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A Deeper Respect

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OUT OF THE SHADOWS

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WHO ARE WE?

The names to the right of this column (if you're reading in print) represent only a small part of the terrific team responsible for producing *Golf Course Industry*.

Our internal support network at GIE Media includes an impressive collection of audience development specialists, email savants, web developers, market and production coordinators, sales gurus, marketing magicians, accounting and human resource personnel, and editors and designers from sister publications. Without their knowledge and dedication, we don't reach the proper audience with carefully targeted and timely content.

To prepare for expanded roles, publisher Dave Szy and I recently met with Kevin Caslow, our enthusiastic and passionate search engine optimization specialist. Kevin's job involves helping us direct you to content created to assist, inspire and inform.

Kevin asked us multiple overarching questions about *Golf Course Industry*. The probing forced us to think critically and analytically, stretching our minds as we pondered the following question: Who are we?

Answering this question represents one of my first official tasks as editor.

Candid

Our columnists opine on whatever they want. Think of how many times you have reached the end of a Pat Jones column and wondered, "He actually went there!" Tim Moraghan wrote a column this month (page 30) based on a conversation with a superintendent blindsided by his dismissal. A tough topic tackled by a gutsy writer.

Our annual "Turfheads Take Over" allows readers to write about whatever topic they deem fit. Last year's issue featured six submissions crafted by your peers to raise awareness and offer solutions for the mental anguish the job afflicts.

We don't have a happy narrative to protect or event space to sell. We have readers to serve. Our format removes barriers to best serving them.

Caring

This is your publication. We receive dozens of news releases, announcements and article submissions from readers and partners each month. Unless they are overly commercial, unprofessional or poorly crafted, we will find a spot for them. Print space might be limited, but our website, social media feeds, Fast & Firm newsletters and podcast network offer vast editorial acreage.

We're also boosters of numerous industry organizations and efforts. Ever complete one of our State of the Industry surveys? If so, you have donated to the Wee One Foundation.

Creative

Everything our creative director Jim Blayney touches becomes punchier and easier to consume. His presence and determination allow us to push boundaries.

Columnists Terry Buchen, Henry DeLozier and Matthew Wharton are always looking for unique ways to help and inspire readers, while talented contributing writers Trent Bouts, Ron Furlong, Anthony Williams, Rick Woelfel, Judd Spicer, John Torsiello and Kurt Kleinham put distinct twists on stories.

We also have a newcomer who will help us elevate our offerings: managing editor Matt LaWell. Matt has visited and conducted multimedia tours of every full-season Minor League Baseball ballpark, created and hosted live trivia shows, covered professional, college and high school sports, and produced compelling content for manufacturing and business publications. We're thrilled he's part of our team.

Add the pieces together, and I'm entering a terrific situation as editor. **GCI**



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RAVING ABOUT RESEARCH

Chicagoland superintendent Dan Dinelli spreads his zest for science at the New England Regional Turfgrass Conference & Show.

By Guy Cipriano



Dan Dinelli at the NERTF Conference & Show.

Sometimes the speaker lineup flows perfectly at an industry event like it did during the 2019 New England Regional Turfgrass Conference & Show in Providence, R.I.

In his first appearance at the annual event, ingenious Chicagoland superintendent Dan Dinelli described the results of biochar research at North Shore Country Club. Not familiar with biochar? In short, it's a carbon-rich soil amendment created via pyrolysis, a process requiring abundant heat. Research conducted on North Shore's 7,000-square foot experimental green convinced Dinelli to incorporate biochar into the mix the club used for a recent greens renovation. Biochar, Dinelli says, can help sand-based systems "prosper for a long period of time," thus extending the club's investment.

Early in his presentation, Dinelli asked a room filled with 300 colleagues about biochar usage. Only one New England superintendent indicated he had dabbled with the amendment. Dinelli started biochar research in 2014, making him one of the few superintendents holding data about its performance in a golf course rootzone. "Fortunately for us, the scientific community has gotten into studying char, but there haven't been a lot of studies on turf," he says.

After his 30-minute presentation, which started with an introduction to the science behind biochar before

transitioning into its purpose at North Shore, Dinelli plopped into a seat near the front of the Rhode Island Convention Center ballroom and listened to the next speaker. Once the Wednesday morning education session commenced, Dinelli experienced his favorite part of a turf event.

