

Golfdom

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How quickly things can change

Just when a golf course nears peak condition, a weather event changes everything



One of those days

We asked friends of the magazine to tell us about those days at work that stand out as particularly bad. Here's what we heard.

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“I’ve been hearing storm stories from superintendents for more than two decades. They never get old. It’s like the scene in *Jaws* where they’re sitting around the table comparing battle scars.”

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

Storm chasing

In the last few weeks, I’ve had to deal with a hurricane and a tornado. OK, “deal with” is the wrong term — makes it sound like I had to do something about these weather events. “Mildly inconvenienced by a hurricane and a tornado” is probably the better way to say it.

The hurricane turned out to be a dud, thankfully, but it still forced me to cancel a trip to Boston. The tornado happened while on a trek to Tulsa, Okla. I pulled into my hotel in time to catch the Chiefs as they were about to get destroyed by the Bills on Sunday Night Football. The local NBC affiliate cut away from the game for good at halftime — it was a blowout, the weatherman grumbled, and his job was to save lives. (He also saved me having to watch the Chiefs getting further dismantled.)

Fortunately, no lives were lost, but there was some damage in Coweta, Okla., about 30 miles away. The next morning, I made my way to South-

ern Hills CC to visit with Russ Myers and his crew and got to see what the wind did at the course. It was nothing significant, but that’s easy for me to say — I wasn’t the one who had to clean it up. The guys gave me a nice tour even though I’m sure they would have preferred I was there on a day when they weren’t picking up from storm damage.

I’ve been hearing storm stories from superintendents for more than two decades. They never get old. It’s like the scene in *Jaws* where they’re sitting around the table comparing battle scars. I sit there and listen, appreciating the tales of what people saw and how they recovered from the hand they were dealt.

It’s hard for me to relate. My only really bad days came at previous part-time jobs. I waited tables through college, and once, an impatient customer tossed his plate of food at me. I caught the plate (somehow the steak stuck). When a co-worker brought the missing side item out that was the cause of his tantrum, I asked, “Want it back?” He didn’t answer, so I tossed it back on the table. (They left me a penny.)

As a journalist, I haven’t had a huge crisis like the stories told in this issue. Mother Nature never stormed into my office right before deadline and pushed all my papers off my desk, smashed my camera and then kicked over

my trash can on the way out. (But please don’t take that as a challenge, Mother Nature. I’ve got nothing but respect.)

In this month’s lead story, I wrote about someone who accepted their first superintendent job on a Friday, and his course was hit by a derecho the following Monday. Following that story is a golf course that endured back-to-back hurricanes within days of each other. “How quickly things can change,” begins on page 12.

That story inspired us to ask readers about their most memorable bad days at work. We heard some great stories. More battle scars, more cringing. We put together a short feature telling some of these stories, “One of those days,” that starts on page 20. (But don’t miss Thad Thompson’s contribution to the theme on page 9.) If you’d like to tell me your “one of those days” stories, reach out. I’d like to hear it, and maybe we can bring this feature back next year. We’ll ask an insurance company to sponsor the issue.

These horror stories were diverse, but the common thread was that they were all told with a smile. These aren’t stories of defeat; they’re stories of success. You can’t keep superintendents down, no matter the challenge. I’ve learned over the years of talking with superintendents that when Mother Nature throws a steak at them, they find a way to toss it back. ☺

Email Jones at:
sjones@northcoastmedia.net

Starter

NEWS, NOTES AND QUOTES



//THINKING OUTSIDE THE BOX



Synthetic turf greens and bunkers are gaining popularity on golf courses.

SYNTHETIC TURF MAKES INROADS IN NONPLAY AREAS

BY ROBERT SCHOENBERGER // Senior Editor

➔ Maintaining a golf course would be a lot easier if it weren't for all of that grass. Some courses are making that a reality.

Garren Palmer, director of synthetic turf maker Southwest Greens, said the vast majority of his company's putting greens still go into homeowners' backyards, but a fast-growing portion of his business is coming from major golf courses looking to cut maintenance costs where they can.

"Thus far, we've been in that golf entertainment space," Palmer said, referring to places like Top Golf where players don't walk on the turf. "Our goal is to eventually be a part of the commercial golf course space."

Internationally, the company has provided turf for courses in desert

climates where maintaining real grass is nearly impossible. It's also provided turf for par 3 courses. Hong Kong's famed Clearwater Bay uses natural turf for its championship course, but the tee boxes and greens for its par 3 course are synthetic.

Growth in the United States has been slower, but courses are showing interest, Palmer said.

South of Pittsburgh, Herb Graffis 2021 Businessperson of the Year Award winner John Shaw, CGCS, installed a synthetic turf bunker on his driving range at Valley Brook CC.

"It used to have real bunkers out here, always full of weeds and really hard to maintain," Shaw said. "We open at 7:30, so the range opens at 6:30 in

Continued on page 8

//HEADING SOUTH

BENELLI JOINS BAYER'S GREEN SOLUTIONS TEAM

The Turf and Ornamentals (T&O) business of Bayer has tapped veteran turfgrass expert, Jesse Benelli, Ph.D., as the newest member of the U.S. Green Solutions Team.



Jesse Benelli

He is responsible for providing scientific support and technical expertise to superintendents and lawn care operators across the southern region. Benelli brings more than 15 years of experience in the turfgrass industry to this role.

Most recently, Benelli served as a technical expert for the Bayer T&O organization in Canada. Prior to joining Bayer, he was the director of turfgrass programs for the Chicago District Golf Association. Additionally, he worked at several golf courses in Tennessee and Pennsylvania. Benelli earned his Masters and Ph.D. in turfgrass and plant pathology from the University of Tennessee. He will be moving back to the Southeast with his wife and two sons.

//RAIN CHECK?

HEAVY RAINS DEPRESS LATE SUMMER GOLF ROUNDS

Rounds of golf played fell slightly in July and August from the massive rainfall records set in 2021, but the National Golf Foundation credits the decline to poor weather, not a weakening of demand.

"This year, 29 states had higher-than-average precipitation levels in August, and rainfall totals were 43 percent or higher in four of the northernmost geographic regions, according to Golf Datatech," said NGF officials. "Five states had one of their 10 wettest Augusts in the NOAA's 127-year record."

The overall results were a 4 percent decline in rounds from 2020's July and a 7 percent decline from 2020's August. The NGF also notes that most of the country experienced golf-friendly weather in 2020's late summer. And, COVID-19 restrictions kept many golfers from traveling that year, making it more attractive to spend vacation days on home courses.

August rounds were 13 percent higher than the prepandemic 2017-to-2019 average.

PHOTO BY: WELGLAD / ISTOCK-GETTY IMAGES PLUS / GETTY IMAGES (GOLFBALL); SOUTHWEST GREENS

// WEST COAST OFFENSE

California to phase out new gas-powered small engines

➔ On Saturday, Oct. 9, California Governor Gavin Newsom signed AB 1346, which phases out the sale of new gas-powered small off-road engines in California, primarily found in outdoor power equipment.

“Leaf blowers, lawn mowers and other equipment with small gas-powered engines emit staggering levels of air pollution,” said assembly member Marc Berman, co-author of the bill. “These noisy machines are terribly disruptive to communities across California, and the workers who breathe in exhaust from this equipment day in and day out face disproportionate health risks, including asthma, cardiovascular disease and cancer. To ensure an equitable transition to safer, cleaner equipment, we secured \$30 million in the state budget to help small businesses purchase zero-emission replacements.”

AB 1346 requires the California Air Resources Board (CARB) to set emissions requirements for small off-road engines to zero by 2024 or whenever CARB determines is feasible. Small off-road engines emit high levels of oxides of nitrogen (NOx), reactive organic gases (ROG), and particulate matter, which adversely affect air quality and human health. By 2031, NOx and ROG emissions from small off-road engines are projected to be twice those from passenger cars in California, according to a news release from Berman’s office.

Industry reaction

Green industry equipment supply companies share reactions following AB 1346’s passing:

Joe Turoff, chief marketing officer, Chervon North America, parent company of Ego Power: “The State of



California has set a precedent with its dedication to addressing noise and environmental pollution created by machines powered by fossil fuels. The impact of this decision will bring lasting change. At Ego, our mission has been to create innovative battery-powered outdoor power equipment with the power and performance of gas but without the noise, fuss and fumes so that supporting our environment is no longer a compromise but rather a positive leap forward.”

Keith Coultrap, Husqvarna’s director of professional products: “States, cities and towns across the country are working to reduce their impacts on the environment, including efforts related to lawn care and landscape maintenance. California’s new bill regarding gas-powered lawn equipment, signed into law in recent days, poses both challenges and opportunities for the industry. As a global brand with sustainability in our Swedish roots, Husqvarna offers a wide variety of commercial-grade battery-powered equipment, allowing professionals and homeowners to select a tool that best suits their needs.”

// NEW PREZ

STRAKA ELECTED PRESIDENT OF ASGCA

The American Society of Golf Course Architects (ASGCA) recently named Jason Straka, ASGCA, president of the organization.

A principal with Fry/Straka Global Golf Course Design with Dana Fry, ASGCA, Straka is devoted to environmental golf course design. His projects with Fry have won many environmental accolades.



Jason Straka

Straka developed and strengthened his commitment to environmental design while a student at Cornell University. In 1994, he earned a Bachelor of Science degree in landscape architecture, followed in 1995 by a Masters of Professional Studies degree in agriculture — turfgrass management, agronomy and environmental golf course design studies.

A hallmark of Straka’s career has been demonstrating his philanthropic commitment to educating others within the golf community. He has served as an instructor at a variety of professional institutions around the world, including The Graduate School of Industry and Environment at Kyungwon University (Seoul, South Korea), the Brazilian Golf Confederation, the Brazilian Superintendents Organization, the Portuguese Greenskeeper’s Association, the Polish Golf Properties Conference and more. Straka has led educational courses at Cornell University, Purdue University, the University of Idaho and Delhi State University.

// COME AND GET IT

TEE-2-GREEN BOASTS AMPLE SEED SUPPLY DESPITE SHORTAGE

Tee-2-Green, a grower-owned premium bentgrass seed supplier with warehouses in Oregon and on the East Coast, said it has ample seed inventory despite the national shortage.

Over the past two years, the industry has faced many challenges due to weather conditions — including droughts and wildfires — and other factors resulting in a low supply.

“As a grower-owned company, we are made up of two to three generation growers,” said Lew Sharp, agronomist and golf course consultant. “Over the years, we’ve seen it all and are always prepared for anything Mother Nature may bring our way.”

//TWO'S BETTER THAN ONE

LANDSCAPES UNLIMITED PROMOTES 2

Landscapes Unlimited has promoted Jake Riekstins and Brian Vitek to senior leadership positions at the 45-years-young company specializing in development, construction and renovation of golf courses, country clubs, communities and resorts, as well as sports fields.

As chief development officer, Riekstins leads Landscapes Unlimited's strategic planning process, translating initiatives into meticulous execution. He also oversees relationships with key external stakeholders, partners and clients. Previously business unit manager and project manager for the south region, Riekstins supervised projects' start-to-finish quality assurance.

Vitek ascends to COO with ultimate accountability for Landscapes Unlimited's regional teams' project planning, scheduling, budgeting, efficiencies, work quality, environmental compliance and other plan adherences. A 23-year Landscapes Unlimited veteran, he has assumed various roles, including vice president of construction, project manager and more. Vitek holds a degree in landscape horticulture from Colorado State University.

//MOVING UP THE RANKS

TROON NAMES NEW DIRECTOR OF CONSTRUCTION AND AGRONOMY

Troon International appointed Clinton Southorn as director of Construction and Agronomy, effective from the beginning of October when he will take over from industry and 20-year Troon veteran Robin Evans.

Southorn has more than 20 years of experience in the golf and turf industry, 18 of which have been with Troon, including Brookwater Golf & Country Club in his native Australia, moving to Fiji and the Azores and growing in Saadiyat Beach Golf Club and Agalarov Golf Estates, The Els Club Dubai



Clinton Southorn

and lastly, being the cluster director of Agronomy across Abu Dhabi Golf Club, Saadiyat Beach Golf Club and Yas Links Abu Dhabi.



Courses opting for synthetic turf are using it mainly on practice courses, driving ranges and tee boxes, not grassy areas where golfers typically walk.

Continued from page 6

the morning. We never had time to get out here and properly maintain things.”

Synthetic turf on driving ranges is a no-brainer, he said. People never walk on or touch the surface — it's just something to aim away from while practicing.

“It's all about the look. We now have the look and very low maintenance,” Shaw said. “We're able to drive right around them with the mowers.”

Palmer said about 80 percent of Southwest Greens revenue still comes from residential installations, but commercial used to account for far less than 10 percent. Of that commercial revenue, the bulk is golf entertainment, but he expects more courses to switch nonplay areas to synthetic in the future.

“No one's going to do a whole course. Golf is still about being outdoors and in nature,” Palmer said.



Golf entertainment venues, such as target driving ranges, focus on the look of grass, not the feel, making them good candidates for synthetic surfaces.

PHOTOS BY: SOUTHWEST GREENS

// INTO THE FUTURE

Researchers study water conservation using AI

➔ Researchers at three University of Georgia (UGA) campuses, Rutgers University and the University of California, Riverside, plan to study how artificial intelligence (AI) can better manage turfgrass irrigation.

The schools received a five-year, \$4 million Specialty Crop Research Initiative grant from the U.S. Department of Agriculture National Institute of Food and Agriculture to study turfgrass management.

Called "Mobile Remote Sensing and Artificial Intelligence — Guided Precision Management Program for Turfgrass Water Conservation," the project

will focus on developing a mobile sensing system to collect soil, environmental and turf characteristic data under different irrigation programs for warm- and cool-season turfgrasses.

Researchers will use drones equipped with sensors, multispectral imaging abilities and infrared technology to collect data. The team hopes to have a robot on the ground for soil sensing and to measure nutrients in the soil.

The Rutgers researchers will conduct a socioeconomic analysis to identify social and economic factors to better understand the cost effectiveness associated with the system.



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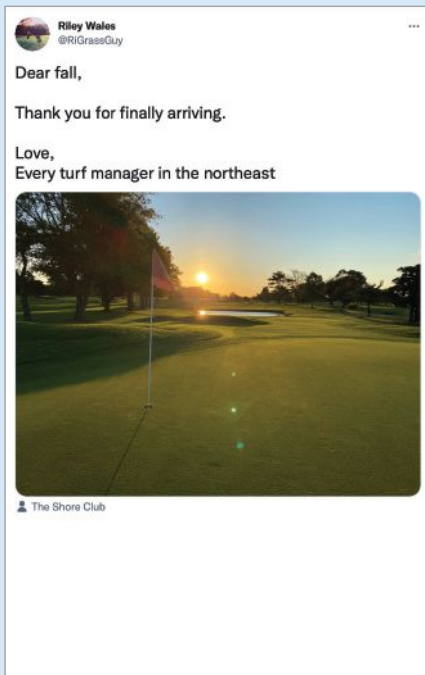
Assistant Superintendent
The Shore Club
Rio Grande, N.J.

Dear fall,

Thank you for finally arriving.

Love,

Every turf manager in the Northeast



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PHOTO BY: RILEY WALES

Ask Thad

BY THAD THOMPSON

Superintendent
Terry Hills GC, Batavia, N.Y.



Is there a day at work that stands out as particularly bad?

— The Golfdom Staff, Cleveland

A bad day at work on a golf course. *Hmmmm*, that's a particularly loaded question. Do I talk about the morning I had 14 greens vandalized by a four-wheeler? The time the power was shut off in the shop because the club couldn't pay the bill? The 90-degree Sunday morning where we watched an approach literally explode in front of us due to an irrigation break? The greens committee meeting where the one and only guy who hated me became my boss? All the mistakes I made? When a bee flew into my underwear when I stopped for nature's call between 17 and 18? The long day of work where I came home to an unhappy wife asking for a divorce?

I honestly can't zero in on a day of work that stands out as PARTICULARLY bad. One of the attributes that we all have in common as golf course superintendents is resiliency. We adapt and overcome, to borrow a phrase. I wouldn't be who I am as a person or a golf course superintendent without all of the days I've had, good and bad.

The worst day on a golf course is a different story. I started in 1989 at Turkey Run Golf Course in Arcade, N.Y., working for Chuck Mayer. We got along great and quickly became close friends. I was around the course all the time learning everything I could from Chuck, whether it had to do with golf courses or life. I suspect we all knew someone like this early on in our careers. Chuck was my mentor and best friend; he convinced me to go to turf school. On Labor Day 1991, Chuck passed away while watering the par three, 7th green. I was offered and accepted his job at the funeral. I immediately drove to Turkey Run and walked the course alone. I made it as far as hole 5 and sat in the fairway and cried my eyes out. My worst day on a golf course.

Coincidentally, I've had two hole-in-ones in my golfing life, both on hole 7 at Turkey Run.

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

Golfdom Gallery

WE CAME.
WE SAW.
WE TOOK PICTURES.

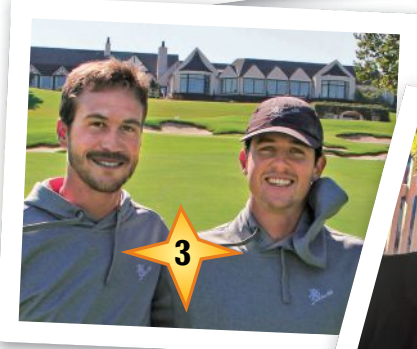
1 Hoodie weather Now that fall is here, the gray hoodie is the perfect look for the maintenance crew, as modeled here by Southern Hills Assistant Superintendent Blake Willems (left) and Superintendent Russ Myers.

2 Ship 'em all! *Golfdom* Publisher Craig MacGregor recently made the trip to Houston to visit his friends at Quali-Pro. While there, he spotted these cases of Suprado and proclaimed he wanted to buy them all. It turns out MacGregor has a long-standing rivalry with the insidious annual bluegrass weevil, which none of us knew about until now.

3 The risk of the hoodie The one downside of the gray hoodie? When a gust of wind does a strange thing to your hoodie when you're getting your photo taken for *Golfdom* Gallery, as Southern Hills Apprentice Superintendent Robert Frizzell (right) demonstrates, with Willems on the left. Don't worry, Robert, we'll be back for the 2022 PGA Championship for a make-good.

4 Happy 30th anniversary LedgeRock GC Superintendent Alan Fitzgerald, MG (left) celebrated 30 years in the industry recently with *Golfdom's* Dan Hannan, eastern regional sales manager. The only thing we know Hannan has been doing consistently for 30 years is being an overzealous Pittsburgh Steelers fan.

5 Great to see so much green Mike (MP) Anderson, marketing manager, and Carlie Torres, senior marketing manager for the Andersons, were happy to see the Inverness Club in Toledo, Ohio, popping for the 2021 Solheim Cup.



PHOTOS BY: GOLFDOM STAFF



“It’s been quite a journey, and 15-year-old Alan would not believe you if he was told that he would still be doing it in 2021.”

ALAN FITZGERALD, *superintendent, LedgeRock GC, Mohnton, Pa.*

Three decades on the golf course

This year marks 30 years of me officially starting work on a golf course as a spotty teenager with a bad haircut. July’s Irish Open was on the anniversary of the official opening of Mount Juliet, which was a couple of weeks after I started. Watching the tournament on TV over the Independence Day weekend brought back some great memories, although I had a hard time recognizing some of the now-tree-lined holes; it is hard to believe that I helped plant them. It’s been quite a journey, and 15-year-old Alan would not believe you if he was told that he would still be doing it in 2021. So, what would I tell that guy?

Think. Thankfully, at this point, the statute of limitations has passed on those times of poor judgment of my early career. I’ve been very fortunate to work for superintendents who stuck with me after these moments, saw the potential I had to become a superintendent and helped me reach my goals. In hindsight, I probably could have been a bit easier on them too, but I guess karma is a cruel mistress as I have had to do the same for my staff as a superintendent.

Learn, question, educate yourself and network. Experience counts for so much as there is only so much that you can learn in school, especially when Mother Nature throws so many curveballs. Continuing education can help you focus on those areas where you need to learn more. Don’t be afraid to ask questions. A side to this is don’t be afraid to lose grass. That doesn’t mean go out with the intention to kill turf, but if you never know how hard to push it, you’ll never really push it. Just don’t make it a habit and make sure

you learn from it. Always have a plan B (and C and D) — how you handle it and how quickly you recover will define your success. It never hurts to get to know people as you never know down the road where you can help them or vice versa. Treat everyone with respect and help them as much as possible. At the end of the day, it is a small business, and you never know where paths will cross in the future.

The friendships. Due to the characters you find yourself working with, the work itself and the unpredictability of

Mother Nature, each day at work should feel like a turf episode of *Seinfeld* or at the very least (and more predictably), your own version of *Caddyshack*. You spend so much time with these other grass-lovers that the friendships grow deep. Maybe it’s the ability to reminisce over the long hours and crazy jobs, like some old battle-hardened veterans. “You weren’t there man! It was 95 degrees F and high skies, and the *Poa* wasn’t having any of it” or the “Do you remember when we did that (really stupid thing)” — which is why that statute of limitations is important even though our stupidity could have been an episode.

And lastly, learn who you are and what makes you tick. My biggest revelation was when I found where I was on the grumpy super scale. Three straight weeks of working every day is my grumpy switch. Now, I work around it and everyone is happier, although it probably would have made the lives of my former bosses easier had I found that out sooner!

Thirty years seems like an eternity, but that time has quickly passed as I went from reluctant teenager to wide-eyed intern and assistant to trying not to be the grumpy old superintendent. Maybe I did somehow tell myself these things, as I am not sure I would change any of it. I guess time does fly when you’re having fun. ☺

Alan Fitzgerald (alan@ledgerockgolf.com) is superintendent at LedgeRock GC in Mohnton, Pa.

HOW QUICKLY THINGS CAN CHANGE

BY SETH JONES

In the business of maintaining golf courses, like all businesses, some days are better than others. And then some days are so disastrous that they'll always be remembered by the people who endured them.

Just when a golf course nears peak condition, a weather event changes everything

A devastating derecho

On Aug. 10, 2020, 140 golfers were enjoying a beautiful day at Cedar Rapids Country Club in Iowa. Tom Feller, CGCS, serving as both the general manager and superintendent, started getting text messages from his fellow superintendents in Des Moines and Ames — clear the golf course immediately, they warned.

"I follow the weather pretty closely, so I pulled it up on radar," Feller recalls. "You could see what was coming. Between me and the golf pro, we were able to get everyone off the golf course. I went and got the beverage service people off the course, then got stuck in my truck in the parking lot for the next 45 minutes."

What had been a beautiful day suddenly turned very dark. Feller was about to experience a violent storm known as a derecho.

"It was like something you've never seen before. It got real eerie," Feller says. "Typically, as a storm comes through Iowa, it lasts 10 minutes. This one kept going and going for 45 minutes, with winds up to 145 miles per hour."

Feller stayed in the clubhouse parking lot for the entirety of the storm, dodging trees and branches as they swooped by. He wanted to check on the people inside the clubhouse once the storm subsided. When the storm finally finished, every building at Cedar Rapids CC was damaged, some a total loss. More than 700 trees were knocked down. Thankfully, everyone was safe.

During the derecho, Tommy Feller, Tom's son, was in Des Moines, working as an assistant superintendent at Wakonda Club. He had just accepted the superintendent position of Cedar Rapids CC the previous Friday.



Tommy Feller

"I was going to have a smooth transition over the winter," Tommy Feller says. "(The derecho) made an interesting turn on the whole experience."

The derecho hit in Des Moines, but not nearly as

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EVGENY655 / ISTOCK-GETTY IMAGES PLUS / GETTY IMAGES (STORM CLOUDS)

The August 2020 derecho lasted 45 minutes in Cedar Rapids, Iowa, and had wind speeds up to 145 miles per hour. An estimate of 800 to 700 trees were lost at Cedar Rapids CC.



PHOTOS BY: TOM FELLER

LEGENDS INITIATIVE



SHAWN EMERSON

Consultant

Ethos Club & Leisure, Mooresville, N.C.

By Seth Jones

Started by Anuvia, the Legends Initiative celebrates superintendents who have gone above and beyond in their careers — not just in maintaining tremendous golf courses, but also in their contributions to the industry, creative problem-solving and mentorship. *Golfdom* sat down with Anuvia Legend Shawn Emerson, longtime director of agronomy at Desert Mountain in Arizona, to discuss his new job, how he's seen professionalism evolve in the industry and his advice for young people in the industry.

What's your new job? I'm working for Ethos Club & Leisure. We do agronomic services, and we also create strategic planning and master planning for country clubs and other golf facilities. Ethos owns GSI Executive Search, a private club and hospitality search company. I'm teaming up with Bob Jones, my former general manager of 25 years. I'm trying to help people and give back to an industry that's given me so much.

How have you seen the job of the superintendent change over the years? Superintendents need to improve their overall professionalism because their jobs have evolved beyond growing grass. We have become more involved. We're in the room when million-dollar and billion-dollar decisions are being made. One of my new roles is helping people handle those situations because that's not where our training was when we got our education. There's a whole new approach to the

business side of our jobs.

How important is sustainability? I think sustainability is critical to the overall success of the facility ... but it can't be measured on a day-to-day basis. You have to do a lot of reflection. I was just working with budgets, and those also have to be living documents, not something that you simply start and finish. Things change. What might be sustainable today might not be tomorrow. To be sustainable, you must be flexible.

What is the most challenging part of golf course maintenance? Building a team around you. We're not paying enough for our No. 2s and No. 3s. It's difficult to make sure you have enough talent on your staff. My whole career, I was trying to get qualified people and pay those people appropriately.

Do you think superintendents work as hard today as your father's generation

of superintendents worked? They work just as hard, but the difference is their job doesn't end in the field. Guys like my father and George Thompson, they worked so hard in the field but they weren't polished with the front of house stuff.

When it comes to getting the most out of your crew, what management style worked best for you? The old style — if we were football coaches, the Vince Lombardi style, the Tom Landry style — do not fit the style of today's player. Today it's a Pete Carroll style, a player-friendly coach. My brother is a pitching coach, and he tells his players, 'You don't work for me, and I don't work for you ... we work together.' At Desert Mountain, I realized it's easier for me to change than for me to change 200 people. It's a customized management style, from person to person. Remember, a great manager gets more from his people than his people expect from themselves.

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Continued from page 12

hard. Wakonda lost about 70 mature oaks. Tommy and his wife drove to Cedar Rapids over the weekend to survey the damage.

“My jaw just dropped when I drove on to the property,” Tommy Feller says. “I grew up on this course and saw the changes over the years. The place was right where it needed to be before the storm. That was hard to take in. It was devastating.”

Keeping it together

John Temme, the superintendent at Wakonda, was understanding of the situation and allowed Tommy Feller to start his new job sooner than previously planned. Tom and Tommy Feller and the crew put a plan together and went to work.



Tom Feller, CGCS, made a call he never thought he would: to a logging company to help with tree removal.

“We looked at clearing your bentgrass areas first, your primary turf areas where you want to mow and make applications,” Tommy Feller says. “That was our primary focus. From there, get the course playable. Focus down the middle of each hole, moving debris to the sides and taking care of any safety hazards.”

A logging company was hired to help with tree removal — a phone call Tom Feller never imagined having to make. Other area courses also sent crews to come in and lend a hand. Tom Feller says they had to take it one day at a time. He was relieved he had the help of his new superintendent, his son.

“I was happy (Tommy) was able to come on board. I didn’t know if I’d be able to hire a superintendent because they knew what kind of job they’d have coming in,” Tom Feller says.

“(Tommy) stepped up. The staff stepped up. We had the

Continued on page 16

“I DIDN’T KNOW IF I’D BE ABLE TO HIRE A SUPERINTENDENT BECAUSE THEY KNEW WHAT KIND OF JOB THEY’D HAVE COMING IN.”

—Tom Feller
GENERAL MANAGER
CEDAR RAPIDS CC

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Continued from page 15

pro shop out helping us hand water greens. All the departments pulled together.”

Tommy Feller says he’s never seen storm damage like what the derecho brought to Cedar Rapids CC. He hopes to never see it again. The course reopened after a month.

“You have to keep your head together. It’s a long process. Nothing gets fixed in a week,” Tommy Feller says. “Take your time and do it right. And communicate to your membership and facility, how the process is moving. We still have scars a year later — that’s very defeating, especially after the drought we’ve gone through this year. It turns into a long process, mentally and physically, but there’s a light at the end of the tunnel.”



Saul Maldonado

A hurricane after a hurricane

Saul Maldonado has been at El Conquistador Golf Club in northeast Puerto Rico since 1993, when it opened. Originally the mechanic, over the years, the superintendent

Continued on page 18



El Conquistador, or “El Con,” as it is affectionately known, is a popular Arthur Hills design in Puerto Rico, known for its hilly terrain.



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PHOTOS COURTESY OF SAUL MALDONADO

Despite back-to-back hurricanes in 2017, today the course is back to normal and thriving among locals and resort vacationers.

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“Saul has been there since day 1, so there’s always been consistency,” says Seth Henrich, former El Conquistador director of golf. “It all goes back to what Saul did on a daily basis for years ... that’s what allowed us to overcome so quickly.”

Continued from page 16

dents there would take the time to train him on the finer details of maintaining the turf on the course.

Members of the crew would come and go, but Maldonado was the constant. As his knowledge and experience grew, so did his responsibilities. Eventually, he would find himself as the superintendent of a course he cared for deeply.

It was September of 2017 that Maldonado and his crew would be put to the ultimate test: not just a hurricane, but two hurricanes. Hurricane Irma, a Category 5 hurricane, hit on Sept. 6. Two weeks later, Hurricane Maria, another Category 5 hurricane, arrived.

“It was definitely different, not just because of Maria but more importantly because we were just hit two weeks before by Hurricane Irma. The little corner of the island — the northeast corner — had taken damage from both,” recalls Seth Henrich, who was director of golf of the course at the time. “What I remember the most is getting our power back on after Irma for about three days only



Seth Henrich

to learn we were going to get hit again. We had heard rumors.”

For Maldonado and his team, it was like a slap in the face from Mother Nature for their hard work picking up from Irma.

“When Maria came, we had already picked up all those trees (from Irma),” Maldonado says. “When the second one came, it was like everything that was loose went away with it. Maria took it. Whatever was left ... Maria took it down. It was hard. All the bunkers, almost all the trees were down.”

A good team

When Maldonado found out that round two was coming, he applied a plant growth regulator and then secured the course’s equipment as best he could. Then he went home and secured his own home, then his neighbors’ homes.

Thankfully, the damage at his home was minimal — some flooding but not as much wind damage. When he returned to “El Con,” he was dismayed to see the light poles and power lines all knocked down in the road leading into the resort, making for a dangerous trek.

“But I made it!” Maldonado says. “We started pushing trees aside so we could move around.

PHOTO COURTESY OF SAUL MALDONADO

It was a lot of tractor work, but we started the process, sunup to sundown.”

Henrich, an Iowa native who has spent his entire professional career in the islands, says that both Irma and Maria were powerful hurricanes, but with different personalities.

“In a strange way, Irma did more damage to the trees and the landscape, and we had to get all that cleaned up,” he says. “When Maria came in, it damaged the resort more, and then the long duration of going without power and gas made Maria more difficult.”

Maldonado says the entire crew, including the clubhouse staff, pitched in to get the golf course open for play again.

“Employees came back, not all, but we started working right after (Maria),” Maldonado says. “It was hard. We had no water, no power, and we had workers working. It was brutal. They stayed and they worked through some tough times.”


It took a month, but the course reopened. Maldonado says the course didn’t look its best, but it gave people something to do to take their

minds off the back-to-back hurricanes and the vast death and destruction they caused.

Henrich has since moved on to become director of golf at Wyndham Grand Puerto Rico Golf and Beach Resort. Even though there were a lot of difficult days, Henrich says his years working alongside Maldonado are still some of his favorite in golf.

“I loved working with Saul because he takes such pride in the facility,” Henrich says. “To be a truly great golf course superintendent, you need heart, and he has that. We were a good team. We went through a lot of adversity together. He is such a super human to start with, couple that with his work ethic and his heart and desire? It was a great pleasure to work with him.”

As Maldonado nears the 30-year mark at El Conquistador, he’s looking forward to putting those bad days behind him and focusing on the many good days.

“I love my job,” he says. “Not many people have a job they like ... I have one that I love.”

“WHEN THE SECOND ONE CAME, IT WAS LIKE EVERYTHING THAT WAS LOOSE WENT AWAY WITH IT ... WHATEVER WAS LEFT, MARIA TOOK IT DOWN.”

— Saul Maldonado
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ONE OF THOSE DAYS

BY THE GOLFDOM STAFF

A DISTURBING DISCOVERY

It was March of 2018 when Delaware-based Superintendent Joe Gulotti got a phone call he never expected.

“The general manager is on the other end, and she is freaking out,” recalls Gulotti. “She tells me there is a dead body behind No. 5 green.”

No. 5 green has a woody area between it that serves as a buffer between the green and No. 17 green and 18 tee. Gulotti and his mechanic jumped in the cart to investigate.

“Sure enough, there’s a dead body,” Gulotti says. “And for some reason, his pants are down.”

Gulotti yelled at the person, while his mechanic trekked into the woody area to check for a pulse, but it was clear that the person was dead. Gulotti called 911 and as the sirens approached, he thought he was about to be on an episode of *Law & Order*. Turns out,

they were asked a few questions, the area was taped off, the body removed and no one ever heard much about it again. No foul play was suspected. Once they learned the identity of the body, Gulotti realized he had met the deceased before.

“A few months earlier, this guy was walking across the golf course. I said, ‘you can’t walk out here, it’s dangerous, and it’s a golf course,’” Gulotti says. “He told me it was OK because his parents were members. I could tell something was off about him, so I mentioned it the next time I was in the pro shop. Someone told me, ‘oh yeah, that guy is the worst alcoholic.’ Apparently, he would cut through the golf course as a shortcut to the liquor store.”



Joe Gulotti

We asked friends of the magazine to tell us about those days at work that stand out as particularly bad. Here’s what we heard.

GETTY IMAGES / ISTOCK-GETTY IMAGES PLUS; SHOPPLAYWOOD (BODY OUTLINE), SHORROCKS (YELLOW TAPE)

POLICE LINE DO NOT CROSS

POLICE LINE DO NOT CROSS

PO

Though tragic, Gulotti says life moved on pretty quickly on the back of No. 5 green.

"I thought it would mess with me more than it did," Gulotti says. "It really didn't surprise me that this is how he ended up, unfortunately."

HURRICANE ANDREW

Joe Pantaleo, a longtime superintendent in Florida, thinks back to August of 1992 for one of his worst days.

"I was working in Fort Lauderdale, and I had a house on the property," he says. "The most horrific experience was just going outside and looking around that morning."

Hurricane Andrew, a Category 5 storm that killed 65, destroyed 63,000 homes and committed \$26.5 billion in property damage, had hit Florida's east coast at about 1 a.m.

"Florida courses have big trees, and they were down everywhere. You couldn't see any holes," Pantaleo says. "That was my first experience with that whole 'How do you eat an elephant' question. You just have to start on one end and start working."

It took more than 90 days to get the course cleaned up.

"When you live on the property, you're like a farmer," he says. "You have a sense of ownership over the course. This is your home, so you treat it more seriously than you might if you lived somewhere else and had to worry about your own house."

AN ELEMENTAL FORCE

For Jared Stanek, superintendent at Toscana CC in Indian Wells, Calif., his last really bad day wasn't even a month old.

"It was three weeks ago. I'm getting ready for overseeding, this is our most important time of the year," he says. "My assistant calls and says he has a few con-



Jared Stanek

trollers that aren't responding. The night before we had a lightning storm come through. All three of these controllers had the lightning arrestors melted. I said OK,

THE COVID CREW



superintendent at a high-end private club says it was in those first weeks of the pandemic that he recalled having one of those days. The pandemic forced the club to make the decision to send all the staff home, with pay. Meanwhile, the golf course still needed attention. The superintendent and his wife started to mow the areas most in need.

When a member found out about this, she volunteered her own time and some of her fellow members, to operate mowers.

"The first round went remarkably well," the superintendent recalls. "We trained them briefly, and they got it done."

As word spread, more volunteers came out of the woodwork. Though the superintendent wasn't the organizer of the cause, one day, he got a call from one of his more affluent members.

"This guy is an investment banker, and he tells me he operates a tractor on his property," the superintendent recalls. "He says because he can operate a tractor, he's the right guy for the job and wants to come help. I says, 'fine, come out and we'll put you on a mower.'"

When the banker arrived, the superintendent quickly learned that this was free labor he did not want.

"This guy has no clue where to mow and where not to mow," he says. "Or, he thinks he's mowing, but he hasn't figured out that his reels aren't down."

It was at this moment that the superintendent reached his breaking point and began shouting at the banker to shut down his mower, but the banker didn't see or hear him and cruised right on by. The member who started the volunteer group saw the superintendent visibly angry, so she came over to try to settle things down. She says she knew this all must be very hard and asked when the regular crew would be coming back.

"I says tomorrow," the superintendent says. "Because if this guy comes out one more time, it won't be COVID that kills me, it'll be watching this guy mow."



Only days away from starting their overseed, Toscana CC's irrigation system went up in smoke after an electrical surge.

we had a lightning strike right here. Let's fix these."

Stanek and his electrician, standing at a control box on No. 18, thought they had the

problem solved, so they powered the system back up. The breaker tripped, and they knew there was still an issue, but immediately

Continued on page 22

// SHOULD HAVE STAYED IN BED

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Stanek's phone rang. The pro shop informed him there was a fire on No. 2.

"It's on a different breaker altogether," Stanek recalls. "As I'm driving out, I see a black cloud. As soon as I make the turn, I felt the heat. The controller is ash by the time I get there."

An electrical surge went from a splice in the ground and melted 33 lightning arrestors and sent one box up into flames. The entire system was suddenly down, and in two weeks, he was scheduled to oversee.

"It was insane. It happened so quick," Stanek says. "I asked my electrician, why didn't the breaker trip? He got philosophical about it. He said look, we have all these safeguards in place, but it's also humans trying to control a fundamental elemental force. We are wielding this force, and sometimes it behaves in ways you don't think it will because it's literally a force of nature."

Thankfully, a few days later, the system was operational again. They progressed carefully, and the overseed schedule was maintained.

"It reminded me, you show up to work on a Saturday morning and things look so good," Stanek says, "And then boom, you're done."

A BUZZKILL

It was May of 2018 when Rick Mooney, vice president of maintenance and development at Shore Lodge | Whitetail Club in McCall, Idaho, found himself in a nightmare situation. The ownership group of the resort was in McCall from Boise — a two-plus-hour drive — for a company retreat. Mooney had to make a quick exit



Rick Mooney

because of a phone call reporting smoke coming from the cart barn.

"When I got there, it was just black smoke billowing out," Mooney recalls. "Within minutes, the flames burst through the roof, and it wasn't long before the building was burnt all the way to the ground."

It was 10 days before the course was to open, and all the carts, as well as the members' clubs, had been destroyed. Mooney headed back to the retreat, which had now entered the cocktail hour phase, with the bad news.

"I didn't tell anybody what was going on when I left," Mooney recalls. "Then I walk back in, and I tell the president and the owner that we just suffered a total loss. They look at me and said, 'Aww, that's bull!' I said, 'not this time.'"

Mooney says his team scrambled to get things ready so the opening of the golf

PHOTOS BY RICK MOONEY



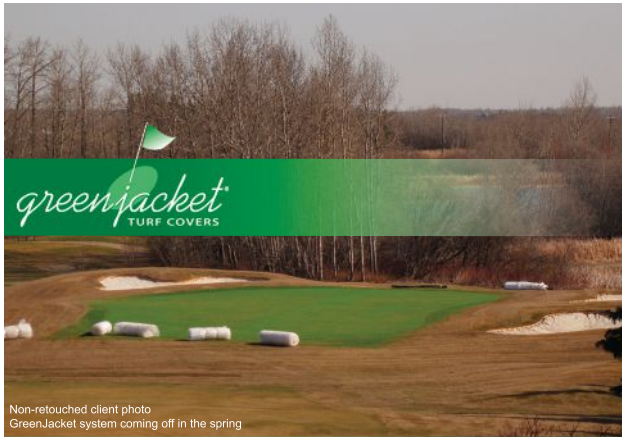
Rick Mooney took a phone call during a company retreat to discover Shore Lodge | Whitetail Club's cart barn was on fire.

season wasn't a disaster, but it took two years to get the right replacement for the cart barn. Meanwhile, insurance replaced the clubs of members who lost their clubs

to the fire.

"I can only speculate that some of them may have embellished what clubs they actually had in their bags," Mooney laughs. ☺

What's your "one of those days" story? Email us: sjones@northcoastmedia.net, or tweet us @Golfdom with the hashtag #1ofthosedays.



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The Golfdom

F I L E S

FROM THE ARCHIVE

With this month's cover story focusing on how superintendents have dealt with and recovered from extreme weather events throughout the country, we take a look back at this 2012 article, penned by Beth Geraci about the 2012 drought amping up the pressure on superintendents in various parts of the U.S. Read the full article at Golfdom.com.

Dry as a bone

BY BETH GERACI

OK, so it's hot. *Really* hot. *Everywhere*. And judging from the way the National Weather Service Climate Prediction Center puts it, there's no end in sight.

"Dryness and drought, exacerbated by above-normal temperatures, have been increasing both in extent and intensity across much of the central and northern U.S.," the center stated on its website.

Just the word "exacerbate" seems to exacerbate the heat, does it not? And superintendents from the West Coast to the East are feeling it, both on their skin and on the job. We asked them how they're coping.

"It's pretty dry," confirms Dave Befus, superintendent at Rochelle Ranch Golf Course, a public 18-holer in Rawlins, Wyo., which just experienced the driest June in its history. "I've had about six-tenths of an inch of rain in the last two-and-a-half months."

Consequently, Rawlins is under mandatory city-enforced water restrictions. Befus is prohibited from watering the course between 9 a.m. and 6 p.m.

"I go out and hit my hot spots before 9," he says. "We've got some areas that are hard — physically hard, because they didn't put much topsoil down when they built the course in 2002. It's not a problem in normal conditions, but it is now."



To stay on top of things, Befus has raised mowing heights and reduced the amount of nitrogen he puts down.

Befus is hardly alone. The NOAA National Climatic Data Center's July drought report says July 2012 was the hottest month ever recorded, with an average temp of 77.6 degrees F. That makes June, the 14th warmest and 10th driest June on record, seem mild.

The most recent U.S. Drought Monitor data indicate that as of July's end, 63 percent of the Lower 48 states were drought stricken. That's "the highest such value for the U.S. Drought Monitor since its inception in 2000," states the National Weather Service.

"It's been rough," says Kyle Allen, assistant superintendent at The Bridgewater

Club in Carmel, Ind.

Unlike Rawlins, Carmel is not facing water restrictions. The course is in fact quite wet, Allen says, thanks to the liberal watering they've been doing. This summer, the guys at Bridgewater have been watering at night and hand watering in the morning. Afternoons are spent doing touch-ups on hot spots.

On the bright side, Allen observes, the Indiana summer has been less humid than others, causing less disease pressure. "We've had one of the driest summers ever — ever, humidity wise," he says. "So, it feels cooler. The lack of humidity causes the grass to dry out faster and get hot, so you have to water more, but it also prevents disease."

Over in Georgia, courses finally are getting some much-needed rain. "Things really changed dramatically a couple weeks ago," says Mark Abrams, superintendent at Wolf Creek Golf Club in Senoia, Ga. "We couldn't get any rain. The bermudagrass on our fairways, we couldn't put enough water out. And keeping the rough going ... now we're catching afternoon thunderstorms pretty much every day."

In Georgia, it was dry from mid-June to mid-July — "really dry," Abrams says. "Normally it's a little more humid in mid-June, but this year, it was low humidity through June and no rain. It was just, appearance wise, the bermudagrass looked really dry — like we weren't watering it. You just couldn't keep up."

In Senoia, it got up to 107 degrees F one day. Several other days were in the hundreds as well.

As hot and dry as the summer's been, sometimes you just have to call it a day because when it comes down to it, "there's not much I can do," Befus says. "I'm hoping for August and September to cool down and get some rain." ☺



Super Science

// **WATER SAVVY**

SOIL MOISTURE SENSOR IRRIGATION IN SOUTHERN CALIFORNIA

By Mike Kenna, Ph.D.

Reducing a few minutes of irrigation application per head on a golf course could significantly save water and energy costs. Irrigation scheduling using automated soil moisture sensors (SMS) can apply water more efficiently while providing good fairway playing conditions.

Researchers at California State Polytechnic University evaluated SMS systems to reduce the number of irrigation cycles or water applied while maintaining acceptable turfgrass quality compared to traditional time-based irrigation scheduling on fairways.

GN-1 hybrid bermudagrass plots (each 10 feet by 10 feet) were sodded in 2012 and separated by 3-foot buffers. Three different soil moisture sensors (Toro, Rain Bird and Tucor) were installed and compared to a control treatment (no SMS). The control plots were irrigated based on the ET value collected from California Irrigation Management Information System (CIMIS) station No. 78.

The completely randomized experiment had three replications of individually zoned plots with a rotating sprinkler at each of the four corners. Plots were double cut at 0.5 inch in opposing directions twice a week using a Tru-Cut walk-behind reel mower. The plots were verticuted in the fall, and adequate fertility was maintained throughout the experiment.

The researchers collected data from the beginning of April through the end of October 2018, 2019 and 2020. Each year, the study started with all plots at similar water content (field capacity).

The irrigation information recorded for each plot included run time (minutes) by week, month and season, irrigation applied, amount of irrigation saved (actual amount and as a percentage of no SMS control), visual turfgrass quality, density, color ratings, clipping yield and soil salinity (bulk electrical conductivity).

In spring 2020, all the sensors showed a reduction in water applications compared to the control. In summer 2020, the water saved was more for Toro and Turcor sensors. Rain Bird treatment applied slightly more water than ET-based irrigation.

The results demonstrate that run times of soil moisture sensors were less than ET-based control plots. The SMS effectively reduces irrigation water used to maintain fairway turf quality and density under the Southern California study conditions.



Students install a Rain Bird Integrated soil moisture sensor in the bermudagrass fairway plot



For More Information: Saxena, P., R. Green, E. Vis, and V. Mellano. 2020. Soil moisture sensor irrigation scheduling in bermudagrass [Cynodon dactylon (L.)] fairways. *USGA Turfgrass Environ. Res. Summ.* p. 204-207.

NEWS UPDATES

UNITED TURF ALLIANCE ADDS NICK STRAIN AS CEO

United Turf Alliance (UTA) named Nicholas Strain as its new CEO. Strain replaces George Furrer, who is now the general manager of Valley Green.



Nick Strain

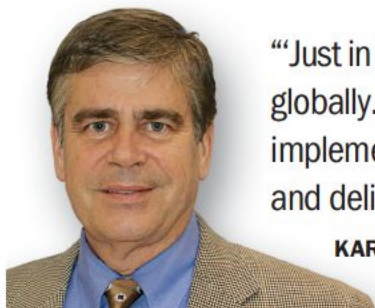
"I'm eager to lead UTA as we continue growing the AmorTech and Optimizer portfolios. With a clear commitment to turf and ornamental professionals, UTA is well-positioned to meet the evolving demands of the industry," Strain said.

Strain has nearly 15 years of experience in the industry, including distributor and manufacturer sales positions along with leadership of the Turf and Ornamental division for Control Solutions Inc. Most recently, he served as the vice president of business development at Primera. He holds a Bachelor of Science in agricultural business from the University of Wisconsin-Madison.

"Nicholas brings a wealth of connections and knowledge to UTA. We look forward to the direction he will take the consortium as we continue serving the industry through our exclusive network of distributors," said Bob Mele, chairman of the board.

IMPAIRMENT OF ROOT FUNCTION BY SOILBORNE PLANT PATHOGENS, PARTICULARLY *PYTHIUM* SPECIES, IS A SIGNIFICANT PROBLEM."

James P. Kerns, Ph.D.
(see story on page 27)



“Just in time’ is a popular concept globally. In the turfgrass industry, we implement the concept to purchase and deliver products.”

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

Supply problems ahead

The coronavirus pandemic has exposed our daily buying habits to frustration and disappointment. Initially, that included toilet paper and house cleaning supply shortages and now involves a wide range of products. Shopping is much like living through the movie title, *Dazed and Confused*.

Prior to the pandemic, if I wanted to purchase a white dress shirt, I would simply head to a retail store. When I finally got around to shopping for that shirt, I quickly became frustrated and shocked as I wandered through several discount and retail stores unable to find a white shirt. I could buy a dress shirt in another color, just not white. Hours later, I fortunately found one white dress shirt in my size. I spent \$115, the most I have ever spent for a single dress shirt.

During my journey through the stores, I asked several sales associates why they did not have one white dress shirt. I was given several reasons, many of which we now associate with the pandemic: increased demand, supply chain issues, labor shortage, restricted cargo shipping from foreign ports and trucking issues — to name a few.

We are now seeing many of the same reasons circulating through the golf course industry. Currently, the price of urea has doubled and tripled based on the rise of natural gas

demand globally. Along with fixed contracts and export constraints, the price of nitrogen most likely will continue to rise. For 2022, given the cost and demand of nitrogen rising, just the practice of fertilizing the turf looks like it is going to be a challenge.

Similar to urea, the 2022 turfgrass seed market looks challenging too. The potential 2022 turf seed market has the additional issue of climate impacting seed supply and cost. An important factor in the current or potential seed supply issues dates back to the 2010 recession, where turf seed demand dropped significantly. With prices dropping, Oregon seed growers were looking for alternative crops to grow in place of grass like wheat. Cash crops like wheat can be grown, harvested and sold to a guaranteed buyer ... an elevator.

Additionally, Oregon growers began to convert or increase their acreage into nontraditional crops like hazelnut. The vast majority of the world’s hazelnut production is found in Tur-

key, but during the first 18 years of the 2000s, Turkey was facing extensive political strife. The potential for global disruption in hazelnut production may have helped some growers to convert. Hazelnut production is more permanent in nature than a typical row crop. You cannot plow a hazelnut orchard under to plant grasses very easily.

This year, seed production faced a series of environmental issues. Drought this past spring and into the early summer impacted seed production by decreasing seed quality, while the extremely high summer temperatures during the pollen stage decreased pollen viability. The exact effect on 2021 seed crop is still being determined, but 2022 is shaping up to be a tough year. Given the current market trends, prices will increase and supply will be low.

“Just in time” is a popular concept globally. In the turfgrass industry, we implement the concept to purchase and deliver products. Normally, when we need a product, whether it is seed, a pesticide or equipment, it is a phone call or text to the supplier and it’s delivered in a timely fashion. That concept might become a luxury, especially with seed prices and availability becoming more sporadic.

Given the current and future 2022 projections for seed cost and availability, purchase seed when you can. If seed is purchased and required to be stored for use at a later date, store the seed under the proper environmental conditions. When it is time to seed, make a mental note to remind yourself what pure live seed means.

Returning to the white dress shirt, I had taken an unnecessary risk by waiting to the last minute to find that shirt. If I could have done it over, I would have shopped earlier. That important event was my son’s wedding. **G**

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

// PUZZLING OVER PYTHIUM

Pythium in golf course putting greens

By James P. Kerns, Ph.D.

Creeping bentgrass, annual bluegrass and hybrid bermudagrass are the most commonly used turf species for putting greens due to their high plant density and tolerance for low mowing (5).

Impairment of root function by soil-borne plant pathogens, particularly *Pythium* species, is a significant problem that leads to the decline of creeping bentgrass and annual bluegrass during summer stress periods. Bermudagrass struggles with *Pythium* species during the fall, winter and spring when light levels and temperatures are suboptimal (12).

Approximately 116 species are members of the *Pythium* genus (2), and many are associated with creeping bentgrass or annual bluegrass roots. Only a few studies have investigated *Pythium* species associated with bermudagrass roots.

To further complicate matters, there are two distinctly different *Pythium* root diseases. Root rots caused by *Pythium* species are associated with overly wet soils, commonly resulting from high organic matter content or poor drainage in sand-based putting greens (1, 12). *Pythium* root rots (PRR) cause distinct root necrosis with brown or even black roots. *Pythium* root rots have been associated with various *Pythium* species, and therefore, disease development is highly moisture dependent and mostly temperature independent (1).

Pythium root dysfunction (PRD) is a very different disease than traditional *Pythium* root rot. As opposed to *Pythium* root rot, symptoms of *Pythium*

Research Takeaways

- Identification of *Pythium* species during the summer months is challenging as most isolates recovered were nonpathogenic species such as *Pythium torulosum*.
- Based on the limited data thus far, we hypothesize that *Pythium* infection precedes symptom development in creeping bentgrass.
- *P. torulosum* growth was only inhibited by cyazofamid (Segway), fluazinam (Secure) and Terrazole (etridiazole).
- In vitro sensitivity varied among *Pythium* species, but all were extremely sensitive to cyazofamid.

root dysfunction do not include distinct root necrosis and are much more difficult to discern from healthy roots. Infected roots are shorter, lack root hairs and are only slightly more tan or buff than normal ones (6).

Unlike root rot, *Pythium* root dysfunction is more prevalent on younger bentgrass greens (< 5 years) and in well-drained soil profiles. Infection by root-dysfunction-causing species also seems to be temperature dependent. Infection occurs during the spring and fall, making the bentgrass more susceptible to decline during periods of heat stress (8). Oospores of the pathogen are only produced in quantity during the infection period, resulting in the problematic diagnosis of this disease when symptoms are present.

For fungicide selection, it is critical to know which *Pythium* root disease and corresponding species is present. *Pythium* root rots are best controlled preventively with alternate applications of mefenoxam, cyazofamid (Segway) or propanoic acid. Control is difficult

once symptoms develop and typically relies on short interval reapplications of etridiazole (Koban, Terrazole, Truban) followed by one of the active ingredients listed above.

Although fungicides are commonly applied to golf course putting greens, the cost associated with these products increases and reduces the sustainability of putting green management. It is not uncommon for golf course superintendents to spend \$10,000 a month to control *Pythium*. Understanding the etiology of root rot will lead to reduced applications and lower costs associated with putting green management.

Traditional *Pythium* fungicides do not control *Pythium* root dysfunction, but instead, QoIs (Heritage, Insignia, Fame) and cyazofamid (Segway) have been found most effective (8). In addition, fungicides targeted for *Pythium* root dysfunction must be applied preventively in the fall and spring during the infection period, well before symptoms arise.

When we first observed PRD in North Carolina, it was mistakenly identified as take-all patch, and superintendents were applying fungicides throughout the summer months to no avail. Once we discovered that the pathogen, *Pythium volutum*, was active when soil temperatures were between 55 degrees F and 75 degrees F, we were able to manage the disease with three targeted fungicide applications applied when soil temperatures were conducive (8).

Although *Pythium* diseases are significant issues for numerous crops, including turfgrass, the research community does

Continued on page 29

TABLE 1

In vitro sensitivity of *Pythium* species (number of isolates) to commercially available fungicides.

Pythium species	Fungicides																				
	EC ₅₀ Concentrations ug ml ⁻¹																				
	cyazofamid	fluzinam	etridiazole	azoxystrobin	fluoxastrobin	pyraclastrobin	mefenoxam	chlorothaloni	propamocarb	fluopicolide											
<i>P. aphanidermatum</i> (2)																					
P. aph	9.895 a	0.38 de	0.439 def	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a	0.074 e	3.39 de	>10 a	6.64 b							
P. aph2	0.035 d	0.559 de	2.31 a	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a	0.226 e	3.094 def	>10 a	>10 a							
<i>P. irregulare</i> (1)																					
P. irr	4.098 b	>10 a	0.755 d	0.9354 b	3.336 b	0.643 b	0.202 e	>10 a	>10 a	>10 a			>10 a	>10 a							
<i>P. armenianae</i> (2)																					
WRGCS	9.895 a	0.38 de	0.439 def	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a	0.074 e	3.39 de	>10 a	6.64 b							
Seigsefeld	0.035 d	0.559 de	2.31 a	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a	0.226 e	3.094 def	>10 a	>10 a							
<i>P. ventricosum</i> (6)																					
RBR	0.012 d	0.237 de	0.241 ef	0.0608 c	0.060 c	0.271 b	1.965 bod	9.137 ab	>10 a	>10 a			>10 a	>10 a							
P1	0.058 d	0.267 de	0.799 d	>10 a	>10 a	>10 a	>10 a	0.997 fg	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a							
Lambert	0.031 d	0.292 de	1.945 ab	0.1637 c	0.116 c	0.060 b	0.485 e	3.501 d	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a							
DMC15	0.044 d	0.241 de	0.755 d	0.0733 c	0.116 c	0.047 b	2.547 bod	7.615 bc	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a							
DMC22	0.026 d	0.212 de	0.642 de	0.0904 c	0.113 c	0.047 b	0.618 e	>10 a	6.468 b	>10 a	3.41 c	>10 a	>10 a	>10 a							
Pnehuust	0.074 d	0.432 de	1.287 c	>10 a	>10 a	>10 a	>10 a	6.276 c	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a							
<i>P. ultimum</i> var. <i>ultimum</i> (1)																					
P. ult	0.367 d	3.010 c	0.383 def	0.1284 c	0.163 b	0.139 b	>10 a	7.491 bc	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a							
<i>P. voulium</i> (1)																					
O08	0.002 d	0.068 e	1.341 c	0.0431 c	0.095 c	0.041 b	1.833 cd	0.678 g	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a							
<i>P. torulosum</i> (4)																					
LW1	0.098 d	0.819 de	1.532 bc	>10 a	>10 a	>10 a	>10 a	7.173 bc	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a							
LW5	0.042 d	0.195 de	0.223 ef	>10 a	>10 a	>10 a	>10 a	1.935 defg	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a							
LW10	0.056 d	0.210 de	0.532 def	>10 a	>10 a	>10 a	>10 a	1.726 defg	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a							
LW12	0.045 d	0.212 de	0.257 ef	>10 a	>10 a	>10 a	>10 a	2.08 defg	>10 a	>10 a	>10 a	>10 a	>10 a	>10 a							
<i>P. vexans</i> (1)																					
Ed-mum-27	>10 a	5.229 b	0.526 def	0.1649 c	0.263 c	0.920 b	0.3576 e	0.127 g	>10 a	>10 a	3.966 c	>10 a	>10 a	>10 a							
<i>P. myriophyllum</i> (1)																					
Ed-mum-22	1.078 c	0.591 de	0.148 f	0.076 c	0.058 c	0.403 c	0.168 e	>10 a	6.407 b	>10 a	>10 a	>10 a	>10 a	>10 a							

Continued from page 27

not focus on these organisms. Research targeting pathogenicity and epidemiology of oomycete diseases are focused on *Phytophthora* species or downy mildews. These organisms are easy to manipulate and typically develop on above-ground plant structures.

Pythium species, however, remain associated with roots, and the cultivation of these organisms can be challenging. A recent manuscript demonstrated that 40 percent of roots collected from herbicide-terminated winter rye were colonized with *Pythium volutum* (4).

Yet, the authors could not isolate *P. volutum* with traditional cultivation (plating using semiselective media). The authors developed an amplicon sequence isolation method directly from roots. If this were available for turfgrass, it would allow diagnosticians to demonstrate PRR or PRD accurately and, more importantly, identify the most prevalent species. A tool such as this could revolutionize our understanding of the population dynamics of *Pythium* in golf course putting greens. It could possibly lead to regional fungicide programs tailored to the species present in a given area.

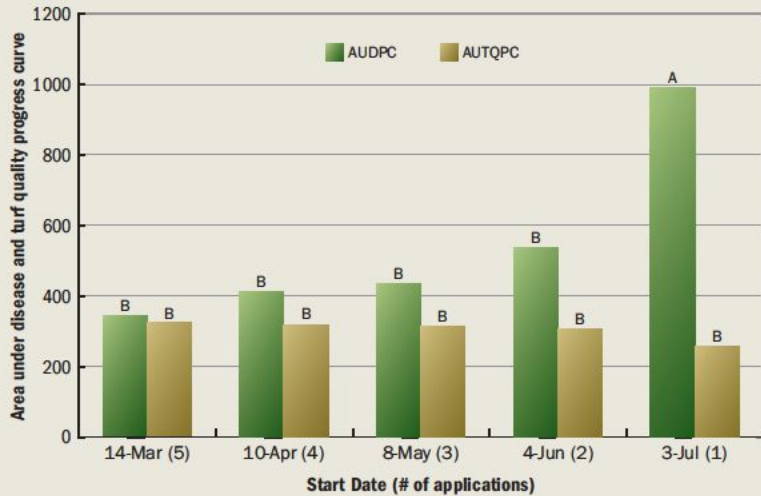
Considerable confusion exists among golf superintendents, diagnosticians and researchers on the type of *Pythium* root diseases that are most prevalent. As a result, improper selection or timing of controls has led to an abundance of *Pythium* root disease outbreaks in recent years.

Since 2008, the Turfgrass Disease Diagnostic Lab at NCSU has received 5,250 golf course putting green samples. Of those, 30 percent (1,575) were diagnosed as *Pythium* root rot, which is significant considering that more than half of the samples we receive are typically diagnosed with various abiotic problems.

The two objectives of this research article were 1) to assess aggressiveness toward mature turfgrass plants of

FIGURE 2

Efficacy of preventive cyazofamid applications for *Pythium* root rot in creeping bentgrass. Applications started in either March, April, May, June or July and were reapplied monthly until August. All applications were irrigated immediately with 1/8 inch of water, and cyazofamid was applied at 0.45 fl oz/1,000 ft².



Pythium species associated with *Pythium* root rot and 2) to determine *in vitro* sensitivity of *Pythium* species collected to various fungicides.

EXPERIMENTAL DESIGN

We collected approximately 200 root samples from soil profiles of healthy and poorly performing putting greens from North Carolina and neighboring states through submission to the diagnostic lab or course visits. We analyzed the roots microscopically for the presence of *Pythium* oospores. *Pythium* species were isolated with selective culture media and a baiting technique (7).

These cultures were incubated at room temperature under constant light to induce sporangia and oospore formation. Characteristics such as oospore diameter, number of antheridia, oospore wall thickness and shape were recorded for identification.

We also used molecular techniques (13) to identify the isolated *Pythium* species. Extracted DNA was compared with samples from the *Pythium* genome database.

Aggressiveness assessment.

We initiated a greenhouse or growth chamber study to assess the aggressiveness of *Pythium* species on established Penn A-1 and Penncross creeping bentgrass. Only species previously determined (1) as highly aggressive or moderately aggressive will be used in this study. As conducted in previous studies, we seeded bentgrass in containers in the greenhouse and inoculated them with *Pythium* isolates (1, 10).

The inoculated plants were subjected to high heat and over-irrigation to stimulate disease development. We trimmed the plants daily to simulate everyday putting green mowing practices. Disease severity and turf quality were assessed visually and using digital image analysis.

In vitro sensitivity. As isolates were collected from samples submitted to the Turfgrass Diagnostic Lab, we screened them for *in vitro* sensitivity to the 11 fungicides (Segway, Banol, Subdue MAXX, Insignia, Heritage, Stellar, Terrazole, Signature, Appear, Fame and Daconil Action) that list *Pythium* blight, *Pythium* root dysfunction or

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Pythium root rot on their labels. This work was accomplished by amending water agar with 0, 0.001, 0.01, 0.1, 1 and 10 ppm of each fungicide. Each concentration was replicated in triplicate, and the entire study was repeated twice.

RESULTS

Of the 125 *Pythium* isolates submitted to NC State Turfgrass Diagnostic Lab, 88 were identified as *Pythium torulosum*, and the remaining were identified as either *Pythium vanterpoolii* (8), *P. irregulare* (5), *P. aphanidermatum* (1) or *P. volutum* (1).

All isolates collected except for *P. torulosum* were extremely aggressive when placed on creeping bentgrass seedlings (Figure 1). The pathogenic *Pythium* species were primarily collected during May and June, which is early in terms of symptom expression. Of the 125 isolates collected, 22 were collected from ultradwarf bermudagrass putting greens. Fifteen of these isolates collected were *P. vanterpoolii*, four were *P. torulosum*, and four were *P. arrhenomanes*.

The sensitivity of *Pythium* isolates varies dramatically to fungicides (Table 1). All isolates tested were susceptible to cyazofamid and etridiazole. Most of the isolates we collected were insensitive to propamocarb, the first report of insensitivity to this chemistry.

The nonpathogenic species, *P. torulosum*, was only sensitive to cyazofamid, fluazinam and etridiazole. It grew readily on the other fungicides we tested, which may explain why it is so prevalent during our summer sampling strategy. Certain species like *P. vanterpoolii* were highly sensitive to QoIs, similar to results we found with *P. volutum*. ©

Jim Kerns, Ph.D., is a professor and Extension specialist in turfgrass pathology at North Carolina State University and can be reached at jpkerns@ncsu.edu.

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“Golf courses benefit people and wildlife, and university research validates the ecosystem services open space provides.”

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

Golf attacked in California

My parents still live in Southern California, and my Dad, who is 87, golfs with his friends on public golf courses. He is a member of the Southern California Golf Association (SCGA) and receives its online newsletter.

This summer, he forwarded a copy of the SCGA News, and the top story was “AB 672 is Back.” This particular bill authored by Christina Garcia, California assembly member from Bell Gardens, Calif., proposes converting municipal golf courses to low-income housing. The bill died in the latest legislative session, but it is not over yet. It could come back to life as a two-year bill that begins less than four months from now.

The initial AB 672 version is one of the most anti-golf bills to be filed in several years. Thankfully, the bill failed to get scheduled for discussion on San Francisco Democrat David Chiu’s Housing and Economic Development Committee. This outcome was what the allied golf community had hoped to accomplish when planning a full-court press in opposition.

However, when the bill failed, Garcia made AB 672 a two-year bill, which meant it would come back for a short consideration window in January 2022. She substantially amended her bill just before the end of the session to eliminate the obvious problems posed by the original bill’s wholesale assault on environmental quality and local zoning rules.

The entire bill is online at the Cali-

fornia Legislative Information website. Here is the first paragraph to give you a sense of this awful idea:

“Upon appropriation by the Legislature of \$50 million from the General Fund, the Department of Housing and Community Development shall administer a program to provide grants to cities, counties and cities and counties to incentivize making publicly owned golf courses in densely populated areas available for housing and publicly accessible open space.”

Homelessness is a severe problem in California, and since less than 10 percent of the state population plays golf, why not use the land for housing? Unfortunately, the nongolfing public does not understand that the municipal golf courses in their communities are part of park systems that provide soccer, baseball, swimming, picnicking, biking, pickleball, tennis and a myriad of other recreational pursuits. If not supported by the local government, these recreation areas would not be part of life in any California city or suburb.

I am very proud of the work the USGA supported over the last 30 years that explains how golf courses and other green spaces in urban and suburban areas provide more than a

place to recreate. Golf courses benefit people and wildlife, and university research validates the ecosystem services open space provides. Research by two prominent universities has illustrated the environmental value golf courses have on their communities. The project demonstrated that golf courses offer the greatest amount of cooling among urban land uses, are more supportive of pollinators than residential or industrial areas and retain more nutrients from stormwater than residential areas. Golf courses benefit surrounding communities in the same way as city parks or other green spaces.

While Assembly Member Garcia believes golf courses are a waste of government funding, the SCGA soundly objects to her logic. Municipal golf courses provide funding for Parks and Recreation Departments throughout the state.

“The fees and charges routinely cover all the costs of operation, all the costs of replenishing the infrastructure,” said Craig Kessler, SCGA governmental affairs director. “Twelve million dollars every year go into the coffers of County Parks and Recreation, which subsidizes those swimming pools, trails, picnic areas and soccer fields that don’t pay for themselves.”

We all know water is a scarce resource out West, but the SCGA’s California Golf Water Facts is an excellent summary of how much and what kind of water is used by state golf courses. Courses use less than one percent of the state’s potable water, and 40 percent use recycled water. Smart irrigations systems, soil moisture meters and irrigation audits all help courses use water efficiently. Plus, California courses replaced millions of square feet of turfgrass with drought-tolerant plants in rough areas.

AB 672 is just another bad idea that will negatively affect the community environment and quality of life. ☹

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



Yellow tuft rarely kills turf, but it can discolor greens, tees and fairways.

Yellow tuft and downy mildew molds: Control and avoidance

Spores attack virtually all turfgrasses and grass crops and can discolor greens, tees and fairways

By Pete Dernoeden, Ph.D.

Yellow tuft is a disfiguring disease that seldom kills turf. In St. Augustinegrass, the disease is called downy mildew since the tufting symptoms are absent.

Identification: Yellow tuft is incited by *Sclerophthora macrospora*, a highly sophisticated obligate parasite and member of the water mold family. This pathogen attacks

nearly all turfgrasses, as well as several major grass crops, including rice and corn.

On golf greens, tees and fairways, the disease appears

as yellow spots, 0.25 to 0.5 inch (6.2 to 12.5 mm) in diameter. In Kentucky bluegrass and other wider-bladed grasses, yellow spots are 1 to 3 inches (25 to 75 mm) in diameter. In low areas where water collects and puddles, infected stands may exhibit a generalized chlorosis.

Each spot consists of one or two



Pete Dernoeden

PHOTO COURTESY OF PETE DERNOEDEN

plants having numerous tillers, giving plants a tufted appearance. The tufting, or abnormal tiller production, induced by *S. macrospora* causes a shift in the production of a hormone that regulates tillering. Roots of infected plants are short and bunched, and tufts are easily detached from the turf.

During cool and moist periods in late spring and autumn, plants develop a yellow color. The yellowing is the indirect result of a heavy fruiting body (sporangia) and subsequent spore production by the fungus. Once leaves dry, sporangia desiccate and, when abundant, appear as a white residue on leaves.

These spores (i.e., zoospores) swim, so yellow tuft is more severe in low-lying areas where water puddles. Infected plants may die, but only when subjected to other stress factors.

In St. Augustinegrass, the disease is called downy mildew, and the symptoms are different. The disease appears as white, linear streaks that run parallel to leaf veins. Leaves turn yellow, and there may be some browning of leaf tips. Excessive tillering does not occur. The disease is disfiguring, and St. Augustinegrass growth may be stunted. In zoysiagrass, however, the yellow tuft symptom is common.

Conditions: Symptoms of yellow tuft are most prominent during spring and autumn since the disease is promoted by extended periods of cool and wet weather. Seedlings are most vulnerable to infection by *S. macrospora*, which accounts for why the disease is most commonly observed in the spring following autumn seeding.

Yellow tuft recurs in older turfs following excessively wet weather in spring and autumn. During most summer months, infected plants appear green and healthy.

Control: Vertical cutting golf greens in spring will physically detach many tufted plants. Improving surface water drainage helps to alleviate yellow tuft since the disease is most severe in low areas where water collects.

Yellow tuft is best controlled with mefenoxam. Mefenoxam performs better when it is tank mixed with fludioxonil. Two or three mefenoxam applications may be required to eradicate the fungus.

After fungicide application(s), however, plants can retain their tufted appearance for several weeks. It is only until new tillers replace the older infected shoots that plants regain their normal appearance and growth habit.

Mefenoxam works best when applied preventively and prior to rainy weather, particularly where there are seedlings or immature plants. There may be little response from a curative mefenoxam application if it is not tank mixed with fludioxonil. 📍

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Syngenta

MIKE AGNEW, PH.D.

Technical services manager



Yellow tuft is a disease caused by *Stenotaphrum secundatum*.

While it is known to affect all turfgrass species, it is most notable in annual bluegrass and bentgrass greens. Infection occurs during cool, wet weather in spring and fall and is most severe in low, wet areas. Symptoms appear as yellow spots of tufted plants 0.25 inch to 1 inch in diameter. Leaves and tillers are yellow and clustered as a result of an abnormal, fungal-induced proliferation of tillers. Tufts are easily detached from turf, exposing clusters of short, stubby roots. In St. Augustinegrass, there is no tufting. The disease appears as white streaks parallel to the leaf veins. Yellow tuft is an obligate parasite that survives and reproduces only in living tissues. It uses the turf plant as a host but rarely kills it. Therefore, most control measures are curative. Mefenoxam is one of the few fungicides labeled for yellow tuft control. For improved and broad-spectrum control, tank mix mefenoxam with fludioxonil or chlorothalonil fungicides. However, yellow tuft can be difficult to manage with fungicides alone. Cultural practices such as improving surface and subsurface water drainage, increasing air circulation and regular vertical cutting to remove tufts from greens may also be necessary for effective management.

PBI-Gordon

BRETT RIECK

Regional manager



Yellow tuft is not a common disease. There aren't a lot of research dollars dedicated to it, like dollar spot or *Pythium*.

Yellow tuft hits most commonly in greens when wet, cool conditions are prevalent. Geography doesn't matter; it just needs those cool, wet conditions. It almost looks like a mildew. Turf turns yellow in patches, or it just looks off-color. Some forms attack nurseries or greenhouses, but in golf, we worry about greens. It can hit fairways, but people don't treat for it there.

Chemically, curative applications aren't going to work, you have to apply preventively. Mefenoxam, cyazofamid or fosetyl are good to prevent it. It's an interesting, unique disease, like red thread, and yellow tuft is a pain.

The Shop

// MUST-HAVE NEW PRODUCTS

1



2



3

1 Echo PB-9010 backpack blower

The PB-9010 is part of **ECHO**'s X Series lineup — outdoor power tools designed to be powerful, lightweight and offer greater productivity. The PB-9010 is ideal for heavy debris cleanup, such as clearing large open areas during fall in places like New England, clearing large parking lots or quick cleanups after mowing.

Echo-USA.com

2 Lesco renovation seeder

Powered by a robust Vanguard V-twin engine, the **LESCO** Renovator 24 seeder is a powerful and productive power seeder, featuring a dual-hydrostatic drive and counter-rotating blades to cut through even the toughest of soil conditions. The renovation units are supported by a three-year commercial limited warranty. The integrated seed box model eliminates the need for post-aeration seed application to complete projects in one easy pass, reducing the need to return and reapply seed.

Lesco.com

3 Stihl BGA 86 battery-powered handheld blower

With 50 percent more blowing force than its predecessor, the **STIHL** BGA 86 battery-powered handheld blower gives end users the power they need to take on tough tasks. Part of the diverse range of tools within the Stihl AP System, the BGA 86 features a brushless motor, allowing for quiet operation, and an excellent power-to-weight ratio, Stihl says. Its well-balanced design and optimized controls make it easy to use for right- and left-handed users. The BGA 86 is also rain resistant.

StihlUSA.com



4

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5



6

4 | John Deere Aerocore 2000 aerator

The **JOHN DEERE** Aerocore 1500 and 2000 (pictured) aerators, offering a 57.5-inch and 77.5-inch coring swath, respectively, allow operators to efficiently aerate without sacrificing time or quality. The Flexi-Link coring system on the 1500 and 2000 models ensures the tines stay perpendicular longer, and the belt-driven design on the Aerocore models is quieter and doesn't require lubrication. The 1500 and 2000 models are both tractor-mounted systems. The large 6-inch diameter roller offers better ground clearance and reduces the potential for turf scuffing, and four tine holder size options provide a solution for any type of turf. Deere.com

5 | Bluebird A530e Aerator

BLUEBIRD's A530e Aerator features a 125-volt lithium-ion battery, eliminating the need for exhaust emissions, fuel spillage or fuel costs while having a lower noise level. The 19-inch A530e aerator provides 624 watt-hours of power capacity (dual battery), giving users up to 45 to 60 minutes of run time with a battery recharge time of 45 minutes. The product comes with a two-year warranty. BluebirdTurf.com

6 | Turfco XT8 Riding Aerator with Drop Seeder Attachment

Superintendents can now seed and aerate at the same time for increased productivity with **TURFCO**'s XT8 Riding Aerator with a Drop Seeder Attachment. The patent-pending design with drive chains outside the aeration area won't clog with soil and debris for hassle-free operation, and the powerful 22-hp engine with cyclonic air cleaner won't slow down when aerating. With speeds up to 7 mph, the XT8 can cover over 2 acres in an hour. The optional Drop Seeder Attachment with 2.5-cubic-foot hopper seeds while users aerate. Turfco.com

The 19th Hole with...



Jared Stanek

SUPERINTENDENT // Toscana CC, Indian Wells, Calif.



After 18 holes, what can I get you?

How about a soft seltzer with a slice of lime? Maybe a Pellegrino. You have to retire my drinking jersey in the rafters; I haven't had a drink in quite some time.



Tell me about your family?

I've got two sons, 6 and 8, Ashton and Logan. They're awesome. They're great helpers around the golf course, around the home. They're great dudes. I love being a dad.

What would you like me to know about Toscana?

These two courses are amazing. Jack Nicklaus designed both of them. We have a desert 18 called the North Course, with a real lush but desert palette — lots of agave, cactus, ocotillo, bougainvillea. Our South Course is a lot more traditional — big bunkers with white Augusta sand, date palms, roses. Two different courses with a different feel but that Nicklaus style. A lot of the holes favor his power fade.

How long have you been there?

It'll be two years. I started in February 2020, when it was a different world. Four weeks after I started, we closed the club. Now we're adapting, and the club is in a good spot. It was a really interesting way to

// BEST ADVICE

"I'VE BEEN READING *THE FOUR AGREEMENTS* (BY DON MIGUEL RUIZ). TWO OF THE FOUR 'AGREEMENTS' ARE 'DON'T TAKE ANYTHING PERSONALLY,' AND 'ALWAYS DO YOUR BEST.' THOSE TWO THINGS HIT HOME FOR ME AS A SUPERINTENDENT."



start a new job, a new challenge, and then have that wrenched in after you start.

What was the last game you played and how did you do?

We had our superintendent scholarship tournament, a four-man scramble, and we shot 18-under 54 and took home the hardware. That was two weeks ago. We've got bragging rights over all the HiLo GCSA: Matt Balesteri, Indian Wells Golf Resort; his head golf pro Derek; and Jeff Stephenson, our Nutrien Ag Solutions sales rep. All great golfers. Matt is incredible, he used to be a golf pro.

What teams do you root for?

I'm a proud (University of) Wyoming Cowboy, I support all things Wyoming Cowboy. And I'm a Denver Broncos fan; the majority of people from Wyoming root for Denver sports teams — Rockies, Avalanche, Broncos — but I'm Wyoming till I die.

What's the best thing about being able to claim Wyoming as your home state?

Well, not a lot of us can — it's the least populated state in the country, but it's such a special place. If you love the outdoors, the Big Sky Country... there's something about Wyoming. You can drive for miles and not see anyone. Good people, there's a sense of community there. There's only five of us there. You have to be kind to one another.

Fill in the blank: I wouldn't be at this point in my career without _____.

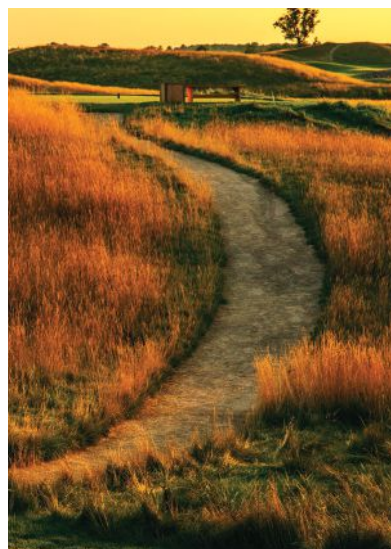
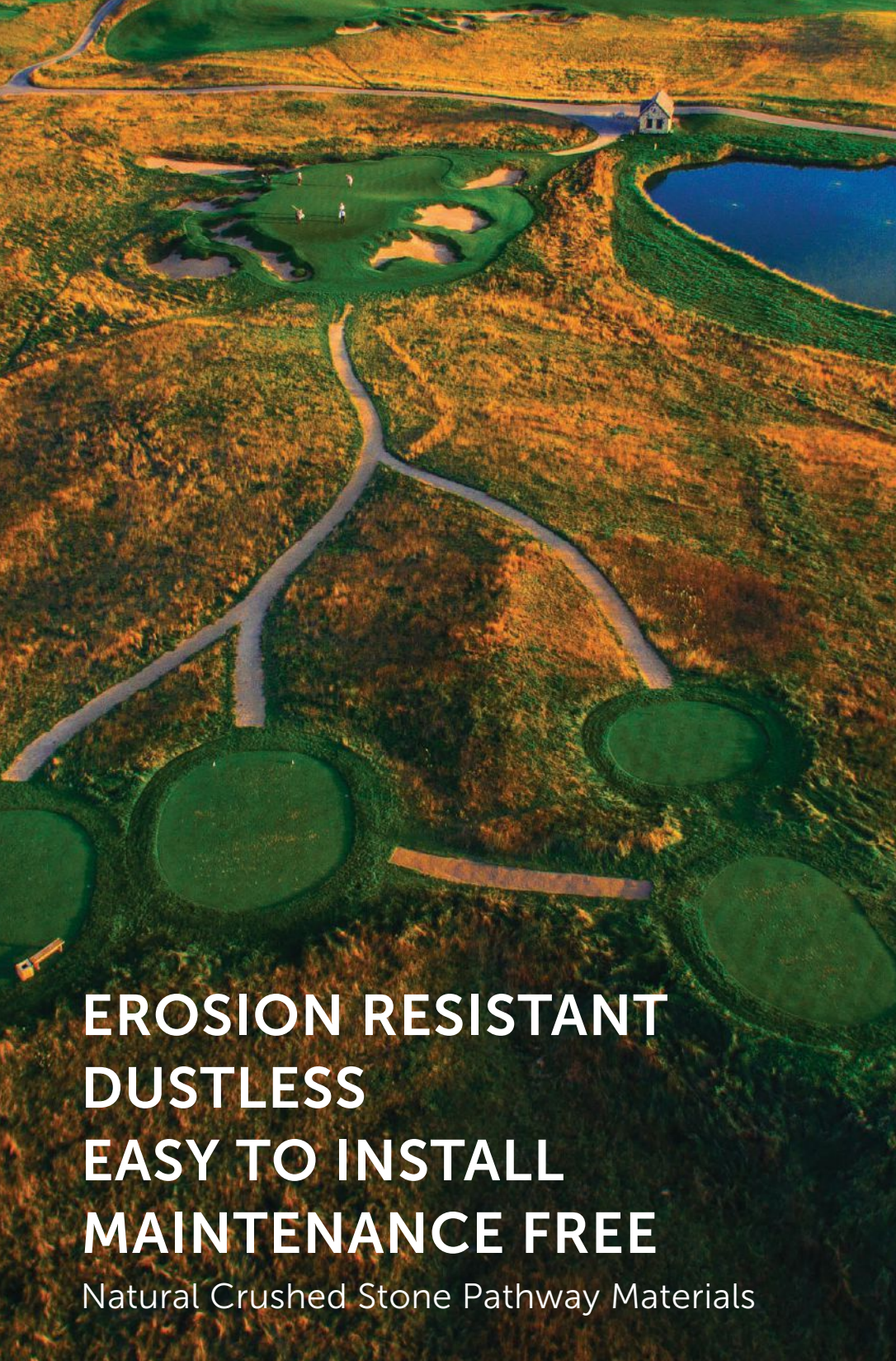
You know, I never worked for him, but Rick Mooney (vice president of Shore Lodge | Whitetail Club, McCall, Idaho). He's a guy I've called a couple hundred times in moments of crisis, and he always has his own unique way, his unique wisdom, of giving me just what I need. He's always been a mentor.

As interviewed by Seth Jones, Oct. 13, 2021.

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Product Synergy

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