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MOTOR CITY MAGIC

Talented turf pros are putting the spotlight back on Detroit's public golf courses



// 18

All in the Family



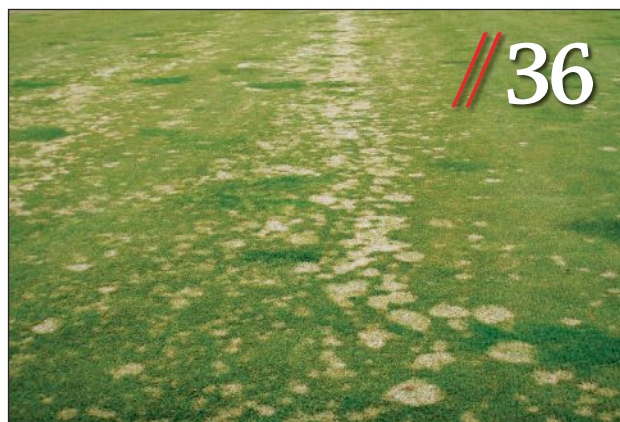
// 27

COLUMNS

- // 6 **Keeping up with The Jones**—Seth Jones
Inspired by the movie Groundhog Day, Jones shares what workdays he wouldn't mind reliving
- // 12 **Cutting to the Chase**—Carlos Arraya
Arraya takes a moment to appreciate the odds superintendents overcome to do their jobs well
- // 14 **The Walking Greenkeeper**—Joe Gulotti
Gulotti gives fellow superintendents the OK to cherry-pick a few of his solutions to the labor dilemma
- // 38 **The Turf Doc**—Karl Danneberger
Reminiscing about his college classes, The Turf Doc reflects on the most problematic turf diseases over the years
- // 40 **Clark Talks Turf**—Clark Throssell
Throssell gets into the nitty-gritty of fall Proxy applications for Poa annua seedheads

DEPARTMENTS

- // 8 **Starter** // 10 **Golfdom Gallery**
// 42 **The Shop** // 44 **The 19th Hole**

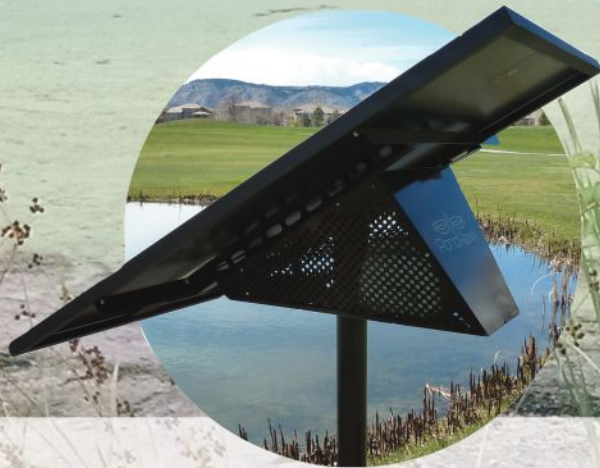


// 36

SUPER SCIENCE

- // 31 **A turfie returns to the Lone Star State**
- // 32 **Things I learned about snow mold last winter**
- // 36 **EXPERTS' INSIGHTS:**
Shutting down snow mold

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"That silly question elicited a great answer ... then it got me to thinking about what workday I could live over and over again."

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

Groundhog Day in July

Forget Christmas in July — today I'm celebrating Groundhog Day in July. ¶ I'll explain. In this month's 19th Hole interview, I asked Jason Tharp, superintendent at Glen Arven CC, if he found himself in the premise of the movie *Groundhog Day*, where he had to live the same day over and over — what day would he hope to find himself trapped in? I told him he had to choose a day related to his job — eliminating the answer of his wedding day or the recent birth of his son.

That silly question elicited a great answer (see page 44). Then it got me to thinking about what workday I could live over and over again. Here's a quick list:

2003 Masters — The winner wasn't memorable (sorry, Mike Weir) but my first Masters was. I had to choose between the Final Four (my Jayhawks were in) and the Masters. Not knowing if I'd ever get another opportunity to go to Augusta, I made the agonizing decision to leave New Orleans after attending the semifinals. (I still blame myself for the KU loss in the championship.) It drizzled on and off, but I got to behold Amen Corner with

my own eyes.

I'm thankful every year I get to go back. If you still haven't gone, you need to make it happen in 2020.

Cancún 2010 — I was tasked with writing a cover story on Nick Price for my previous employer. Price's people got back to me on a Monday and asked me if I could be in South Florida by that Thursday. I said it was unlikely, given the short notice. Then I was told that if I could get down there in time, I could join Price on his private jet for a quick weekend down to Cancún to check out some golf courses.

I figured out a way to get to South Florida by Thursday.

2012 British Turfgrass Management Expo — My first trip to London was energizing as well as entertaining. Traveling to Harrogate was a fun adventure with some old friends in the industry. The show itself was good ... but the atmosphere and camaraderie was phenomenal. I'll never forget walking into a pub and getting the "Norm!" from *Cheers* treatment from a raucous group of Irishmen.

And no, they didn't know me.

Rounds at Pinehurst No. 2 or the Straits Course at Whistling Straits — I'm the high handicapper who shows up to the first tee with a golf bag with his name stitched

on it (hey, it was a gift and besides ... my name looks good on there). I'm a hack but once in a while, I play beyond my own abilities.

When you're as bad a golfer as I am, that random lighting-in-a-bottle round is so rewarding. Bonus points when it's on a top 100 course.

The 2018 ANA Inspiration

— My oldest friend in the industry, David Hay, CGCS, invited me to come out to Palm Springs for the first women's major of the year. I hadn't been out there in a while, so I said yes. Then Dave Johnson, the longtime superintendent at Mission Hills, unexpectedly passed away. Hay was suddenly thrust into the position of filling in for his old friend. It was an emotional trip but also memorable for the quiet moments on the golf course, watching the best female golfers in the world with a relatively small, serene audience of fans, accompanied by Dave's constant cigar smoke.

When the work was done, Dave and I drove out to the desert to sip a cold beer and look at the San Andreas Fault.

I can think of more, but this is a sampling of some of my Groundhog Day-worthy workdays. What are yours? Tweet them to me or post a message on our Facebook page and tell me the story. Or, even better: Tell me the story in person next year at Augusta National. ☺

Email Jones at: sjones@northcoastmedia.net or tweet him @SethAJones.

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*– Zachary Reineking
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Starter

NEWS, NOTES AND QUOTES



//RISE OF THE MACHINES



The 7500A autonomous fairway mower is meant to help ease superintendents' labor concerns.

LOOK MA, NO HANDS!

BY SETH JONES // Editor-in-Chief

 COAL VALLEY, ILL. — The 2019 John Deere Classic may have been life-changing for South Africa's Dylan Frittelli, who notched his first career PGA Tour victory. Frittelli banked a cool \$1 million with the win.

The team at John Deere is hopeful that Frittelli wasn't the only person with a life-changing million-dollar moment that week in the Quad Cities. At the company's Golf Technology Preview event, it debuted a handful of new innovations — most notably, an autonomous fairway mower.

About 75 superintendents were in attendance to see the 7500A fairway mower make its entrance. It mowed past the group with no driver, evoking audible gasps and even a "wow!"

The mower is equipped with a StarFire receiver on the roof to direct it. "You have to give it boundaries, just like kids," quipped Brooks Hastings, product manager for John Deere Golf.

"We understood, by talking to customers around the globe, their needs. Clearly, labor has been a concern," said Manny Gan, John Deere's director of global golf. "We feel we can be really accurate and raise the level of the cut quality and the consistency and maximize the labor."

The company also showed off its precision GPS PrecisionSprayer, 2700 and 2750 PrecisionCut Triplex Mowers, 2700 and 2750 E-Cut Hybrid Triplex Mowers, as well as announced the acquisition of OnLink, a golf course performance optimization software.

"Fully acquiring OnLink is really an opportunity for us to pull the entire precision turf strategy together; it really allows us to help the superintendents manage their course to a greater degree," Gan said.

For additional information on Deere's Golf Technology Preview event, visit Golfdom.com.

//GO DAWGS

SIPCAM AGRO NAMES GERTZ CEO

Sipcam Agro USA has named John Gertz to lead its North American business as CEO, reporting to the board of directors and Giovanni Affaba, the company's global CEO.

Gertz has a proven track record of product development advancement, business growth and value-add throughout all levels of the chemical and specialty input industry. He's been working in the industry since 1995, starting in sales and marketing roles with basic discovery, post-patent and specialty fertility manufacturers. He holds Bachelor of Science and Master of Science degrees in agronomy and crop sciences from the University of Georgia.

Gertz's appointment follows several recent strategic alliances and investments in active ingredient access and capability made by the global Sipcam organization to strategically grow its presence and participation in that market, according to the company.

//FAMILIAR FACE AT TURCO

MARK KUHN, CGCS, JOINS TURCO GOLF

Turco Golf welcomed golf industry and turf management expert Mark Kuhns, CGCS, as its new vice president of business development.

 Kuhns joins Turco Golf's team of golf construction and industry professionals, with more than 40 years of hands-on agronomy and grounds maintenance experience. Most recently, Kuhns served as director of grounds at Baltusrol Golf Club in Springfield, N.J., from 1999 until his departure in 2019. During his tenure, Baltusrol hosted championship tournaments, including the U.S. Men's Amateur in 2000 and PGA Championships in 2005 and 2016.

He currently sits on the Rutgers Turfgrass Advisory Board, while previously serving as president of the GCSAA and government relations chair for GCSA of New Jersey.

PHOTOS BY: SETH JONES (MOWER), ISTOCK.COM / WELLGLAD (GOLF BALL)

// RAIN, INSECTS, DISEASES, OH MY!

All eyes on you, Florida

BY CLARA RICHTER // Managing Editor

➔ When it comes to growing and maintaining turfgrass, Florida is a very important state. That was the main message behind Bayer's Focus on Florida Media Summit, held July 11-12 in Naples, Fla.

"Florida is the perfect storm for grass growing, product development and learning about new turf diseases," said Sheryl Wells, field development representative from Bayer's crop science division.

During the event, attendees visited with superintendents at two golf courses in southwest Florida — Mike Meisenhelter at West Bay Club and Laurie Frutchet at Lexington Country Club — to learn how they care for their turf despite the demands of Florida's growing conditions.

Before moving to Florida, Meisen-

helter worked in Texas, where environmental conditions are a little different than in the Sunshine State.

According to Meisenhelter, the rain cycle affects irrigation practices, and the porous, sandy soil makes it difficult to regulate moisture. He adds that Florida is the "bug capital of the world."

"If you are a superintendent coming to Florida," Meisenhelter said, "pick up the phone and ask for help."

Frutchet has been working as a superintendent in Florida for 27 years and has been at Lexington for 18 years.

She says two of the most difficult things about growing turf in Florida are the sandy soil and nematodes, but if you surround yourself with successful professionals, you can get through it.



Scholarship winners (L to R) Mombo Ngu, Katelyn Harris and Kharynton Beggs.

// PRO-AM PLAYERS

SCHOLARSHIP WINNERS HONORED AT DEERE CLASSIC

The First Tee 2019 John Deere Power for Good scholarship contest winners celebrated at a special lunch and learn during The John Deere Classic. The contest recognizes the efforts of young men and women in The First Tee program who have a passion for improving their surroundings.

The winners are Mombo Ngu of Jacksonville, Fla., Katelyn Harris of Antelope, Calif., and Kharynton Beggs of Charleston, S.C.

The winners participated in a panel discussion with Scott Langley, the first alumnus of The First Tee to play on the PGA Tour. Each of the three winners received a \$5,000 college scholarship, as well as a VIP experience at The John Deere Classic in Silvis, Ill., including participation in the Wednesday Pro-Am.

// CHEETAH PRO IS A GO

CHEETAH PRO HERBICIDE RECEIVES APPROVAL IN CALIFORNIA

Nufarm Americas announced the approval of Cheetah Pro nonselective herbicide in California.

Cheetah Pro provides fast and effective control of grass, sedge and broadleaf weeds in a variety of turf settings, the company said. Previously approved in 46 states, Cheetah Pro will be available to California distributors in 2-by-2.5-gallon units and 30-gallon drums.



(L to R) Al Kinkle, Sheryl Wells, Todd Lowe, Laurie Frutchet, Zach Lane and Mike Ruizzo at Bayer's Focus on Florida Media Summit.

PHOTOS BY: JOHN DEERE (TOP); CLARA RICHTER

Golfdom Gallery



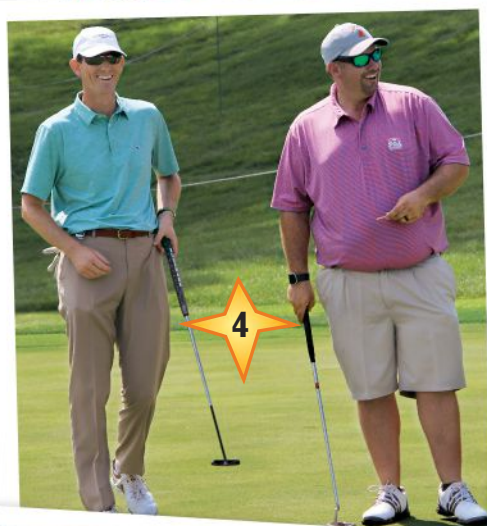
1 Airport connection It's considered taboo for media to ask a PGA Tour player for a selfie on the golf course. But at the airport? No sweat. *Golfdom* Editor-in-Chief Seth Jones (left) nabbed a pic with 2009 Open Championship winner Stewart Cink.



2 Women in golf A great group assembled at Lexington CC in Fort Myers, Fla., including (L to R) Norma Gillis, Pat Morrow and Sheryl Wells of Bayer; Laurie Frutchey, superintendent, Lexington CC; Clara Richter, *Golfdom*; and Michelle Osuna, Bayer.



3 Strike a pose The crew at TPC Deere Run, Silvis, Ill., looked almost as good as the course itself. Ready for the 2019 John Deere Classic were (from left to right) Jarrett Chapman, assistant-in-training, Alex Stuedemann, CGCS, and Andy Cooper, assistant-in-training.



4 Let the good times roll (L to R) Dan Meersman, director of grounds and facilities, Philadelphia Cricket Club, and Kyle Callahan, director of agronomy, Victoria National GC, Newburgh, Ind., share a laugh during the Monday Pro-Am at TPC Deere Run. Oh, and their playing partner? Matthew Wolff, winner of the 3M Championship.

5 Big hitters, long They didn't win any of the long-drive competitions in the John Deere Monday Pro-Am, but Manny Gan (left), director of global golf for John Deere, and Rhett Evans, CEO of GCSAA, were among the big hitters at the event.



6 Nothing runs like this team John Deere brought its A-team to the Quad Cities in anticipation of the company's Golf Technology Preview event. From left to right, Brooks Hastings, Bert Schmidt, Manny Gan, Malhar Shah, Brad Aldridge and Tracy Lanier.

PHOTOS BY: SETH JONES (1, 3-6); CLARA RICHTER (2)



BUNKER LINER

See What the Experts Say

Reviews from Club Superintendents
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"The Riviera Country club installed two Polylast test bunkers just prior to the 2017 Genesis Open PGA Tournament. Friday night, there was a three inch rain and Saturday morning only the two Polylast lined bunkers had NO standing water... Since then, The Riviera Country Club has installed roughly 130,000 square feet of Polylast Bunker Liner!"

Matt Morton
Superintendent
The Riviera Country Club
Genesis Open PGA Golf Tournament



"We installed Polylast Bunker Liner at Goat Hill Park back in 2015, and since that time, we've seen no foreign particle migration into our sand, no growth and even when we've had serious rain fall, no puddling and no sloughing of sand off of bunker faces. It really has proven to be a "course changer"."

John Ashworth
President, Goat Hill Park
Oceanside, CA



"I've been in the golf course maintenance business for over 32 years and I have worked with just about every bunker liner of the market. From fabric liners to the porous concretes, and I can say I've yet to see one that rivals the Polylast liner. It was easy to install and is extremely durable."

David Escobedo
Superintendent
Westbrook Village Golf Course
Peoria, AZ



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“From the very moment your morning routine started, you were unknowingly overcoming long odds.”

CARLOS ARRAYA, CGCS, Bellerive CC, St. Louis

Motivated by the odds

Waking up each morning obviously is the most critical part of our everyday routine. For many of us, this routine consists of occasional drowsiness, workouts, a weather forecast check, a good breakfast, walking the dog, reading the news and, of course, consumption of a full cup of some sort of caffeinated drink. (It is a point of contention for me that waking up is taken for granted by many, but I'll leave that discussion for a future column.)

The caffeine is a jump-start to get our blood pumping through our veins, but for some of us, caffeine is simply not enough. Our mind, body and soul require something a bit more potent than caffeine, like a good old-fashioned “fix” to really get our blood flowing and passions fueled. No, I'm not referring to a bloody mary or Red Bull, but rather a good old-fashioned “turf fix.” I'm referring specifically to the scent of freshly cut grass mixed together with the aroma of a two-cycle gas exhaust.

Is there a better smell in the world? Would you believe me if I told you that prior to this mixture reaching your neurological passageways, you had already beaten sev-

eral odds of life? Probably not, but it is true.

From the moment your morning routine started, you were unknowingly overcoming long odds. You beat them by completing your morning routine, by simply not being burned by your coffee. You even were able to overcome the odds associated with the lack of morning motivation. Multiply these with the odds associated with an entire day of leading people, managing turf and outcompeting the weather to produce a finely tuned golf course, and *phew* ... that's some serious butt-kicking taking place!

From my perspective, it's much easier to appreciate each day's professional success when you can value

odds of all sizes. No matter how things are going on or off the golf course, we are all overcoming odds and are destined to continue doing just that. Heck, the odds of you reading this article were one in 400 quadrillion. Those are the exact odds of the both of us being alive at the same time, on the same planet, in the same country, writing and reading the same column. OK, maybe those odds are a bit exaggerated, but you get my drift.

You're living proof that winners must overcome the odds. In fact, I'd go so far as to say you are a risk taker — not the risk taker who sits at the casino table rolling the dice, but a risk taker forging new paths in our golf industry.

Each one of your professional choices is associated with great risk. You think about your own risk, all while you clearly understand that, as a turf manager, you also affect the risks and odds of so many other people. The players who enjoy your course are affected by the risks you take to brave the environmental challenges we face every day. The people who work with you are trusting that the odds are high that you will keep them safe and will assist them in achieving operational as well as professional success. We are responsible for so many people, so many risks and have such great odds to overcome, it's a wonder we can sleep at night.

As we professionally mature, there is aspiration for three things: liberation (freedom), inspiration (support) and motivation (passion). How are odds even relevant in today's golf course superintendent world? For starters, do not allow the odds to be camouflaged in your routine. Second, appreciating the odds will fuel your freedom, support and passion. My hope is that highlighting these odds will truly inspire you not to be intimidated by them, but rather to be “motivated by the odds.” Remember, a great superintendent does not fear the odds. Rather, he/she prepares for, anticipates and embraces them. **G**

Carlos Arraya, CGCS, is director of grounds and agronomy at Bellerive Country Club in St. Louis. Follow him on Twitter at @carrrayacgcs.

CONDITION. PERFORM. RECOVER.

Manuscript: A long-term solution for mature, grassy weeds

When Josh Christian first began working at Avon Park, Fla.'s Pinecrest Golf Club in October 2017, approximately 65 percent of the course was covered in bahiagrass, bull paspalum and tropical signalgrass. To help reduce these grassy weeds, which had been prevalent at the club for more than 10 years, Christian used a variety of products and herbicides without much success.

The club was purchased by new owners in July 2018, who then held a meeting with Sean Klotzbach, Pinecrest's Harrell's representative. To better condition Pinecrest's turfgrass to ensure it performed at its best and fully recovered long term from the effects of grassy weeds, Klotzbach advised Christian to use Manuscript herbicide, which is packaged with Adigor, a custom-built surfactant to be used with Manuscript.

A highly active postemergence herbicide, Manuscript controls mature grassy weeds in warm-season grasses like bermudagrass and zoysiagrass. Featuring the active ingredient *pinoxaden*, which has been recently introduced to the turf market, Manuscript also features a built-in safener, *cloquintocet-mexyl*, that increases the metabolism of *pinoxaden* for quicker control.



Josh Christian

This spring, Christian applied Manuscript for the first time at a rate of 42 oz./acre and Adigor surfactant at a rate of 28 oz./acre, along with Harrell's SprayMAX pH Buffer at a rate of 8 oz./100 gallons of water. The herbicide,



Day 7 after first application. The fairway was covered with tropical signalgrass, but Manuscript controlled the weeds with excellent turf safety.

surfactant and pH Buffer were all applied between 5-10 a.m., and Christian avoided mowing treated areas for two days after the application.

"After applying Manuscript, I noticed the grassy weeds started to turn brown about seven days later," Christian says. "Fourteen days after the application, 60 percent of the weeds had been completely wiped out — without any signs of the weeds whatsoever."

The remaining 40 percent of the grassy weeds received a second application 14 days after the initial spraying, as they were much larger than the 60 percent that had already been removed.

Simply put, the condition of Pinecrest Golf Club's fairways, tees and rough improved considerably. Within 21 days of the first application, the course's bermudagrass began to recover in each of the areas where the grassy weeds were once prevalent.



Day 14 of large patches of tropical signalgrass, which required a second application. The surrounding small patches are already gone.

Klotzbach has seen similar results throughout his entire territory of central Florida, as Manuscript has offered his clients a viable solution to grassy weed control without damaging surrounding and underlying bermudagrass populations.

"Manuscript is incredibly safe to the turf," he says. "And it's extremely affordable. There's no other product on the market that kills target weeds with one application without harming bermudagrass, Manuscript should be used on every golf course."

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"I'm going to allow some cherry-picking this time without flagrantly hacking you. Please feel free to cherry-pick these solutions to our continuing labor problem."

JOE GULOTTI, *superintendent, Newark (Del.) CC*

The Jordan of cherry-picking

I played my share of pickup basketball back in the day. It was enjoyable, despite my lack of ability to break ankles. To contribute, I learned other skills. Setting screens, rebounding and banging down low became my forte, along with learning the art of cherry-picking.

Some might say picking cherries is bush league, but when you're husky and slow, hanging out at midcourt while waiting for an outlet pass was a good way to ensure scoring a bucket or two.

I'm not balling much anymore, unless you consider drop-stepping my little guy on our backyard court. Busting out step-backs on my 5-year-old does ease my basketball jones, but let's get back to that cherry tree.

There's something dirty about picking cherries that touches my inner child. Kind of like sneaking a couple of Oreos out of the cookie jar without receiving the spatula treatment from mom. And even though I was a grandiose cherry-picker, I despised other cherry-

pickers. This is hypocritical, but it felt like someone was stealing my bit. However, I'm going to allow some cherry-picking this time without flagrantly hacking you. Please feel free to cherry-pick these solutions to our continuing labor problem.

- I used to spray fairways at the pace of a hippie driving a Prius on a back road until a pal of mine told me about his approach. He outfitted his sprayer with air-induction nozzles, dialed back the rate and began flooring that piece. By doing this, he decreased his water output by 25 percent while increasing the ground speed to an outlandish 9 miles per hour. Spraying fairways used to be an all-day affair for my buddy, but now they're finished by lunch,

freeing up his spray tech for an afternoon job.

- Are you walk-mowing greens? If so, you might want to consider a triplex. The technology of triplex mowers has come a long way, and even trained professionals cannot discern the quality difference between the two. Sure, those walk-mow stripes look cool, but using one operator to mow all your greens is even cooler.

- I've been chomping tough for a new roller. Particularly, those big numbers that are 6 feet wide. I've talked to greenkeepers fortunate enough to own a piece of this engineering magnificence, and they all rave at the amount of time it saves them. Currently, it takes one operator just a hair over three

hours to roll all our greens. With a wider roller, I'll confidently guess this chore would take half the time, making the transition to a second job much faster.

- Basing my turf nutritional requirements by using the Minimum Level for Sustainable Nutrition guidelines has saved me a lot of dough. And that cash savings has translated into retaining our current staff through significant raises. I'm also able to advertise open positions for a higher wage because we're no longer chasing a balanced soil. Plus, it feels better to invest in people as opposed to potassium.

- Another idea is to reduce your manageable acres. One of the first things I did upon arriving at my current position was interstate our fairways. It was done to improve our irrigation coverage, but reducing total fairway acreage by 3 acres created a ripple effect of cost and time savings. Less time spent mowing and spraying fairways meant more time to accomplish other tasks.

Greenkeepers are a creative bunch. These are my thoughts on ways we can combat the labor issue, but I'm sure there are more. I have others, but I'm only allotted 2.23 tweets to get my point across. If you have an idea, please don't hesitate to share. I would love to cherry-pick it! 🍷

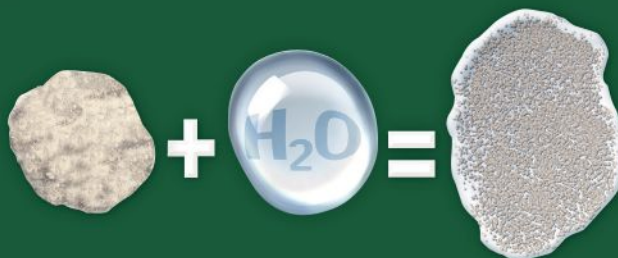
Joe Gulotti (hardg43@gmail.com) is the superintendent at Newark (Del.) CC. To read his blog, visit thewalkinggreenkeeper.com.



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MAINTAINING A CHICAGO CLASSIC

By Leon Gordon



A longtime member at Knollwood Club spots Drew Barnett, superintendent, as he's parked at the turn. The member makes his own turn and motions for Barnett to keep his Gator in park.

"This is because of you," the member says, extending his hand to shake Barnett's. "It's not just grass; it doesn't just grow. This place looks great because of you."

Barnett thanks the member and proceeds on to the back nine. "Knollwood is a great club — it's a family club," he says. "On beautiful days like today? We see a lot of action."

Barnett has been the superintendent at Knollwood, in Lake Forest, Ill., for six years. Previously, the proud Penn State grad was at Philadelphia Cricket Club. Before that, he did a stint out on the Monterey Peninsula. Barnett is one of those guys who knew what he wanted to do from a young age and has pursued it ever since. "I love being outside, and I love golf. Growing up, I played a lot of golf," Barnett says. "It's great having this as an office — I love the cold, I love the hot, I love everything about it."



DREW BARNETT

There's a lot to love about Knollwood, a classic Chicago course. Built in the 1920s, the course was designed by Charles Allison, who also designed Milwaukee CC. The course sits on 175 acres, a generous allocation of land for a golf course at the time. The course cost \$10,000 per hole

to construct ... also a generous allocation of funds to construct a golf course. No expense was spared to make Knollwood a first-class course in the Chicago market.

Led by Barnett, a crew of 22 maintains the club, a diverse team that includes Hispanics, retirees and high school kids. Half of the crew has been there for more than 10 years, with some of the crew working there 20- and 30-plus years. "We have an awesome staff, a good mix of guys that keeps it interesting," Barnett says. "We have a lot of great experience here, and the senior guys are good about training the new people and welcoming them to the team."

Knollwood, Barnett and his crew rely on John Deere and their local distributor, JW Turf, for their equipment needs. The

course uses 220 E-Cut™ Hybrid walk greens mowers, 7500A fairway mowers, 2500B triplex mowers on tees and approaches and 9009A mowers in the rough.

"John Deere is awesome. We're on the second round of a Master Lease program here ... the No. 1 thing is the service we get from our distributor, JW Turf, is top-notch," Barnett says.

"And the quality of cut we get from our greens mowers, our fairway mowers and our tee mowers ... all the bentgrass surfaces that we're mowing, the quality has been simply outstanding," he says.

Outstanding is the level of performance Barnett expects from his equipment and his crew. Moments like that exchange with the member at the turn don't come easy, especially at a grand old club like Knollwood, where expectations are that everything is first class.

"Expectations here are high — the club has given us the resources to do the job to the best of our abilities," Barnett says. "It's up to us to give them the best product we can every day."



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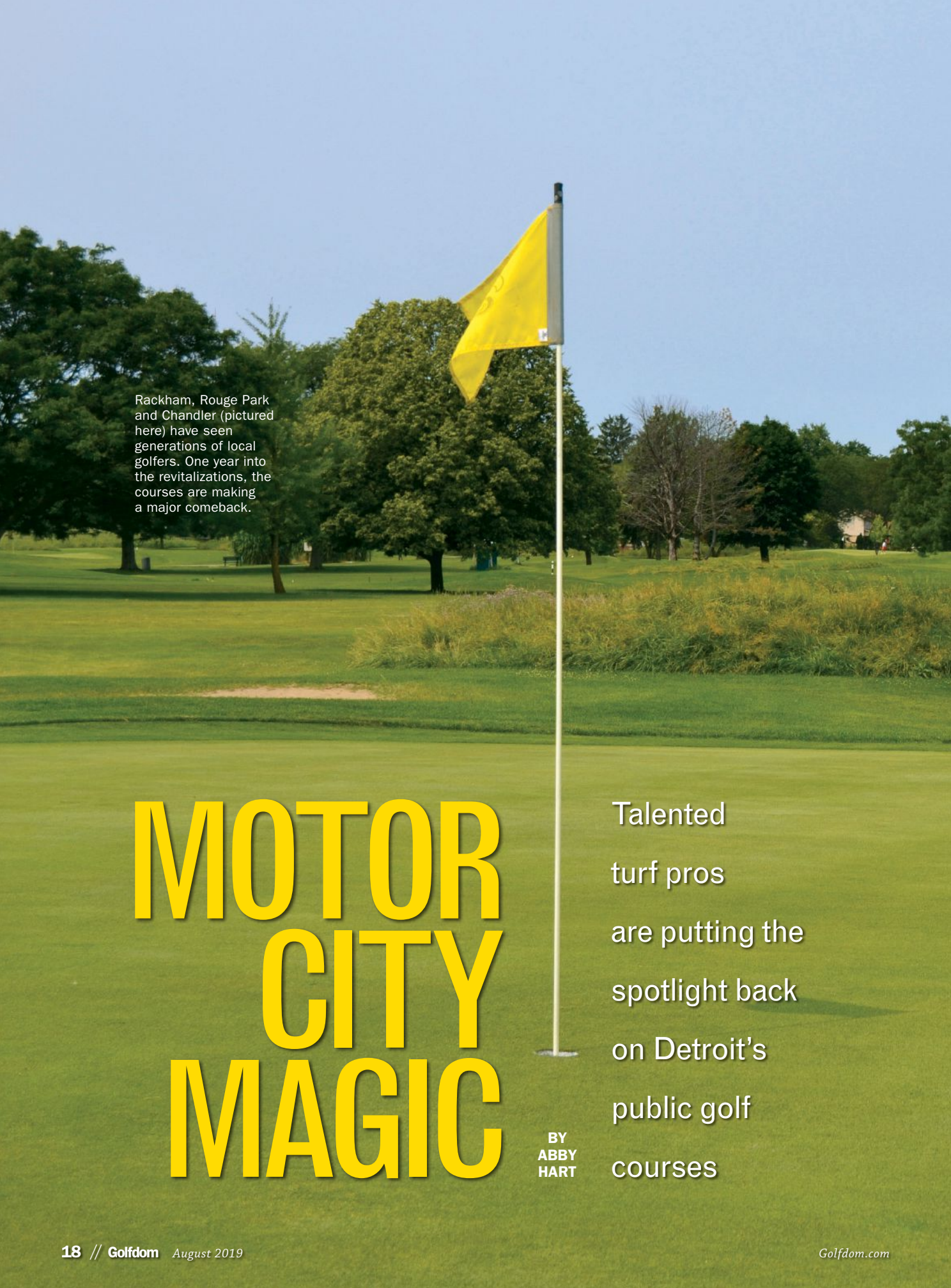
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Rackham, Rouge Park and Chandler (pictured here) have seen generations of local golfers. One year into the revitalizations, the courses are making a major comeback.

MOTOR CITY MAGIC

BY
ABBY
HART

Talented
turf pros
are putting the
spotlight back
on Detroit's
public golf
courses



If Detroit's public golf courses could talk, you wouldn't believe their stories.

The Motor City's four major courses — Rackham, Palmer, Chandler and Rouge Park — have been graced by both local and famous golf lovers, including Motown legend Smokey Robinson and heavyweight boxing champion Joe Louis, who played in Detroit golf leagues 50-60 years ago.

In recent years, the story of public golf in Detroit hasn't been so rosy. Until 2017, the courses were managed by a company under a short-term contract. The result was a lack of investment leading to dying greens, bunkers crowded with weeds, poor drainage, flooding, worn-out clubhouses and pavilions — and a sharp drop-off in golfers.

These conditions weren't going to fly with Angie Hipps, contract manager for Detroit's General Services Department, which oversees the golf courses.

Hipps isn't a city employee bent only on managing money and resources — she cares about course conditions. She was the first female greens superintendent in Michigan when she

worked at Rogell Golf Course, a former city golf course, from 1989 to 2005, before the venue closed in 2007.

The city enlisted the help of the National Golf Foundation (NGF), which investigated conditions at each of the city's four golf courses. The resulting 152-page report was eye-opening for city officials for its hefty price tag: \$15 million to repair all four locations.



Angie Hipps

There was one other thing Hipps noticed: "Most of the problems could be solved with basic agronomy practices," she says, which indicated to her that getting the right turf professionals in place was key to saving these beloved courses.

The city opted to close Palmer Golf Course, situated in Palmer Park. (The park also houses the private-membership Detroit Golf Club, which in June hosted the Rocket Mortgage Classic to much fanfare.)

Turning its attention to the remaining three courses, NGF recommended a bridge contract with a management company

Continued on page 22

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Turf disease	Fluid ounces per 1,000 ft ²	Fluid ounces per acre	Application interval (Days)
Pythium blight Pythium damping-off	0.45 - 0.9	19.6 - 39.2	14 to 21
Pythium root dysfunction	0.9	39.2	14 to 28
Pythium root rot	0.9	39.2	21

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Segway can be applied to newly seeded areas immediately after seeding.



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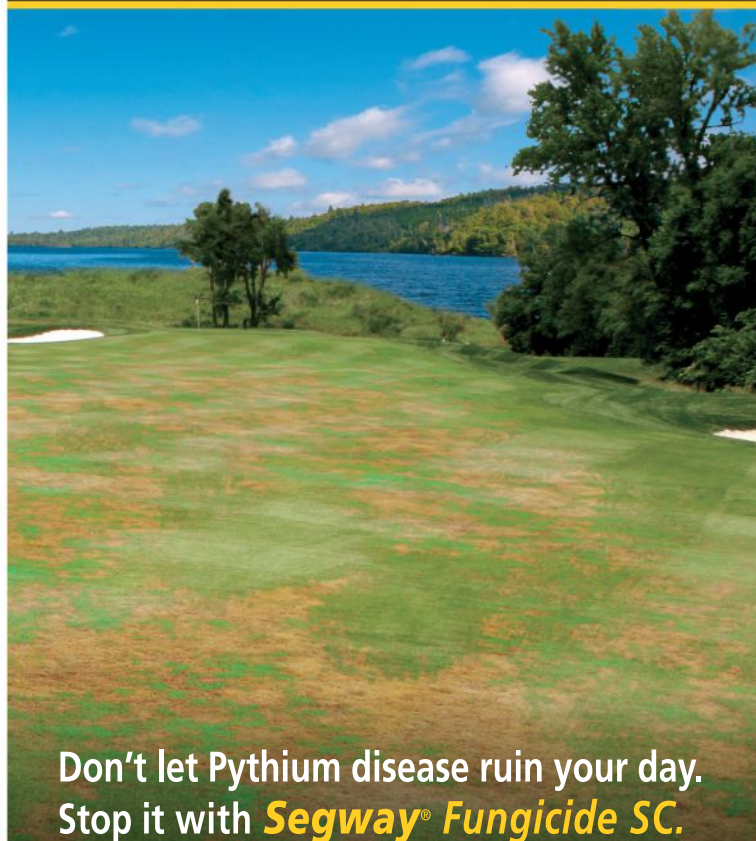
ENVIRONMENTAL SAFETY

Hazard Indicator	Acute Toxicity Values
Freshwater fish	Acute LC ₅₀ = 0.10 ppm Chronic 33-day NOEC = 0.0901 ppm
Freshwater invertebrate	Acute 48 hour LC ₅₀ = >1.3 ppm Chronic 21 day NOAEC = 0.11 ppm
Estuarine Fish	Acute 96 hr. LC ₅₀ = >0.167 ppm
Estuarine Invertebrate	– 96 hr. LC ₅₀ /EC ₅₀ = 89 ppb mysid; 14.7 ppb mollusk

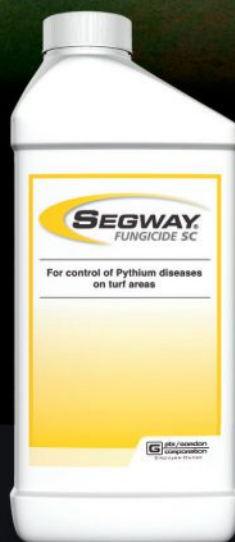
MAMMALIAN TOXICITY

Hazard Indicator	Technical
Acute oral LD ₅₀	>5000 mg/kg
Acute dermal LD ₅₀	>2000 mg/kg
Acute inhalation LC ₃₀	>5.5 mg/L
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Skin irritation	N/A
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Continued from page 19

to help raise the quality of turf and bring golfers back. The city chose North Carolina-based Signet Golf Associates, headed up by owner Peter Dejak, and the city allotted \$2.5 million across all three courses to start improvements.

The bridge contract with Signet lasts until March 2020, when the city will move toward an extended long-term contract with a management company.

Signet receives an upfront management fee to handle the financials, but the city reimburses it for all expenses, including maintenance crew salaries and equipment. The city has final say in all purchases, management and superintendent positions and improvements. Hipps' days often are spent crisscrossing the



Peter Dejak

city, visiting the courses and meeting with superintendents, course managers and city officials. She and Dejak keep in daily contact about the progress of each course.

Dejak is a former superintendent, with stints at Augusta National, Atlanta Athletic Club and Pinehurst National. He began Signet in 1995 with golf construction and management services.

Dejak is a former superintendent, with stints at Augusta National, Atlanta Athletic Club and Pinehurst National. He began Signet in 1995 with golf construction and management services.

“What I find here is that I’ve never seen a group of courses that are more community oriented,” Dejak says. “The individuals that go to these courses, they really take ownership like it’s their local neighborhood. Some municipalities are like that, but this area even more so.”

It was a tough transition when Signet came on board. “The people who came (to the courses), they weren’t happy because it wasn’t what it could be,” he says. “Now, everyone’s given such great support. You’re driving the course, they’re high-fiving you, and it’s really neat.”

To oversee the management alongside Hipps, Dejak hand-picked a big name in Detroit golf to become the director of golf for Signet: Karen Peek, LPGA — the first African-American LPGA professional in the United States. Peek draws on her own experience as a golfer in Detroit, starting out with her first lesson

as a teenager in Palmer Park in 1960 and spending more than 30 years as a golf pro in the Detroit area.

The partnership between the City of Detroit and Signet was forged, but this year’s golf challenges posed a different problem — a snowy winter followed by relentless spring rains.



Karen Peek

Still, since Signet began improvements in 2018, revenue is up 27 percent over all three courses from last year.

Now that the golf season is in full swing, here’s how the courses began to rewrite their story.

Rebuilding Rackham

Fifteen years ago, Doug Melton stood on Ludlow Street near No. 14 at Rackham Golf Course. He remembers pushing his young son in a stroller, walking three dogs and telling his then-wife, “If I ever get a chance, this is where I want to finish my career.” A year ago, after he got a call from Dejak, the 45-year veteran superintendent left Shenandoah Golf Club in West Bloomfield,



Doug Melton

Mich. — a role he had for 32 years — to realize his dream of keeping greens at Rackham.

Rackham Golf Course opened in 1923 and was the first 18-hole public golf course in the state. Donald Ross designed the original layout of the course, which was amended to account for a highway expansion in 1988.

Rackham is owned by the City of Detroit, though it technically lies outside city limits in Huntington Woods. The land was donated by Horace Rackham and family, who declared that Rackham should not serve alcohol and always would remain a dry course. The Rackhams also gave 22 acres to the Detroit Zoo, which borders Rackham.

Melton has a nine-person part-time crew at Rackham, and all three courses are benefitting from a two-year contract with a complete fleet of new equipment from John Deere. “It was important to go with all new and leased equipment so we could achieve better quality turf,” Hipps says.

The golf courses have a two-year lease with E-Z-GO for golf cars with USB ports and windshields, and each course now is furnished with Toro irrigation systems. Rackham’s clubhouse received a new roof, and bunkers were cleaned out and rebuilt across all three properties.

“I want to restore the ‘roar’ back to Rackham,” Melton says. “There’s a lot of history here. I want to see people back here.”

Peek and Rackham Course Manager Lisa Owens attended the Michigan Golf Show in March to drum up buzz for the course. Rackham is the headquarters of The First Tee of Greater Detroit and involved in Youth on Course, youth golf programs, the Police



The City of Detroit superintendents have revived the greens and focused on drainage on each of the three golf courses.

Athletic League, Michigan Women's Golf Association and Kids on the Go.

"We're doing a lot of things with kids — ultimately, that's as important as anything we do, keeping that interest alive and developing it," Peek says.

She is proud to see a lot of women, and younger women especially, hitting the links regularly. "I've seen all these courses over a period of 30, 35 years," she says. "My joy is seeing people play here, seeing people get excited about it and working with people who share that enthusiasm. I think that's what makes us a little unusual — at each one of these locations, you'll find a really tightknit group."

Changing the game at Chandler

Ben Neuman, greens superintendent at Chandler GC, came from Inkster Valley in Inkster, Mich., a public golf course needing a lot of work to bring the turf back — not unlike the situation he now faces at Chandler. Prior to that, he spent 17 years with ValleyCrest (which became BrightView in 2014), managing golf courses in Michigan and Massachusetts.

Chandler is an 18-hole course, 6,000 yards from the tips. It's family oriented and relatively flat and shorter than Rackham

or Rouge Park. "It's fun to play here, it's easier, definitely seems to be more beginner golfers, and morning play tends to be really busy," Neuman explains.



Ben Neuman

The rounds in June were up 40 percent over last year. "Next year is when we'll get a true snapshot of how well we're doing, because last year was all about bringing these courses back," he says.

Chandler has received plenty of new upgrades — clubhouse renovations, pavilion repairs and overhauling bunkers all over the course. A Toro irrigation system and pump house replaced the manual quick couplers in each fairway.

The biggest undertaking for the course wasn't even on the turf — it was clearing the densely overgrown perimeter fence line of the golf course. Trees, vines, debris, brush and the old fence were removed and carted away — a job that took 80 truckloads to complete. The perimeter was regraded, and the fence was replaced so that passersby on I-94 can see the golf course.

The team, which includes Lisa Woodcox, LPGA, golf manager, and Matt Peslis, assistant superintendent, is focused on cleaning

Continued on page 24



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Continued from page 23

up the natural areas, updating and expanding too-small tees and continuing work on the course's bentgrass greens, many of which were void of turf in areas. "It's pretty unusual to have bentgrass greens here," Neuman says. "I don't know if that was a result of the irrigation system not being great and struggling to apply enough water to keep *Poa* alive, and the bent survived."

Getting proper drainage is the next major goal at Chandler, Neuman says. After the wet spring, most of the front nine was damaged by carts and standing water.

"It's been a lot of work, but it's been great," he says. "My biggest reservation was hoping the city would follow through on its promises — new irrigation system, etc. But they've followed through."

Hipps adds, "As an ex-superintendent, one of the most important things to me was the product. You have to face the regulars. As conditions improve, then they expect more, and you take it to the next level. This is why I'm so excited about Ben and Doug, because they have the qualifications to take it to the next level."

Returning the glory to Rouge

Ben Neuman liked his work at Chandler so much that when the superintendent job at Rouge Park Golf Course, 18 miles west of

Chandler, became available, he asked Hipps and Dejak if he could take on that role as well.

Neuman has overseen both Chandler and Rouge since May, alternating his days between the two. He brought Eric Schmith, who worked with him during his ValleyCrest days, to Rouge this past March. What enticed Schmith? "A new course," he admits.



Eric Schmith

"I had 18 years at one course — here, everything's new, everything's a challenge. Every day is new again."

Neuman and Schmith have a team of 12 part-timers who support them, and Schmith is open about the labor struggles. "It's about taking what I can get out of (the crew) and hiring extra. If one or two don't show up, then I have one or two that will."

For Chandler and Rouge, the City of Detroit prefers they hire Detroit residents to work on the crews.

Darwin Beatty, a native Detroiter, has been at Rouge since 1988 — through four different management companies — and is a jack-of-all-trades at the course. He started playing golf in 1968 at Rackham, Palmer and other Detroit-area courses, then

Continued on page 26


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THE LEADER.



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Continued from page 24

came to Rouge. "I got allergic to paying greens fees, so I started working here as a ranger and a starter," he laughs.

Beatty notes that prior to last year, "Weeds were everywhere on the course, and we almost lost the greens, but they brought those back. We went through a lot here with floods, and (Signet) has done a remarkable job stopping the flooding."

Rouge's biggest capital improvement is the drainage system. The Rouge River runs through the course, and Signet installed catch basins for flood water. The next order of business will be to install a pump in the Rouge River so the course isn't reliant on city water.

Cultural work continues on the greens, six bridges were replaced, drainage installed and a new enclosed pavilion was erected for the many leagues that play at Rouge.



Nick Macy

Nick Macy is a veteran of the golf world, with 26 years under his belt, and a veteran of Rouge Park, having worked at the course from 2005-2010. "Our biggest complaint this year is that there are too many people coming," he jokes. He gestures to the long-



Longtime Rouge Park golfers James "Big House" Williamson (right) and T.J. Hemphill are floored by the course's new look.

time league players around the clubhouse, referring to them by their nicknames. "Sugar Ray, Shotmaker, they've all been here forever. Some of the players here are amazing because they play almost every day."

James "Big House" Williamson has been playing at Rouge for 20 years and T.J. Hemphill for 10. "We have a 48-man league here on Thursdays in the summer," Williamson says. "It feels really competitive to other courses now, which is great. These guys came in like gangbusters to make it beautiful and playable," Hemphill says. "We golf everywhere, but this is home."

PHOTO BY: ABBY HART

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The Golfdom Conversation

All in the family

Celebrating 100 years as a family in the turf business, Turfco's brothers George and Scott Kinkead look back and ahead

BY ED HISCOCK

Any company that's been in the golf course maintenance business for more than 50 years is a modern golf industry pioneer. Heck, 50 years ago, golf barely had the attention of a large television audience and was not yet poised to become the sport and economic force it is today.

But the number of companies 50 years

ago that already had 50 years of turf industry experience when it reached for the gold ring in golf? That number is small.

Blaine, Minn.-based Turfco Manufacturing and its legacy companies are members of that exclusive club and celebrate 100 years of turf industry involvement this year. Turfco President George Kinkead and brother and Executive Vice

President Scott Kinkead now run the company, which evolved from the National Mower Co., founded in 1919 by grandfather Robert Standard Kinkead. National Mower was acquired by Ariens in 2006.

The brothers' father, John Kinkead, while still working at National Mower, was the driving force behind Turfco's evolution

Continued on page 28



◀ Brothers George (right) and Scott Kinkead are following a path in the turf industry pioneered by their father and grandfather.

PHOTO BY: JIM HENDERSON



Continued from page 27

from National's commercial-grade mowing products to the 1961 introduction of the first mechanized topdresser, a revolution that all but ended the sand-slinging with shovels formerly necessary for the practice.

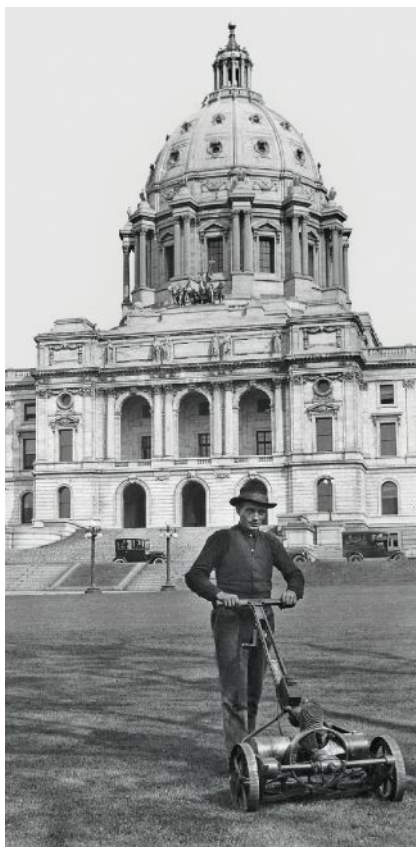
George and Scott Kinkead discussed the family's rich turf history with *Golfdom's* Editor-at-Large Ed Hiscock.

A company and family intertwined

Scott Kinkead (SK): Our grandfather started National Mower. He came back from World War I. The National 68-(inch) and the National 84-(inch) were what he was most well-known for, the rough mowers, the sickle-bar mowers. The originals were horse drawn. Then he started to work with the early combustion engines.

Our father started working in '53 at National Mower. He bought SodMaster, saw it as an opportunity, and turned it into Turfco.

▼ Robert Standard Kinkead started National Mower in 1919 after returning home from World War I.



So, John was still working at National Mower but spearheading his ideas and innovations at Turfco. They started making drop spreaders, a kind of staple of the industry. Our father was incredibly innovative.

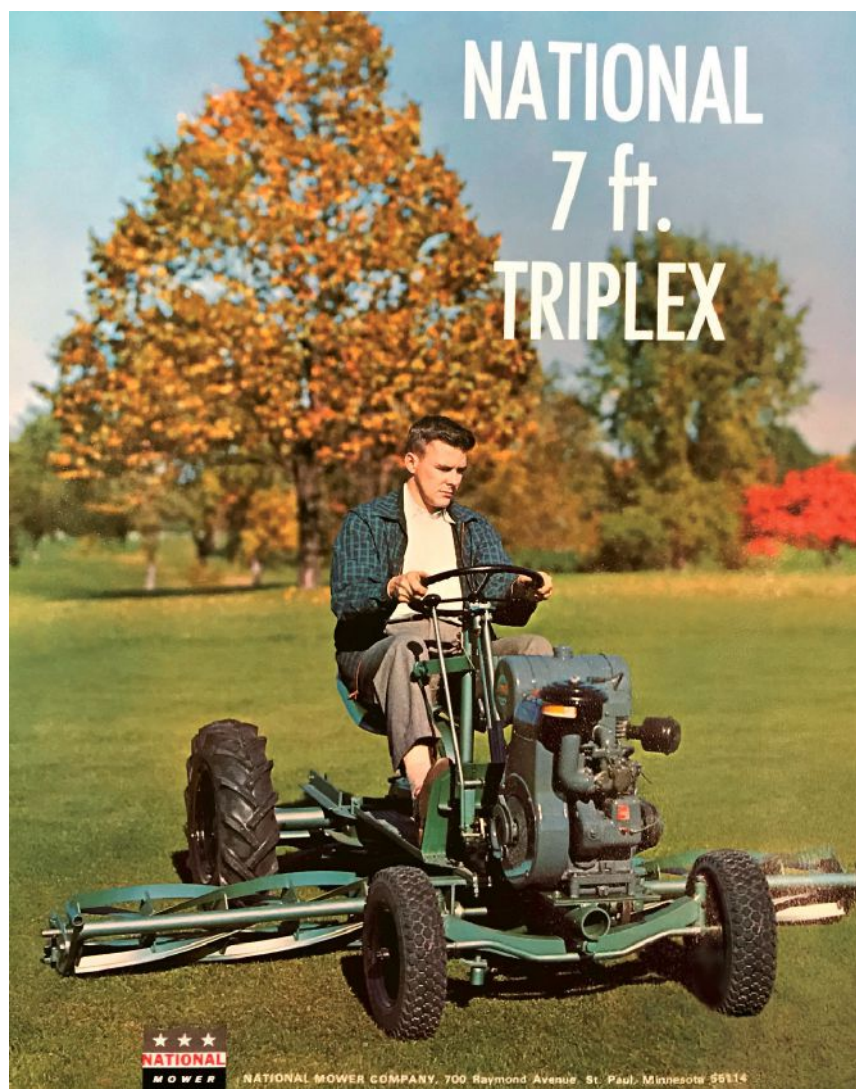
George Kinkead (GK): One unique thing with Scott and me and our father was that our roles were reversed. Normally, the kids' role — the younger person's role — is to be the crazy innovator, always thinking about what we're going to make next, with the older guy saying, "Slow down." But most of our careers, Scott and I spent talking to our father, saying "You gotta slow down." (Laughs)

From the time he first bought Turfco,

it was always about what we were going to make next, what problem were we going to solve. During his early years, it really drove us to keep innovation in the forefront. Also, his point was, "I'm going to figure out how to do this, because we're making something new." Our fiber is to be constantly innovating, I think that has a lot to do with why we currently have 36 patents. That comes from our father.

SK: My father used to load up the back of a station wagon with a 68-inch National mower, and he would head out for six weeks — by himself — and at each stop, he'd have to pull the mower out of the station wagon and reassemble the reels to do

▼ Turfco and its legacy companies are 100 years old this year, and the Kinkead brothers attribute a great deal of their success to the Turfco team, past and present.



PHOTOS COURTESY OF: TURFCO



▲ Turfco's equipment has come a long way. Here, an early topdresser featured a wooden hopper and slats (left), which evolved to a galvanized hopper on the CR-15 large-area topdresser.

PHOTOS COURTESY OF: TURFCO

a demonstration or talk to a new dealer. I grew up, and George, riding around on one of the original mowers — no mower on it — that was our go-kart.

Our dad worked with superintendents to come up with a way of topdressing that was better than a shovel, which is what ev-

eryone was using at the time. The original topdresser had wooden slats for a conveyor and wooden hoppers. We don't make flammable topdressers anymore. (Laughs)

When George started working for Turfco, he was dragging a 20-foot trailer with equipment on it and traveling around

the country. When I started working at Turfco, you'd head out for two weeks at a time. I worked at the factory, I worked at a golf course, then spent time out and would demo the equipment. Everything we made in the '90s, I had assembled.

Continued on page 30



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Continued from page 29

Keeping in touch

GK: My father wanted to make sure that we really understood the products and our customers. I jokingly say they wanted to get rid of me because they gave me a truck and trailer and said, “Go around the country,” and when I got done with it, they said “Go again.” (Laughs)

But that was the fundamental building block to *getting* what we do, to understanding what we do, understanding the problems we’re helping people solve. It’s really, frankly, why we’re a third-generation business. We know the people closely who are using our equipment, and we talk to them all the time. How does a small company like ours survive in an industry when there are billion-dollar companies? You have to know your customer very, very well. We like to go out and actually watch how jobs are being done on golf courses, what are the issues and what happens



▲ The Kinkeads show off the TriWave 45 overseeder, with increased hopper size they say saves time and labor.

when nobody’s around and the guy’s out there on his own.

Superintendents and the company

GK: The thing that’s great about our industry is that you’re not a golf course superintendent unless you love it. There’s easier ways in the world to make a living.

From early on, Scott and I started to appreciate the jobs superintendents do, and they’re amazingly welcoming to the industry. If you show you care, they are amazingly open to talking to you and sharing their problems.

SK: Of course, when you’re young and you go to these iconic courses, they can seem intimidating. But often they are some of the most gracious people, and those are guys looking to create the most beautiful, most playable — or unplayable, I suppose — facility possible.

GK: Our brand — the type of products we make — is such that the superintendent kinda needs them to get to that next level, since we’ve always been on the cutting edge. The idea that we show up with technology that will help them fulfill their passion, it makes it like you’re part of the team. Scott and I will tell each other when we call in from the field, “I’m just gonna stay out here, because I like it better than the office.”

Adapting

SK: In the ’90s, they’re building golf courses left and right, labor was not an issue, people’s budgets were booming. If you needed more help, you just got more people.

Then the recession hit. It was a fundamental shift for us. Nobody’s got a bigger budget, but everybody’s trying to produce the same great product. We asked how we were going to help the superintendents be able to produce the same product with fewer people and less of a budget. All the products we’ve made from that point on have been about how we help make their staffs more productive. How do we help them with the current labor challenge?

GK: We always say that if we can solve problems, keep feeding superintendents ideas — and we’ve increased our research budget significantly — there will always be a place for a company like ours.

A thank you

To express its thanks to the industry for 100 years of success, Turfco has launched a “100 Years of Thanks” giveaway for its customers, with the grand prize being a T3100 Spreader and Sprayer Applicator that lists for \$10,290. It’s also giving away five GoPro Hero7 Silver cameras. For a chance to win, go to TurfcoDirect.com/100years before Oct. 31. 📍

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Super Science

// FROM THE BIG 12 TO THE SEC

A TURFIE RETURNS TO THE LONE STAR STATE

By Becky Grubbs-Bowling


Hi, my name is Becky Grubbs-Bowling, Ph.D. I'm originally from Dallas, Texas, and I completed my undergraduate and master's degrees in horticulture at Texas Tech University in 2010 and 2013, respectively. I then went on to complete my Ph.D. in crop and soil science under Gerald Henry, Ph.D., at the University of Georgia, where I studied environmental turfgrass science. In April of 2018, I started my position as assistant professor and Extension turfgrass specialist at Texas A&M University in College Station, Texas.

I strive to provide research-based outreach and educational programming in support of the Texas turfgrass industry, with a particular emphasis on environmental stewardship and improved resource-use efficiency.



Becky Grubbs-Bowling

As part of my duties as a statewide Extension specialist, I collaborate with Chrissie Segars, Ph.D., to provide programming to Texas' extensive network of more than 250 county Extension offices. I also lead two Extension specialist programs, the Texas A&M Turfgrass Ecology and Management Short Course (a four-day intensive training for professional development) and the Healthy Lawns and Healthy Waters program, alongside water resource specialist Diane Boellstorff, Ph.D. The Healthy Lawns and Healthy Waters program attempts to improve and protect surface-water quality by enhancing awareness and knowledge of best management practices for residential landscapes. It is offered to the public in a number of watersheds throughout the state each year.

In addition to my Extension responsibilities, I conduct applied research on a wide range of topics and am involved in two USDA-funded Specialty Crop Research Initiatives, including Research and Extension to Address Herbicide Resistance Epidemic in Annual Bluegrass in Managed Turf Systems, as well as Research and Extension to Develop Improved Turfgrass Cultivars for Water-Limited Landscapes. My broader research interests include environmental turfgrass management, turfgrass weed science and social science research collaborations, in which I hope to find new and innovative ways to communicate best management practices to the public. 

Becky Grubbs-Bowling, Ph.D., is assistant professor and Extension turfgrass specialist at Texas A&M University. You can reach her at bgrubbs@tamu.edu.

NEWS UPDATES

BASF LAUNCHES NEW FUNGICIDES FOR U.S.

BASF has launched two new fungicides for the turf market. Maxtima fungicide and Navicon Intrinsic brand fungicide feature the new Revysol active ingredient and provide broad-spectrum control on diseases such as dollar spot, anthracnose and spring dead spot.

This chemistry is designated a reduced-risk candidate by the Environmental Protection Agency.

Navicon Intrinsic brand fungicide also delivers plant health benefits supporting turf to handle the toughest pressures. Maxtima fungicide and Navicon Intrinsic brand fungicide are isopropanol-azoles, a chemistry that ensures binding capacity and adaptability through its molecule flexibility. This offers control on plant pathogen strains that are insensitive to demethylation inhibitors.

Maxtima fungicide and Navicon Intrinsic brand fungicides help provide effective and longer-lasting control of turfgrass diseases, like anthracnose, fairy ring, spring dead spot and dollar spot, according to the company. The products deliver activity regardless of the temperature at application.

Jim Kerns, Ph.D., associate professor and Extension specialist of turfgrass pathology, North Carolina State University, has been working with the two new products for more than five years, applying them to research trials throughout North Carolina.

SNOW THICKNESS INFLUENCES WHICH SNOW MOLD YOU EXPERIENCE, (AND) THE TIMING OF SNOW ONSET MATTERS."

Paul Koch, Ph.D.

(see story on page 32)

// SNOW JOKE

Things I learned about snow mold last winter

By Paul Koch, Ph.D.

Every winter is different. Some are snowier than others, some are colder than others and some have those dreaded ice events. Sometimes our research plots have lots of snow mold, other years, sadly, none. No matter the conditions, I always manage to learn something about snow mold that I didn't know the previous year. The main things I learned from last winter are that snow thickness influences which snow mold you experience, the timing of snow onset matters and ice is a crummy insulator. One thing I already knew, but which was reinforced, is that mixing fungicides is crucial for successful snow mold control under heavy disease pressure. Let's talk about each of these in a little more detail.

PINK, GRAY OR SPECKLED?

First, a quick snow mold review. Pink snow mold is caused by *Microdochium nivale*, which is the fastest-growing snow mold fungi and able to cause disease in the shortest period of time. If conditions are optimal, *M. nivale* can cause disease in less than a few weeks. Gray snow mold is caused by *Typhula incarnata* and is slower growing, requiring roughly 60 days of continuous cover under a deep, insulating snow layer to cause disease. Speckled snow mold is caused by *T. ishikariensis* and is the slowest growing of them all, requiring about 90 days of continuous snow cover to cause disease.

This past winter, we conducted snow mold research at five sites: two in Madison in southern Wisconsin, a

FIGURE 1



Nontreated control plots from research sites in Minocqua, Wis., (left) and Marquette, Mich. (right). The snow mold observed in Minocqua was almost all speckled snow mold, while the snow mold observed in Marquette was almost all pink snow mold.

site in Wausau in central Wisconsin, a site in Minocqua in northern Wisconsin and a site in Marquette in Michigan's Upper Peninsula. The sites in Madison and Wausau normally experience mostly pink snow mold, and the sites in Minocqua and Marquette experience mostly speckled snow mold. However, in 2018-19, Marquette had pink snow mold almost exclusively, despite a snow cover that lasted five months (Figure 1). The site in Minocqua had exclusively speckled snow mold, despite nearly the same duration of snow cover as Marquette (Figure 1).

So why pink snow mold for Marquette and speckled snow mold for Minocqua? Luckily, the temperature sensors we

installed at the turf surface of every snow mold plot provided a likely explanation.

I mentioned that both sites had snow cover starting in early November and lasting through late April. However, looking at the surface temperature data, it's clear that the snow cover at Minocqua was deeper throughout the entire winter and provided an ideal growing environment from November through April (Figure 2). On the other hand, the temperatures at Marquette fluctuated wildly from mid-December through mid-January, indicating a thinning of the snow depth, lower ability to insulate and poor conditions for snow mold growth (Figure 3). The snow depth increased in mid-January

PHOTOS BY: PAUL KOCH

and provided excellent snow mold conditions from then through April ... a period of approximately three months. This period was likely too short for *Typhula* fungi to cause much damage, and the faster-growing *Microdochium* took full advantage.

SNOW ONSET TIMING MATTERS ... A LOT

In Madison, we have become accustomed to winters that don't produce a lot of snow mold. Looking back at our research sites over the years, we haven't had more than 10-percent disease in the nontreated plots in more than a decade. This typically is the result of snow that just doesn't stick around for more than a few weeks at a time. However, this last winter, Madison experienced well above 60 days of continuous snow cover. This led me to think (and hope) that we finally might see some decent disease at our Madison research site. Alas, when we pulled up to the site in March, we saw no snow mold at all.

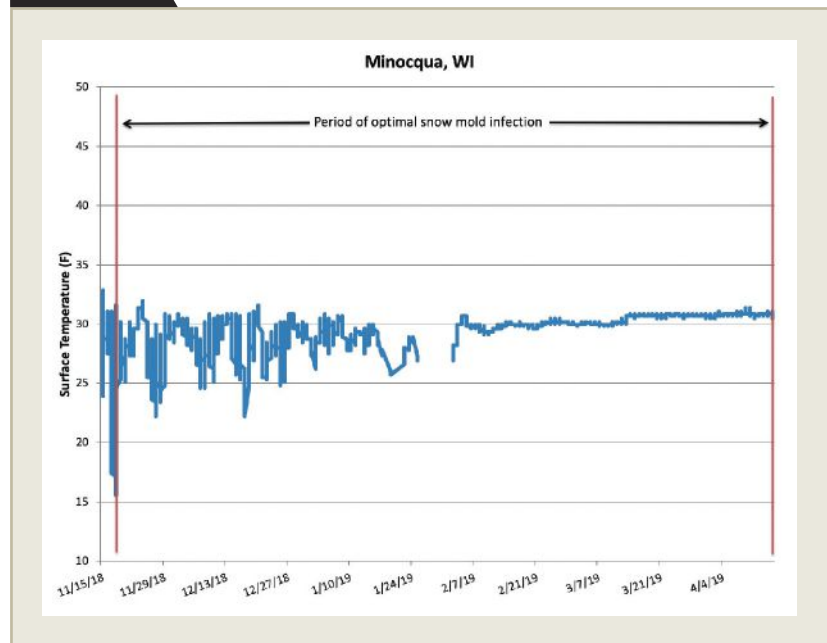
The lack of snow mold almost certainly was due to the timing of snow cover, which didn't arrive until mid-January. The lack of snow in December and early January allowed for hardening of the turf, and conditions were too cold and dry for fungal growth (Figure 4). Snow mold fungi need temperatures right around freezing and high relative humidity to grow and infect turfgrass, both of which they have under a deep snow cover. However, if those optimal infection conditions don't come until mid-January — even if they last for two or three months after that — the slow-growing snow mold fungi don't have the time to rebound, infect the turf and cause disease.

ICE IS A CRUMMY INSULATOR

Ice on turf is crummy for many reasons, primarily because it leads to significant winter injury on annual bluegrass and perennial ryegrass. Another reason

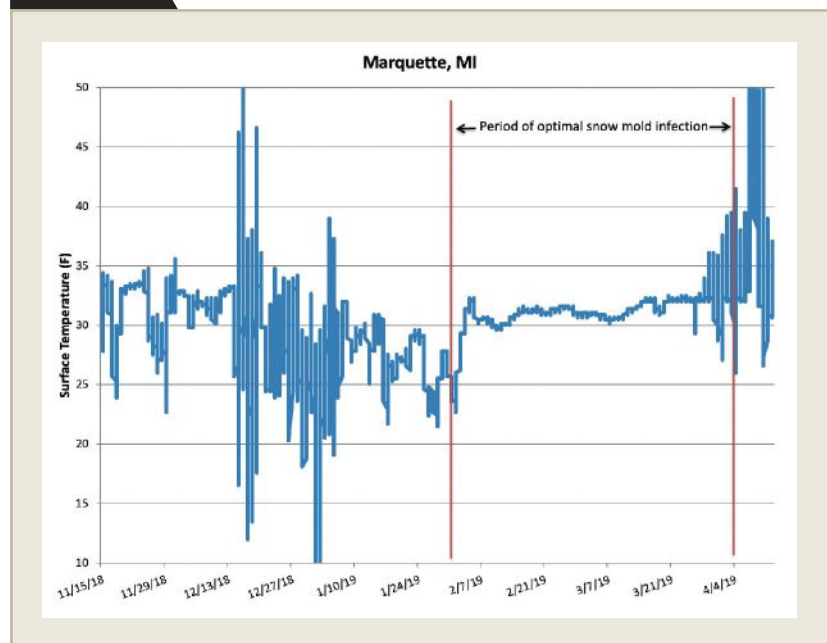
Continued on page 34

FIGURE 2



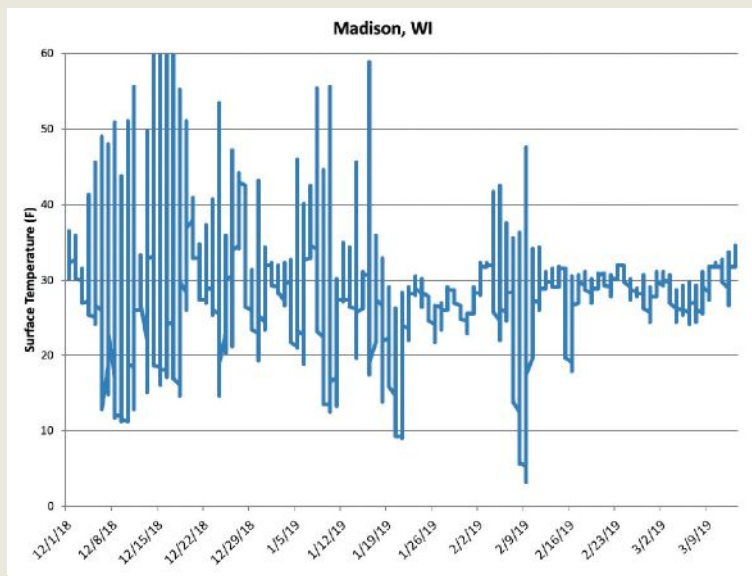
Surface temperature under the snow cover measured on the research plot in Minocqua, Wis. Deep snow cover provided optimal conditions for snow mold from November through April.

FIGURE 3



Surface temperature under the snow cover measured on the research plot in Marquette, Mich. A period of relatively shallow snow cover in late December and early January decreased the insulation layer and slowed fungal growth until deeper snow returned in mid-January.

FIGURE 4



Surface temperature under the snow cover measured on the research plot in Madison, Wis. No snow cover until mid-January resulted in wildly fluctuating surface temperatures in early winter that hampered fungal growth.

TABLE 1

Small sampling of some of the most effective snow mold treatments tested at Marquette GC in 2019.

Treatment (rate in fl. oz. per 1000 sq. ft.)	Disease Severity (%)
Nontreated Control	81.3
Premion (8.0) + Foursome (0.5) + Previa (4.0)	0.0
Concert II (8.3) + Turfcide (8.0) + Foursome (0.5)	0.0
Traction (1.3) + 26/36 (4.0)	0.0
Interface (6.0) + Mirage (2.0)	0.0
Interface (6.0) + Secure (0.5)	0.0
Instrata (9.3)	0.0
Instrata (7.0) + Turfcide (6.0)	0.0
Insignia SC (0.7) + Trinity (1.0) + Turfcide (4.0)	1.3

For many more effective treatments, the full report can be found at <https://tdl.wisc.edu/results/>.

Continued from page 33

that I — and probably only I — think ice is crummy, is because it's a poor insulator. It doesn't trap heat or moisture well, and as a result, it doesn't promote snow mold development. Our research site in Wausau had ice cover

starting in late December that lasted through mid-April. If this had been snow, it likely would have produced a significant amount of snow mold. But as ice, all it produced was a significant amount of winter injury over the research area.

MORE IS BETTER FOR CONTROL

This last one isn't something I learned this year. I've been talking about it for years. There are lots of products and product combinations that provide effective snow mold control.

We tested 62 treatments at our Marquette research site last winter, and a whopping 45 of them provided greater than 95-percent disease control. This was a trial where the nontreated controls had more than 80-percent disease. These effective treatments contained all sorts of different combinations, but they all included mixtures of at least three active ingredients from different chemical classes. Products that struggled normally had single active ingredients or were mixtures of two active ingredients. Table 1 shows a small sampling of the most effective treatments in our Marquette experiment. For the full report and the reports and treatment pictures of all our snow mold research from 2018-19, visit our website <https://tdl.wisc.edu/results/> and click on the 2018-19 link under "Snow Mold Fungicide Trials."®

Paul Koch, Ph.D., is an assistant professor in the Department of Plant Pathology at the University of Wisconsin-Madison. Please call (608-262-6531) or email Paul (plkoch@wisc.edu) with any questions, comments or concerns.

Acknowledgements

None of this work would be possible without the incredible support of our host superintendents. These trials are big and often can take up whole fairways, but the knowledge we gain from them is immense and helps us provide better snow-mold-control recommendations. Thank you to Craig Moore at Marquette GC, Jay Pritzl at Timber Ridge GC, Randy Slavik at Wausau CC and Eric Leonard at Cherokee CC for hosting our trials in 2018-19.

TURF FUEL'S RAPID RECOVERY

Overcoming winter damage long term



After applying Rapid Recovery's trio of products this spring, Ian Daniels noticed immediate results.

On April 17, 2019 — for the first time — Ian Daniels, superintendent at Rome, N.Y.'s Teugaga Country Club, applied Turf Fuel's Rapid Recovery — a combination of three products: Photo Fuel, Element 6 and Quick Green.

He first learned about the products while attending this year's Golf Industry Show. After speaking with some of his peers in the industry, he realized the products together formed the perfect solution to a serious issue: Teugaga's greens were showing obvious signs of winter damage from ice encasement and crown hydration.

The course hadn't had many issues with winter damage because Rome usually has high amounts of snowfall (more than 100 inches every winter) and consistent snow coverage. But this winter was unique. In early February, Rome had extremely warm temperatures, leading to large collections of water on several greens. Soon afterward, the water froze and formed clear ice.

"We then received multiple snowstorms that covered the ice for almost 60 days. It didn't start to melt again until around April 1," Daniels says. "The duration and type of ice coverage are ultimately what damaged our greens."

Six greens at Teugaga were severely damaged (70



percent turf loss) to the point at which they had to be closed while they recovered. Because of the damage, roughly 1 acre of greens required Rapid Recovery treatment.

For six weeks, Daniels applied a combination of 3 fl. oz./1,000 square feet of Photo Fuel, 3 fl. oz./1,000 square feet of Element 6 and 6 fl. oz./1,000 square feet of Quick Green. These rates were implemented during every application, and Daniels used only one spray tank to apply the combination once a week.

Originally, Daniels intended to apply the Rapid Recovery products for 12 consecutive weeks. However, because of the effectiveness of the products, the three-month duration was not necessary. In fact, he was able to open the six treated greens nearly three weeks sooner than anticipated.

"Since Rome is in a northern climate, I was preparing for a long recovery," Daniels states. "The

exact opposite happened though, all thanks to Rapid Recovery's effectiveness."

Today, each of the treated greens is in better shape than ever before. They're not only healthy above ground; they're healthy below ground. Daniels expects this recovery to continue all summer, as every green is well prepared for high temperatures.

"Rome just had its fourth wettest May on record," he adds. "Yet, somehow grass grew in low-light conditions."

The greens' steady recovery, despite less-than-ideal weather conditions, is a direct result of Rapid Recovery's three-tiered program: Photo Fuel provides key nutrients to plants that increase chlorophyll production and photosynthesis; Element 6 delivers energy to plants for protein production while also boosting stress resistance; and Quick Green stimulates lateral growth in turf.

"I'm very happy with the Rapid Recovery products," Daniels says. "I'll definitely incorporate them into my yearly nutritional program from now on."

Learn more about Turf Fuel's Rapid Recovery program at TurfFuel.com.





Gray snow mold typically appears in places that experience long periods of snow-covered ground.

Shut down snow mold

TIPS FOR HANDLING SNOW MOLD PRESSURE

Snow mold is an umbrella term that encompasses pink snow mold, gray snow mold and speckled snow mold, according to Paul Koch, Ph.D., assistant professor in the Department of Plant Pathology at the University of Wisconsin-Madison.

It's mostly found in areas that experience prolonged stretches of snow-covered ground (gray and speckled snow mold) or prolonged stretches of cool, wet weather with temperatures of less than 40 degrees F and high moisture (pink snow mold).

"The snow cover provides a nice warm blanket for the fungi to grow during the winter," Koch says. "If it's too cold and if there's no snow there, the ground dries out, it freezes and the fungi don't grow."

Pink snow mold has a pinkish ring around the outside. Gray snow mold and speckled snow mold produce spores embedded in the leaf blade. The spores are red in color for gray snow mold, and they're small and black in color for speckled snow mold.

It most commonly requires preventive applications of fungicides, sometimes in the late fall within two to three weeks of when the snow cover occurs. Koch recommends leaving a check area where superintendents spray snow mold products to get an idea of how much pressure is present.


"It's seeing what your course experiences and then tailoring your program to fit that," Koch says. 

PHOTO COURTESY OF PAUL KOCH

Bayer

PAUL GIORDANO

Green Solutions Team member,
Bayer Turf and Ornamental
Division



Difficult settings in northern and high-elevation climates that experience extended snow cover, late season rains, unfrozen soils and repeated melting events tend to enhance snow mold pressure. Limiting shade, minimizing compaction and traffic, maintaining adequate fertility and maximizing other cultural practices can help mitigate pressure from snow mold pathogens. Many superintendents also have started to incorporate a midfall fungicide application to highly susceptible and high-value areas two to four weeks prior to their final snow mold application. Demethylation inhibitor fungicides have been shown to work well in preventively controlling early inoculum activity at this time. Advancements in molecular genetics and metabolic profiling may render new targets for synthetic- and biologic-based disease control solutions.

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Proper identification of all snow mold types and the environmental conditions that favor each one is critical to achieving successful control. Avoiding excessive amounts of nitrogen going down in the late fall is often a great start. During this time, some superintendents utilize slow-release fertilizers in areas with a history of snow mold. Other options are to continue mowing into dormancy and applying one to two applications of fungicides prior to snowfall in order to “put the course to bed” before winter. Most universities recommend applying fungicides every three to four weeks in the absence of snow cover until temps start to exceed 60 degrees. Often just removing leaf clutter and installing snow fences can help reduce the potential for snow mold. In the future it’s possible that improved turfgrass varieties and advancements in digital tools for tracking nutrient use and disease outbreaks will someday provide superintendents with new ways to better control these diseases.

Nufarm

RICK FLETCHER

Technical Services Manager, Turf
and Ornamentals



Snow mold for most superintendents is a historic disease. If they’ve had it in the past or if they’re in a region that’s likely to get it, they know it could be prevalent at their place. Proper planning and timing of applications always is key. It’s understanding the opportunity to have snow mold, understanding the history of growth conditions, understanding the historical efficacy of their own experiences as well as university trials so that the timing of applications is adequate. Chemical choices can vary by region, by course and by the types of snow mold. Recently, the succinate dehydrogenase inhibitor families have played an important part. If anything’s going to change in the future, it’s going to be the involvement of other chemicals — chemical mixtures, chemical rotations that best suit the snow mold organisms at each course. It’s clear that mixtures of multiple active ingredients are essential for good management.

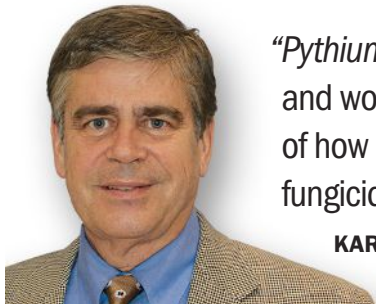
Syngenta

MATT GIESE

Technical Services Manager



Culturally speaking, to circumvent snow cover on a tall canopy, avoid heavy applications of nitrogen in late fall that create lush turf. Also, minimize thatch accumulation and continue mowing until growth stops. Certain high-snow regions may see reduced disease from snow removal during the late-winter period. These practices, while helpful, may not be enough to alleviate snow mold damage to many susceptible turfgrass species, so consider a program of both cultural practices and preventive fall snow mold fungicide applications. In the longer term, we’ll likely see new active ingredients make an impact, although application timings won’t be that different from what’s currently recommended. What may drive this technology more than any other factor is how the changing climate affects snow mold pathogen types. It’s probably more accurate to say that predicting snow mold propensity is unpredictable, and superintendents managing it must continue to do so well into the foreseeable future.



"Pythium blight was devastating and worrisome, not only because of how rapidly it spread, but because fungicide control was limited."

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

'Hot August Night'

Driving to work with my air conditioner blasting and "Cherry Cherry" (from the album "Hot August Night") blaring on the radio, I started reminiscing about my college turfgrass classes. At the time, one of the most feared agronomic problems facing cool-season golf courses was *Pythium* blight. Golf course superintendents slept in a sweat from mid-July through August worrying about this disease. Class lectures focused on the turf devastation that *Pythium* caused. Littering my lectures were stories of superintendents who left healthy greens on Saturday, only to return to dying and dead greens Sunday morning.

Pythium blight occurs in hot, wet summer conditions. Poorly drained, heavily thatched, overwatered greens were especially susceptible. The pathogen freely flows with water via sporangia, zoospores and oospores, infecting turfgrass plants rapidly when nighttime temperatures remain above 68 degrees F. *Pythium* blight was devastating and worrisome, not only because of how rapidly it spread, but because fungicide control was limited. At the time, fungicides that controlled *Pythium* blight were etridiazol and chloroneb. If you remember using these fungicides as *Pythium* control, you're probably listening to the same radio stations as me.

The drawback to etridiazol and chloroneb? Only one, two or three days of control when *Pythium* blight was active.

That all changed when mefenoxam and propamocarb came to the golf

course market. Superintendents could apply these fungicides preventively and get up to three weeks of control. Management of this devastating disease completely changed. Superintendents could sleep a little longer, and college lectures became about *Pythium* blight being just another turfgrass disease.

However, there always is some other turfgrass stress to fill that slot from mid-July through August. In the last 20 years, wet wilt has gone from a sporadic disease to an almost yearly event in some areas. Wet wilt occurs in waterlogged soils during the same time the turf is suffering elevated soil temperatures. Climatologists have predicted an increase in extreme weather because of climate change — and for much of the Central and eastern United States increased rainfall. Extreme storm events are the new norm.

Wet wilt occurs when there is ad-

equated soil moisture, but the plant's root system cannot absorb water fast enough to meet its transpiration demands. Cool-season turfgrass root growth begins to slow and decline at average soil temperatures greater than 70 degrees to 72 degrees F. Once soil temperatures reach 80 degrees F, new root initiation ceases. Above 86 degrees F, root growth stops and the ability to function decreases. Under high nighttime temperatures and humidity, the turfgrass plant has little opportunity to recover. If the soil becomes waterlogged from a heavy storm or overwatering, soil oxygen levels drop.

Oxygen is extremely important in the root's function. Water uptake by the roots is an active process requiring energy from root respiration for absorption. Respiration requires oxygen — as the final electron acceptor in electron transport — to generate the vast amount of energy needed for water and nutrient uptake. Waterlogged roots under high soil temperatures (and thus high water temperatures) can die in three to six hours. The combination of high soil temperatures, waterlogged soils, lack of oxygen and stomatal closure results in the turf literally frying. The turf collapses within a few days, and recovery is practically nonexistent.

Conditions that favor *Pythium* blight are similar to that of wet wilt, so the practices to minimize both are similar. Improve both surface and subsurface drainage, and improve air movement around the turf (green), either through the removal of trees or by installing fans. If thatch is a concern, implement a program to reduce organic matter. During wet-wilt periods, stop or dial back stressful mechanical management practices.

I've decided for now to change the radio station to one playing "December" by Collective Soul. ☺

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

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Fall Proxy applications for *Poa annua* seedheads

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Q Describe annual bluegrass seedhead initiation, biotypes and reasonable seedhead control expectations.

Annual bluegrass (*Poa annua* L.) seedhead initiation occurs in most locations during the shorter days of late fall and winter. That said, there are many biotypes of annual bluegrass, and their behavior varies tremendously across the country. In some locations where annual bluegrass stays green all year, seedhead production may occur year-round.

Seedhead control of 70 percent to 85 percent is a reasonable expectation when using Proxy (ethephon, Bayer). Some superintendents report a few seedheads still visible after a Proxy program, but they usually are low in the canopy and do not affect playability.

Q What are your thoughts on fall applications of Proxy to control annual bluegrass seedheads?

First, if you are pleased with your current annual bluegrass seedhead control program, stick with it. If you

are seeking better results with Proxy, we have seen improved seedhead control and better consistency of control by adding a late fall application in addition to the typical spring applications.

Q What is the recommended timing of fall Proxy applications?

In locations where annual bluegrass goes dormant, make the fall Proxy application when the shoot growth of annual bluegrass slows dramatically, or apply Proxy in a tank mix with snow-mold-control fungicides.

In locations where annual bluegrass does not go dormant, make the fall Proxy application when the growth of annual bluegrass slows in November or December.

Q What is the recommended timing of spring Proxy applications if a fall Proxy application has been applied?

In locations where annual bluegrass goes dormant, make the first spring Proxy application at 150 to 200 growing degree days (GDD)

base 32 degrees F starting GDD accumulation Jan. 1. This model works well for northern and Midwest locations. In Mid-Atlantic and Northeast locations, apply at 50 GDD base 50 degrees F starting GDD accumulation on Feb. 1.

Though the fall Proxy application adds more flexibility in the timing of the first spring application, it's always better to make the first spring application earlier rather than later.

Make the second spring Proxy application after 200 GDD base 32 degrees F or 50 GDD base 50 degrees F has accumulated since the first (prior) Proxy application (typically three to four weeks later). We recommend Primo Maxx (trinexapac-ethyl, Syngenta) in the second application for improved growth regulation and turf safety. Two applications of Proxy normally are made in the spring, but three or more applications may be needed in areas with extended seedhead production periods.

In locations like the Transition Zone or the Pacific Northwest, where annual bluegrass does not go dormant, make the first spring Proxy application at 50 GDD base 50 degrees F accumulation starting Jan. 1. Make additional Proxy applications on a three- to four-week interval as long

as seedheads are produced, or use the 50-GDD-base-50-degrees-F accumulation since the last Proxy application during springs that have widely varying temperatures.

Q Are there concerns about winter damage following Proxy applications in fall?

There have been thousands of fall Proxy applications to putting greens, and we have not been able to correlate Proxy applications with winter injury.

Always leave an untreated check by covering the turf with a 4-by-4-foot piece of carpet or plywood on the back of several greens to see if the fall Proxy application is affecting seedheads, spring green-up or winter performance.

Q Is there anything else you would like to add?

Some superintendents may be hesitant to try a fall application of Proxy on their greens. In these cases, I recommend adding Proxy to the spray tank for the last two or three greens or on a practice putting green when treating for snow mold. ☺



Clark Throssell, Ph.D., loves to talk turf. Contact him at clarkthrossell@bresnan.net.

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// MUST-HAVE NEW PRODUCTS



1



2



3

1 | 6000A E-Cut fairway mowers

The **JOHN DEERE** 6080A (pictured) and 6500A E-Cut models feature high-performance electric reel drive, reducing potential hydraulic leak points. The mowers can be operated at lower engine speeds, reducing operating costs by decreasing fuel consumption, the company said. The password-protected TechControl display enables turf managers or technicians to input commands, such as mow speed, turf speed, transport speed and service timers, while also capturing on-board service diagnostics.

Deere.com/en/golf

2 | PB-2620 blower

ECHO's PB-2620 blower is a professional-grade handheld blower that can help tidy up cart paths, clear leaves or blow off greens, Echo said. It also has a 25.4-cc two-stroke engine that provides a high blowing performance and a large fuel capacity, according to the company.

Echo-Usa.com

3 | BL120VX blower

The **OREGON** BL120VX blower has a maximum bystander noise rating of 59 decibels, while the traditional radial design produces a full 22 newtons, 526 cubic feet per minute and 200 miles per hour of force. With the push of a button, users can reduce noise even further to 57 decibels, eliminating noise complaints while extending run time. The BL120VX has also received California's Professional-Grade Zero-Emission Equipment certification.

OregonProducts.com



4



5



6

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4 Model 2000 SR rotary spreader

The Model 2000 SR rotary spreader by **THE ANDERSONS** uses patented helical cone technology. It features an extra-large hopper supported by a heavy-duty, stainless steel frame. The Model 2000 SR spreader is equipped with 13-inch pneumatic tires, a hopper cover and a side deflector designed to simplify edge applications. An extended handle and integrated front lift bar ensure proper posture and easy transportation of the unit, The Andersons said.

AndersonsInc.com

5 Reelmaster fairway mower

TORO's Reelmaster 3555-D (pictured) features 5-inch reels, and the Reelmaster 3575-D features 7-inch reels. Both deliver a 100-inch width of cut. The new mowers also include Toro's new EdgeSeries reels in eight- or 11-blade configurations and are built on proven and tested Reelmaster platforms, according to Toro. The machines come with Toro's Dual Precision Adjustment cutting units with EdgeSeries reels and operate at 84 decibels at the operator's ear.

Toro.com/en/golf

6 Z-Max spreader/sprayer

SITEONE's Z-Max 60-gallon, ride-on spreader/sprayer is compatible with the bolt-on Lesco Smart Guided Precision Spray GPS system, which reduces application error and chemical usage costs up to 20 percent, according to the company. Capable of treating up to 240,000 square feet of ground, Z-Max, when combined with Smart Guided, can spread up to 320 pounds of product in one load within a 2-inch level of accuracy, eliminating skips, overlaps and off-target spraying. The spreader/sprayer is ideal for common areas, the clubhouse, roughs, etc., SiteOne said.

Lesco.com

The 19th Hole

Jason Tharp

SUPERINTENDENT // Glen Arven CC, Thomasville, Ga.



Jason, what can I get you?

First, a soda water with a lime. After that? Any lager sounds good.



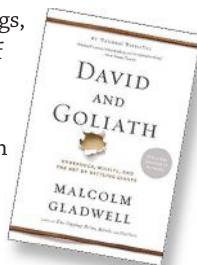
So, tell me about your family. My wife, Bethany, and I have been married 12 years. We just welcomed our first child in March. His name is Jon. Everyone who has kids knows it's a big adjustment but very rewarding.

Fill me in on Glen Arven CC. It's a really special place. It was founded in 1892. From 1936 to 1941, it hosted a PGA Tour event in the Tour's early days. Guys like Ben Hogan, Byron Nelson, Gene Sarazen and Sam Snead all played here. And the membership really cares about the club. In 2014, the club did a \$4-million renovation, all via donations of various sizes from the members. And our membership

includes both everyday Joes and multimillionaires. Some members donated \$100,000, while others donated \$1,000, broken up into payments over two years.

What's your favorite thing to read?

I'm a big fan of Malcolm Gladwell ("David and Goliath: Underdogs, Misfits, and the Art of Battling Giants" and "The Tipping Point: How Little Things Can Make a Big Difference"). He has a podcast called "Revisionist History" where he looks at famous moments through a different lens ... it's fascinating.



Fill in the blank: I couldn't get the job done without _____? My assistants, Parker Bolt and Richard Irvin, by far. I delegate a lot — they run the daily operations. We have a lot of conversations about why we are doing things and how it benefits us and the club.

You know the movie "Groundhog Day"? If you were trapped to live in the same day over and over, what day would you want it to be? I was very blessed to work at East Lake for three years. I would want it to be the Sunday of the Tour Championship from any of those three years. The players, the patrons, NBC ... being a part of that team was very exciting and gratifying.

Of all your golf memorabilia, what's your favorite piece? When I was leaving East Lake, Nick Barrington, the chef, called me to his office, and he handed me this box. It's a replica of Deacon Palmer's tractor, and Arnold Palmer signed the hood. Chef Nick was the personal chef for Arnold Palmer for years, and he had a stash of signed Arnold Palmer memorabilia ... but this was his one and only tractor. I have it on display in my office.

Last question: What's your late-night snack weakness?

No question — ice cream and brownies. But I try to stay away because it can catch up to you pretty quick! As interviewed by Seth Jones, July 12, 2019.



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