"I don't really like doing talks," he says. "I get pretty uptight. When you write, you have a chance to edit. I'm

more comfortable writing. I don't give talks because I necessarily enjoy it, but I enjoy learning from other people. The fun comes after the presentation



Dr. Olga Kostromytska of UMass.



▲ Scenes from the 2019 New England Regional Turfgrass Conference & Show at the Rhode Island Convention Center in Providence.

when people come up to you and say, 'I tried this, I saw that.' And it happens every time."

The organizers of the New England event, which has thrived since its inception in 1998 because of strong local chapter and corporate support, picked the ideal topic to follow Dinelli's presentation: "Superintendents and Field Trials." Dr. Olga Kostromytska of the University of Massachusetts offered practical and honest guidance for attendees looking to conduct research at their respective courses.

Yes, turfgrass specialists desperately need courses and superintendents willing to participate in research trials. And, yes, that participation requires significant superintendent attention. "Conducting even a simple research trial is time and labor consuming," Kostromytska says.

Kostromytska described the perils and pleasures of university and do-it-yourself research. Perils, according to Kostromytska, include the regular presence of researchers on playing surfaces, turf samples being extracted

from "valuable" areas and withholding product applications in certain spots for comparison purposes.

Many superintendents, at this point, are ready to leave research participation to more daring colleagues. But conducting a research trial, Kostromytska says, offers numerous benefits to willing superintendents, including:

- Obtaining info about the newest finding relevant to your course's specific location
 - Receiving onsite diagnostics and consultations
 - Networking with researchers
 - Contributing to new discoveries
 - Furthering your own and your crew's education
 - Promoting your successful management strategies
- What will members and customers think of all this? A third-generation

superintendent, Dinelli has a deep connection with North Shore, where his father also served as the superintendent. A portion of the membership is familiar with Dinelli's zest for research. That familiarity yields member encouragement. "It gives most of them a sense of security that we're thinking about things pretty critically," Dinelli says. "It's a win-win-win for everybody."

Science is one of Dinelli's hobbies, thus his penchant for handling research requests despite the demands of leading a team responsible for maintaining an elite course. Conducting research on processes such as applying biochar or sand topdressing are Dinelli's version of reading golf literature or playing the game following a turf shift. The job doesn't necessarily demand the extra hours, but it boosts a portfolio. "Plus, I enjoy it," he says. "It's fun. Science is a gas."

Visiting New England allowed Dinelli to spread his passion for science to a different audience. The region's researchers, especially the one who followed his presentation, are hoping the Midwest message resonates with Northeast superintendents.

INDUSTRY **buzz**

Aquatrols unveiled plans to extend their conservation efforts beyond the company with a new non-profit organization. The **FairWays Foundation** will help fund local and global projects, as well as educational events, that advance conservation and stewardship efforts within the turf industry. The Foundation expects to begin accepting formal submissions for grants by the end of 2019.

Tamas (Tom) Tanto has been named recipient of **American Society of Irrigation Consultants' Roy Williams Memorial Award**. The award is given annually to a person or organization who has shown outstanding achievement or made significant contribution to the irrigation industry. Tanto, who started **Tanto Construction and Supply** in 1969, will be presented the award at the **ASIC National Conference** in Santa Fe, N.M., on May 7.

Tim Schantz has officially moved into his new role as chief executive officer of **Troon**. Schantz joined the company in 1998 and had served as President since 2017. Founder Dana Garmany is remaining with the company as executive chairman.

TAKING FLIGHT

Superintendent Chris Allen tells Pat Jones why the BASF Monarch Challenge has been a game-changer at Eagle Lakes GC in Naples, Fla.



▲ Allen

Tell us a little about your course ...

We are a fairly unique semi-private daily fee club; one of the few courses in the Naples area open for public play during the winter. Our peak season runs from January to March/Easter with anywhere from 220 to 300-plus rounds per day. With an operating budget that is on average about 25 percent of most clubs in this area, we are always searching for the most economical methods to produce the highest value product.

Like a lot of other places, staffing can be nightmarish. I am lucky to have an older crew (47 to 80 years old) willing to work amazingly hard. We have four full-time crew members, and another four seasonal part-time crew members, no mechanic, no assistants, no irrigation tech and no spray tech. I'm incredibly lucky to have clubhouse staff that assists during off-season months as well as an extremely supportive spouse at home!

How did you get started?

I started very small. I designated a 250- to 300-square foot area near a comfort station to grow the milkweed plants because I really didn't know how it would be accepted. BASF sent me the plants, signage, hardware for the signage, and nice quality educational materials for our members, players and staff. I noticed early on our starter plants were having a tough time, so I purchased about five 3-gallon plants for about \$50 from SiteOne here in Naples. Once planted, I simply watered them as needed and nature did the rest.

How has this been a rewarding thing for your facility?

The most noticeable thing has been the reaction of our members and players. There has been so much positive support and interaction from every type of golfer. Whether it's questions, comments, or just pure amazement from being able to see the life-cycle and stages of development, they all love it. Our small starter area has triggered some great conversations to give us an opportunity to clear up so many misconceptions the public has about golf courses and the turf industry impact on our environmental surroundings.

One reward that wasn't directly noticeable right away is financial. Our success with this program and the support of BASF has afforded our GM and I the opportunity to rethink our entire turf program. Hurricane Irma forced us to remove about 10 acres of useless turf area and we removed another 10 as part of a design change. Our goal is to reduce our playable turf area by another 20 acres by the end of summer and replace

all of that removed turf with a wildflower/milkweed sustainability combination. Essentially this will double the impact of our fertilizer and chemical budget without injecting any new money, allowing us to focus on the grass that really matters. Refocusing turf applications and creating new wildlife habitat is a win-win for us.



Tartan Talks No. 33

Spring means the return of a crew and golfers for superintendents in cold-weather regions. Golf course architects experience a different work sensation when winter lifts.

Greg Martin joined Tartan Talks for a second time – the first time we chatted with him in the summer of 2016 we had helicopters flying above our heads in Jersey City, N.J. – to explain how architects structure their days, weeks, months and years. Their work, in many cases, is cyclical, with economic factors driving a large portion of their respective schedules.

"We want to see things happen instantaneously," Martin says.

"That's not necessarily the best way to go about this. This is an industry that turns slowly. That's the good and the bad. If you're going to spend millions on improvements, you want to make sure it's done correctly."

In addition to discussing spring from an architect's perspective, Martin describes journey mapping, offering insights from Disney and Starbucks applicable to golf. "You have to look at your product through your customer's eyes," he says. "And you can't believe everything you will do will be exactly right."

Martin also uses the Tartan Talks forum to explain his methodology toward writing a guest column about authenticity (page 40). Enter bit.ly/2FPcUM3 into your web browser to hear the podcast.



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Inspired by the Masters

There are superintendents who say they dread the first full week of April each year because they know their members are glued to their televisions watching the Masters and wondering why their course isn't also perfect.

If they needed someone to blame for the condition known as Masters envy, they could look no further than Jim James, the senior director for club and hospitality operations at the Augusta National Golf Club. If they did, they would see someone whose commitment to excellence goes far beyond flora and course conditions.

"We simply try every single day to be the absolute best we can at everything thing we do," says James, who has been on the job at Augusta National since 1995. "We look at every single day as an opportunity to improve. When we find we are not the best, we are relentless and incredibly focused to make sure that we improve."

Of course, there also are those superintendents who watch the tournament and find inspiration and challenge amidst the azaleas, dogwoods and meticulously groomed grounds.

It is the attention to detail that inspires Jon Jennings, the superintendent at Shinnecock Hills Golf Club, host of last year's U.S. Open. "My takeaway each visit is that no matter how inconsequen-

tial a detail, they are extremely important for the overall success of the Masters," he says. "Upon returning home, I try to instill that level of quality with our staff and have them visualize that everything we do in course preparation is important in the grand scheme of things from a player-experience perspective."

The Masters provides professionals with instructive and insightful examples that guide innovation, brand management and continuous improvement.

Keith Wood, director of greens and grounds at the Quail Hollow Club in Charlotte N.C., is no stranger to big-time golf, having hosted the 2017 PGA Championship. But he recognizes something special when he sees it.

"I learned early on that if there was a week or two to have my greens as good as they could be, I needed to peak around the Masters," Wood says.

"There is nothing better than getting compliments on how your course is playing while everyone is buzzing from the

excitement of a great Masters tournament."

Wood, who is preparing Quail Hollow for the 2021 President's Cup, says the Masters' grounds and agronomy team set the bar for tournament

golf each season. "I am in awe of the horticulture and the health and beauty of the landscaping they do," he says. "All shrubs

and trees on the property are perfectly placed and maintained. They do a wonderful job of embracing the heritage of being a plant nursery and then take it to the next level with world-class horticulture skills."

Carlos Arraya, director of grounds and agronomy at historic Bellerive Country Club near St. Louis, finds motivation in the history of the club that has played host to some of golf's most memorable tournaments.

"The Masters inspires me to communicate and focus on Bellerive's great traditions and championship history," says Arraya, who prepared Bellerive for the 2018 PGA Championship. "Even though the Masters is one-of-a-kind, every course has its character and own story."

The attention to detail and the steady progress on new solutions – from technology to labor deployment – serve as guidance for Arraya's planning purposes. "The takeaway that resonates in my mind every year while watching the tournament is that a vision accompanied by a strategic plan can produce golfing excellence for the players and patrons," he says.

While some may dread Masters week for the envy it produces, the great ones welcome golf's first major as a learning experience. They know that even though they don't have Augusta National's budget or staff (more than 2,000 during tournament week), they can make their own commitment to excellence, looking at each day as an opportunity to improve. **GCI**

“The Masters provides professionals with instructive and insightful examples that guide innovation, brand management and continuous improvement.”



HENRY DELOZIER is a principal in the Global Golf Advisors consultancy. He is currently Chairman of the Board of Directors of Audubon International.

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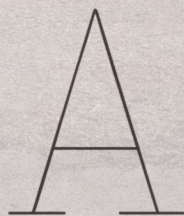




By **Guy Cipriano**

Out of the Shadows

Focusing on quantity over quality is helping an Arizona resort remove stigmas surrounding short courses.



mom. Five young children. All totting golf clubs. Brisk, judgment-free play.

Even somebody hardened by a half-dozen grow-ins, 30 years of maintaining golf courses in the Arizona sun and a few years in turf equipment sales paused from his work to admire the scene on an early January day at a course in a municipality called Paradise Valley. "You don't ever see that on a regulation course," Mountain Shadows superintendent Ron Proch says.

Nestled between a pair of desert mountains, the compact facility where Proch works is changing golfer and operator perceptions. Dozens of par-3 courses have been crafted or revamped during the industry's current renovation wave. But Mountain Shadows welcomes all: it's a place where a mother and five children, or somebody introducing the game to his or her significant other, or foursomes looking to play 18 holes in less than three hours can hit shots on intricately maintained surfaces.

Mountain Shadows is a high-end par-3 course for the masses. Neither memberships nor room stays are prerequisites for tee times. Since his arrival as superintendent on June 22, 2016, Proch has been forced to rethink practices and principles.

Proch left a job selling Jacobsen equipment in Northern California to become the first superintendent in Mountain Shadows' second life. The swanky Arizona property, which also

features a resort and seven-figure real estate offerings, received an overhaul by Phoenix-based architect Forrest Richardson, who holds a strong connection with a major piece of the course's first life, original architect Arthur Jack Snyder. Proch and Richardson previously worked together on multiple projects, including the Wigwam in Phoenix's west suburbs.

A unique construction/management model further intrigued Proch.

Securing Landscapes Unlimited as the golf course builder, thus ensuring the project was completed within the developer's preferred timeframe, resulted in Mountain Shadows agreeing to a long-term maintenance contract with the company. Proch, a Landscapes Unlimited employee, oversees the maintenance of the golf course and resort grounds.

"I wanted to get back to the area," Proch says. "One of my friends called and told me about this. I said, 'Who's building it?' He said, 'Landscapes Unlimited.' Then, it was 'Whoa,' when I found out Forrest was the architect. I flew here and walked the property. It was pretty cool."

While some industry veterans might shun an opportunity at a par-3 course, