptomatic area per plot.
[y] Application code indicates date of each treatment: A-20 June, C-4 July, E-18 June, G-1 Aug, I-15 Aug
[x] Area Under the Disease Progress Curve quantitatively measures *Pythium* blight severity with time across all rating dates.
[w] Means followed by the same letter are not significantly different according to Fisher's Protected LSD (*P* = 0.05).

Continued from page 27

All treatments reduced *Pythium* root rot compared to the nontreated control on July 29 and Aug. 5, when they observed peak disease pressure. The results show that Serata offers comparable control of *Pythium* root rot disease to Segway. Tank mixing a lower rate of Serata (0.4 fl. oz.) with Fame SC 0.36 fl. oz. can provide comparable control to higher rates of Serata or Segway alone.

RUTGERS UNIVERSITY

At Rutgers University Horticultural Farm No. 2 in North Brunswick, N.J., researchers conducted a field study on a newly established and highly susceptible perennial ryegrass turf grown on sandy loam, maintained as a golf course rough.

The researchers mowed plots three days per week at a height of 3 inches using a Turfmaster rotary mower with clippings collected. They arranged the treatments in a randomized block design with four replications having a plot size of 3-by-5 ft.

They applied fungicides in 2.0 gallons of water carrier per 1000 sq. ft. using a CO2 pressurized boom sprayer at 40 psi equipped with a single air induction even flat spray tip nozzle (AI9505EVS). Researchers initiated the treatments on June 20, with the last application on Aug. 15.

Pythium blight severity was assessed as a visual estimate of the percentage of symptomatic turf per plot. Disease severity was summarized as the area under the disease progress curve (AUDPC) to quantify disease severity using the trapezoidal method with the formula $\Sigma i=1n-1\ [(yi + yi+1)/2](ti+1 - ti)$, where "ti" was time in days, "i" the order index for the ratings, "n" the number of ratings, and "y" the dependent variable (count) at each rating. Data were subjected to analysis of variance (ANOVA) and means separation using Fisher's protected LSD test (P = 0.05).

Pythium disease severity was first observed on June 26 and continuously increased through July 17. At the peak of disease on July 17, Banol (1.33 fl. oz. per 1000 sq. ft. – 14 days) had a *Pythium* blight severity of 5.6 percent, which is not statistically different from Subdue Maxx (1.0 fl. oz. per 1000 sq. ft. – 14 days) with 17.1 percent disease severity.

AUDPC values for all treated plots were significantly lower than those for the untreated check. Plots treated with Banol (1.33 fl. oz. 1000 sq. ft. – 14 days) had significantly lower AUDPC values than Segway at both rates but were not statistically different from plots treated with Union (2.9 fl. oz. per 1000 sq. ft. – 14 days) and Subdue Maxx (1.0 fl. oz. per 1000 sq. ft. – 14 days).

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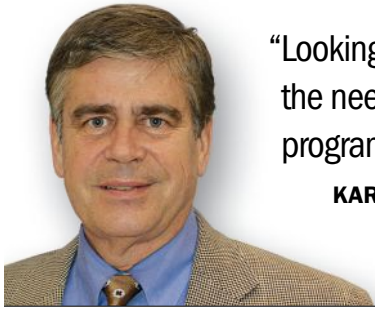
Research Takeaways

- All treatments at North Carolina State University significantly suppressed *Pythium* root rot based on AUDPC values except for Subdue MAXX. The rotation of Segway with Serata almost completely suppressed the development of *Pythium* root rot.
- In July at Clemson, Serata had comparable control of *Pythium* root rot disease to Segway. Tank mixing a lower rate of Serata (0.4 fl. oz.) with Fame SC 0.36 fl. oz. provided comparable control to higher rates of Serata or Segway alone.
- At Rutgers, AUDPC values on ryegrass rough for all treated plots were significantly lower than those for the untreated check. Plots treated with Banol had lower values than Segway at both rates but were not different from plots treated with Union and Subdue Maxx.
- For peak disease on perennial ryegrass in July at Rutgers, Banol (severity of 5.6 percent) was not statistically different from Subdue Maxx with 17.1 percent disease severity.



"Looking back, no disease drove home the need for preventive fungicide programs like *Pythium* blight."

KARL DANNEBERGER, PH.D., *Science Editor*

The history of preventive fungicide programs

Preventive fungicide programs are integral to delivering quality golf course conditions that golfers expect. Diseases that can infect and cause serious turf damage over a prolonged period are prime targets for preventive fungicide programs.

Preventive fungicide applications are defined as done before disease development, or extremely early in disease development. Conversely, curative applications are made after disease development has occurred.

Examples include snow molds, occurring in the northern U.S. where conditions are favorable, which can be devastating. Preventive fungicide applications are the primary method of control for major snow molds. Superintendents apply these fungicides made before snowfall.

Often, if no application is made because of snowfall before treatment or any other reason, the turf damage in late winter or early spring is vast.

Another example is dollar spot, which causes turf damage through large portions of the country from May into early October. Preventive treatments for dollar spot often require multiple applications over a growing season.

When a superintendent is developing a preventive fungicide program, they must put considerable thought into what fungicides they use and their rotation or mixture sequence to minimize the resistance risk. They must also consider expected control length in addition to the overall cost and success of preventive programs.

Much of the success of preventive fungicide programs in enhancing golf course turf is due to the safety, quality and characteristics of new fungicides developed. Fungicides used in a preventive way have resulted in a drop in the stress level for superintendents from their predecessors.

HISTORY LESSON

Looking back, no disease drove home the need for preventive fungicide programs like *Pythium* blight. Nowadays, we have fungicides and preventive strategies to control *Pythium* blight. However, when I was growing up there were no *Pythium* fungicides a superintendent could use in a preventive program.

I remember leaving work at our local course, only to return early Sunday morning to see two or three greens lost to *Pythium* blight. The devastation was quick and complete.

Before the early 1970s, only contact fungicides existed. For *Pythium* blight, there were only a couple fungicides available. These fungicides like ethazole (Koban) and chloroneb (Terraneb SP) were labeled for 3-5 days but often during peak conditions would provide control for 1-2 days.

Prior to that, the only labeled product was fenaminosulf (Dexon) and it broke down in sunlight causing control to be measured in hours. It wasn't until 1977 — with the release of metalaxyl (Subdue) — and later propamocarb (Banol) in the early 1980s — that a preventive strategy emerged for controlling *Pythium* blight.

WHY WE'RE HERE

I want to finish with a quote from the first edition of the book *Management of Turfgrass Diseases* (1981) by the late Joseph Vargas, Jr., about the importance of a preventive fungicide program. The quote is probably politically incorrect now, but it speaks to those who remember Dr. Vargas and his communication style.

"In spite of the fact that *Pythium* blight is a severe disease that spreads rapidly, many superintendents in prime *Pythium* blight areas such as the bermudagrass- Kentucky bluegrass transition zone, still refuse to institute preventive fungicide programs, even during hot humid weather. It must be the gambling spirit in them, because they know *Pythium* blight will come when the weather gets hot. Betting against *Pythium* is like playing Russian roulette with five chambers loaded and one empty."

Pythium blight will be remembered as the catalyst for the acceptance of preventive fungicide programs.

Karl Danneberger, Ph.D., *Golfdom*'s science editor and a professor at The Ohio State University, can be reached at danneberger.1@osu.edu.

Before damage appears superintendents can look for birds feeding on fall armyworms in their turf as an early warning sign.

Avoid a fall armyworm ambush

Why it's important to always be vigilant when it comes to fall armyworm

By Rob DiFranco

While researchers may not be able to predict another fall armyworm apocalypse like the northern U.S. saw in 2021, Blake Layton, Ph.D., Extension entomology specialist at Mississippi State University, says golf course superintendents should always be prepared for every possibility.

"(Fall armyworms) are a sporadic pest that you need to be ready for every year. Some years they're going to be worse than others, and you'll have those odd years that are going to be really bad," he says. "Be aware of them. Don't let them catch you by surprise and be prepared to treat and know what you need to treat with."

Blake Layton

Luckily for golf course superintendents who remain vigilant, fall armyworms can be quick and easy to control. Layton does add, however, that prevention can be a difficult task if a superintendent doesn't apply early enough.

For the best defense against this turf-destroying pest, Layton says superintendents should consult their local Extension office to get a scouting report on what the outbreak in a given year might be.

WHEN TO LOOK?

For golf course superintendents in the northern half of the U.S., fall armyworms usually start to pop up around July or August. That's relatively the same for supers in the south, with rare exceptions in the deep south, Layton says.

"We can have treatable populations in June down here in Mississippi, but usually for us, it's July, August and September," he explains.

PHOTOS BY: LANE TREDWAY

FMC

BRIAN MOUNT, M.S., B.C.E.
Technical Service Manager

If a golf course has a history of fall armyworm outbreaks, then preventative applications can be made as early as April with products such as Durentis insecticide (chlorantraniliprole) for season-long control at very low rates. Depending on where you are geographically scouting for moths as early as May will help predict an outbreak. Again, using black light or pheromone traps can help with monitoring for adults. Larvae typically are first seen in late June/July (depending on location) and will feed for a couple of weeks, pupate, and start another generation.

If fall armyworms are actively feeding on the turf (three to four armyworms per square foot — or where excessive damage is observed) an application of a pyrethroid such as bifenthrin will knock the population down but may need to be reapplied for longer-term control. An application of Durentis can be made when adults first appear to ensure long-term protection of the turf.

Quali-Pro

BOBBY KERR, PH.D.
Technical Services Manager

Fall armyworms are a challenging pest in turfgrass systems in the U.S. Preventively, fall armyworms can be controlled with a timely application of chlorantraniliprole or another insecticide in the diamide class of chemistry.

Typically, turf managers make timely grub control applications. In previous years, during outbreaks of fall armyworms, the grub application has proved effective. Depending on your geographical location, armyworms can complete a different number of life cycles. For example, in Louisiana, four life cycles can be completed in a year compared to New York where only one life cycle occurs.

This is really an important point for turfgrass managers when looking at preventative applications. I once asked a group of superintendents what approach they took to fall armyworm control. The response was, "Wait until they're waving at me." Well, if they're waving at you, control becomes challenging. Any contact insecticide would be an option. The pyrethroid class of chemistry is a good option, for curative applications Bifenthrin I/T can be applied at 0.18 to 0.25 fl. oz./1000 sq. ft.

Nufarm

RICK FLETCHER
Technical Services Manager

Fall armyworm management starts with understanding its life cycle. This insect only successfully overwinters as an adult in the southern United States and Mexico. It has an annual northern migration pattern that is highly influenced by weather, with winds aiding the nightly flights of adults. Armyworms typically have a single generation per year in the U.S. which can aid their management when using proper preventative and curative treatments.

The treatments will vary geographically from south to north based on insect movement and the continuation of the life cycle to the damaging larval stage. After egg-hatch, fall armyworm larvae quickly complete 5-6 growth stages and can reach maturity in as little as 2 to 3 weeks, feeding heavily on healthy turf. Preventive treatment must have longevity to be effective during the larval activity. Curative treatment should be applied early in the larval development to minimize turf damage.

Syngenta

LANE TREDWAY, PH.D.
Technical Representative

It's impossible to predict if or when armyworms will appear in your area during their annual migration northward from overwintering sites down south. Scouting can help to detect their presence before they cause significant damage. Adult moths lay yellowish-white egg masses on vertical surfaces adjacent to susceptible turf, such as flag sticks, fence posts, tee markers, or ball washers. The eggs hatch in a few days to a week, and the tiny caterpillars drop down onto the turf to begin feeding and growing into large, grass-eating machines over 2-3 weeks. Fall armyworm outbreaks progress quickly, so prevention is the best strategy. Most insecticides provide 2-4 weeks of protection, but Acelepryn (chlorantraniliprole) and Acelepryn Xtra (chlorantraniliprole and thiamethoxam) insecticides can provide longer-term protection against armyworms. When applied in May or June to control grubs and billbugs, its residual activity in the plant and soil prevents fall armyworm for up to 4 months. In most areas, this means supers can achieve season-long prevention of all three with one application.

How to best mitigate potential billbug damage

A damaging turf pest, billbugs can be a golf course superintendent's biggest foes

By Rob DiFranco

What makes billbugs such a difficult pest for golf course superintendents to deal with? Doug Richmond, Ph.D., entomology professor and Extension specialist at Purdue University, says identification and monitoring to start with.

He says, unfortunately for golf course turf, the only real way to monitor adult billbugs is with pitfall traps.

"Nobody's going to do that," Richmond continues. "(Instead) you can soil sample for the larvae. The larvae will show up in the soil here in the Midwest, it's usually sometime in the second half of June when you start to see larvae moving from the stems of the plants to the crowns and then into the soil."

Even more unfortunately for golf courses, at that point, damage to the turf has already begun. According to Richmond, damage appears just as the larvae move from the crowns and into the soil. That means that the only way to monitor them is to dig holes and look for the larvae.

Either that or using the tug test after damage has occurred to confirm that it's actually billbugs.

"You take some of the damaged tillers and pull those out, they will come out of the ground really easily," he says, explaining the tug test. "They're not attached anymore. They're sort of severed at the crown, and the crowns will be shredded and packed with a really fine sawdust-like frass, which is from the larvae chewing on the crowns."

PREVENTION

On the chemical front of prevention, insecticides with clothianidin and bifenthrin work well for hunting billbugs, and an application in the fall would protect courses in the southeast during the winter. Richmond also names Envu's Tetrino as a potential aid in the fight against billbugs.

Billbug damage can be mistaken for spring dead spot, making it important to get up close and personal with your turf.

"We're doing some experimenting and trials with (Tetrino) right now," he says. "That's something that, down the road, could be an aid for superintendents with billbugs."

In the realm of cultural control, Richmond says that superintendents should provide proper mowing, fertilization, irrigation, thatch management and cultivation practices to promote healthy turf.

Another option for golf courses that might have upcoming renovation or regrassing projects is the use of high-endophyte turfgrasses. These grasses — including certain cultivars of perennial ryegrass and tall fescue — hold certain types of fungi that deter feeding from insects like billbugs.

"These endophyte-infested cultivars, if the rate is high enough, will provide the plant with fungal toxins that will essentially kill the billbugs," Richmond says. "It's a nice built-in defense mechanism for a golf course and its superintendent."

A NEW CHALLENGER

Superintendents in the Midwest will usually see bluegrass billbugs, according to Richmond. As the name suggests, bluegrass billbugs target cool-season turf like Kentucky bluegrass. That has changed over the last several years with hunting billbugs, a species normally found in warm-season turf making its way into the Midwest.

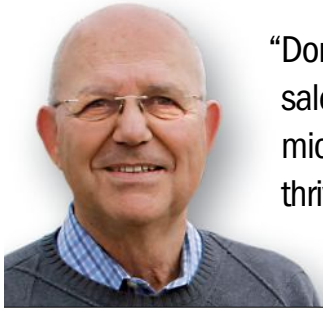
This is partly due to an increased planting of warm-season turf further north because of its climate resiliency, according to Richmond. Hunting billbugs provide a different challenge for superintendents as they've been reported to cause damage not only in their larval stages but as adults as well.

GET OUT AND STAY OUT

Luckily for golf course superintendents who have faced and defeated billbugs in the past, it'll take some time for them to return.

"If you get good control, they don't fly, so they have to walk to new areas," Richmond says. "Once you've established control, it's usually going to take years for those populations to rebound or move back in from adjacent untreated areas."

PHOTOS BY: DOUG RICHMOND



"Don't be fooled by false advertising or sales pitches. research indicates that microorganisms establish quickly and thrive in high-sand root zones ..."

MIKE KENNA, PH.D., *Research Editor*

Debunking 3 myths about microorganisms on putting greens

Too often, we fall into the trap of the system being broken and needing to add something or manage it differently to improve it.

There continues to be a steady stream of advertisements, and secondhand stories abound about the increased use of microorganism products for putting greens. We should compare these biological products to proven management practices to see where they fit when dealing with disease or other turfgrass problems.

Twenty-five years ago, the USGA researched microorganisms found within putting greens. I summarized those results to deal with three common myths about the fate of microorganisms in greens.

MYTH NO. 1: A product is needed because microorganisms do not exist in the harsh environment of a sand rootzone.

In the 1990s, a two-year research project at Clemson University by Horace Skipper, Ph.D., investigated the number and diversity of microorganisms found in amended sand bentgrass greens at Charlotte (N.C.) Country Club.

They combined the average of eight sampling periods for six microorganism categories and a total of all reported microbes. The results used a log scale rather than a linear scale, as linear graphs would be impossible to draw.

For example, the average gram-positive bacteria found was 100,000 per gram of soil. The bar would have to extend 25,000 inches or 0.4 miles for a linear scale. For most soil bacteria categories, one million to 10 million colony-forming units occur in a single gram of soil.

More importantly, there were 10 billion colony-forming units in a single gram of soil. That amount represents only a fraction of the soil microbe species that scientists can easily culture and identify at the time.

MYTH NO. 2: Fumigation will kill all the beneficial microorganisms in putting greens.

Methyl bromide was the primary method to fumigate putting greens and fairways, particularly in the Southern U.S. Monica Elliott, Ph.D., at the University of Florida, demonstrated that for every soil bacteria category, except the fluorescent pseudomonads, microorganism levels were equal to, or greater, than the pre-fumigation levels and untreated control 23 days after treatment.

Clemson University and the University of Florida repeated a similar study on bermudagrass greens and produced similar results. All six categories of bacteria, including the fluorescent pseudomonads, reached levels of one to 100 million colony-forming units per gram of soil in less than two years after fumigation. Fumigation does not sterilize the soil. I would expect similar results for the various pesticide products we use today on putting greens.

MYTH NO. 3: Repeated use of fungicides will kill all beneficial soil microbes in a putting green.

At Cornell University, Gary Harman, Ph.D., conducted a three year study comparing an untreated control with repeated applications of eight fungicides. The products included Daconil, Chipco, Subdue, Banner, Bayleton, Prostar and Sentinel.

There were no significant decreases for the soil microbes measured during each of the two-month sampling periods for the years of the study.

Don't be fooled by false advertising or sales pitches. Research indicates that microorganisms establish quickly and thrive in high-sand root zones because they grow in association with plant roots. They have evolved over millions of years to have this close relationship with plants, not soil particles.

Second, fumigation does not kill all the beneficial microorganisms. Billions of microbes lie dormant in the soil and come awake in the presence of actively growing roots, providing them a home.

Lastly, fungicide applications have an insignificant effect on the number of microorganisms. This finding is most likely due to how fungicides adsorb to turfgrass leaves and organic matter, making it difficult for them to move downward into the soil. Systemic fungicide products would have even less effect on soil microorganisms.

Mike Kenna, Ph.D., retired director of research, USGA Green Section. Contact him at mpkenna@gmail.com.

The Shop

// MUST-HAVE NEW PRODUCTS

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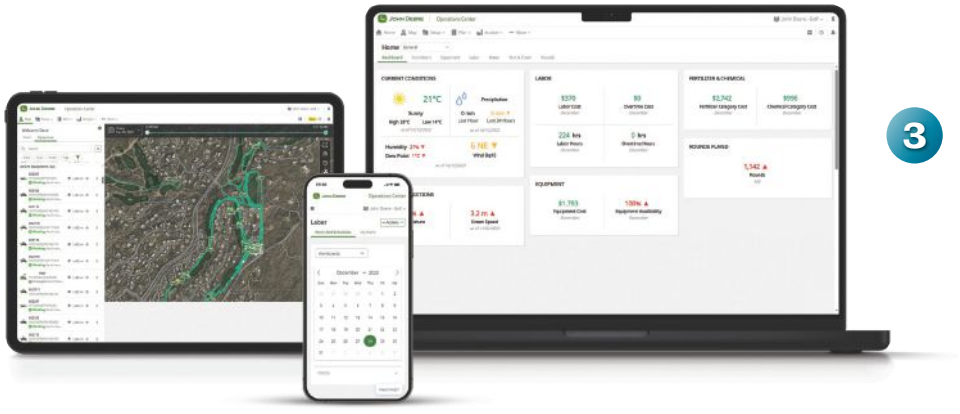

3

1 | 642 Quick Spin Reel Grinder

The 642 Quick Spin Reel Grinder from **FOLEY** is designed to accommodate the widest of mower cylinders and is a simple roll-on, roll-off solution to grinding, with the machine sitting at floor level. The roll-on, roll-off solution removes all need for heavy lifting facilities. According to Foley, the patented clamping system secures any cutting unit in all configurations and the roller clamp is adjustable for any variety of rollers and groomers.

FoleyCo.com

2 | Green Dream Retractable Barrier

The **GREEN DREAM** Retractable Barrier system requires less manpower and, once in place, superintendents can extend and retract its barriers as needed. The system's visible design maintains the natural look of the golf course while promoting safety — making it fit for applications around construction areas and more.

GreenDreamLife.com

3 | ProGolf

ProGolf from **JOHN DEERE** leverages an adaptive web-based experience, allowing full access to its features on any internet-enabled device. According to the company, this flexibility ensures that golf course professionals can manage their operations anytime, anywhere, promoting a better work-life balance. This solution was built specifically for the golf course professional requiring specialized labor and fleet management capabilities beyond what is currently provided with the John Deere Operations Center.

Deere.com

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4 Manni-plex

Manni-Plex from **BRANDT** quickly supplies readily available N, K, Mg, B, Cu, Fe, Mn and Mo to turf with a proprietary formulation that coats leaves and sticks to the surface, making nutrients available longer. The product also enhances root mass and growth and helps turf better withstand stress. Manni-Plex comes in a ready-to-use liquid formulation that is compatible with most fungicides, insecticides and PGRs. Superintendents can apply the product using ground equipment, through fertigation or as a soil drench. Manni-Plex nutrients' small molecular size and weight helps get more nutrition into turf growth points for better results.

Brandt.co

5 Bobcat ZTE6000e

The battery-powered, electric ZT6000e zero-turn mower, from **BOBCAT** features a 20.4-kWh, lithium-ion battery that provides up to 8 hours of runtime and can mow up to 23.8 acres, depending on conditions. The machine can be fully recharged in a little over 6 hours with a 240-volt connection, or in about 12 hours using a 120-volt connection. Built with heavy-duty, dual-tubed steel framing for maximum durability, the ZT6000e features include three drive response modes, travel speeds up to 10.9 mph and a comfortable command station with a high-back deluxe suspension seat and an intuitive control layout.

Bobcat.com

6 All-weather golf notebook

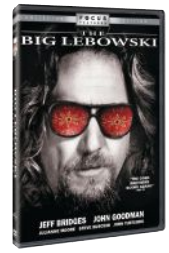
The **RITE IN THE RAIN** all-weather golf notebook endures the elements and records advanced stats to refine a golfer's game. A yardage book section tracks the average distance of clubs. The scorecard pages record putt count, hazard encounters, greens in regulation and other advanced stats that can help improve round-to-round performance. The water-resistant paper survives rainy days and sweaty pockets, and the durable Field-Flex cover material can take a beating in a golf bag.

RiteInTheRain.com

The 19th Hole

Miles Carlson

SUPERINTENDENT // The Player Course, The Woodlands (Texas) CC



Miles, what can I get you? Since we're in Louisville at the PGA Championship, bourbon for sure. Buffalo Trace is my go-to when I'm at home.

How did you get into the business? The only jobs I've ever had were on the golf course. I started working in golf during high school washing golf carts. Then I moved to the pro shop. My uncle was a superintendent, so I knew it was a good career path. When I went to college, I got a bachelor's in turfgrass. My first job out of college was working for my uncle.

Tell me about your course. It was designed by Gary Player. It's the toughest of the five courses at The Woodlands Country Club.

Do you have a family, and what do you do for fun? I have a wife, Jennifer, and a daughter, Lillie. Jen is the best for putting up with my work schedule and golf trips. We also have Bernie — she's a labradoodle that loves coming to work every day. In our spare time we love to travel.

Speaking of golf trips, you and your dad are on a good one. Starting at the PGA Championship, then what? I try every year to go on at least one golf trip with my dad. This week is going to be pretty good. After a few days at the PGA Championship, we have six rounds of golf lined up, mostly in Ohio. Scioto CC, NCR CC and Moriane CC to name a couple of cool stops this week.

What is your favorite tool to get the job done? Siri, I talk to her every day. She keeps me organized with my calendar, the weather and I don't normally forget as much during the day when I have her set my reminders.

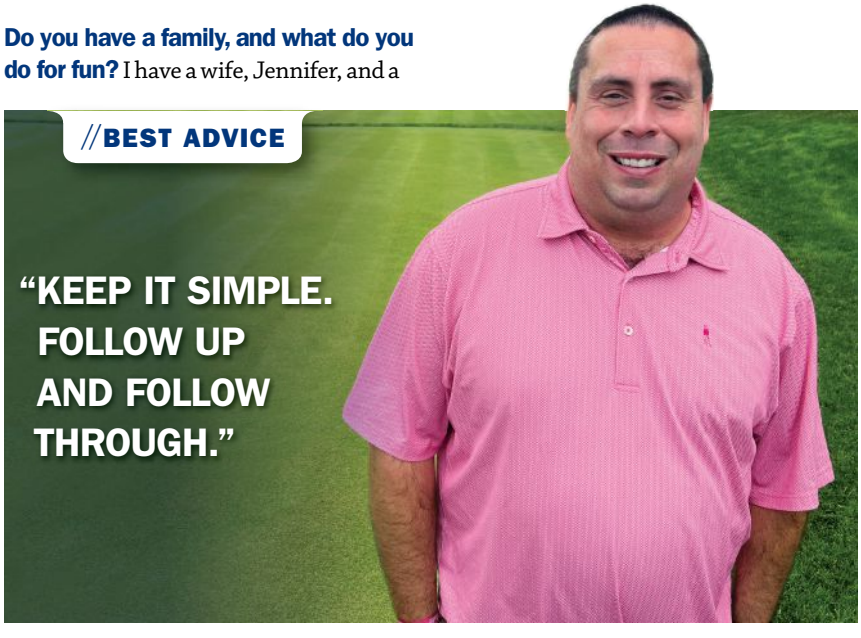
What teams do you root for? I'm an Arkansas graduate, so it has to be the Razorbacks.

What is your all-time favorite movie? I don't know if I have an all-time favorite, but I always seem to turn on *The Big Lebowski* at least once or twice a month when I see it streaming.

Aside from visiting your course, what else should I do if I'm in your area? Head down to the Woodlands Waterway — it has lots of great restaurants and bars. It's only a few minutes from my golf course. You can easily find three or four great steak houses.

I've seen you at the Masters twice and now the PGA Championship. What's your all-time favorite tournament experience? You can't beat going to the Masters; it's No. 1. A close second for me was the 150th Open Championship at St. Andrews. The whole experience was cool crossing the pond.

As interviewed by Seth Jones, May 15, 2024.



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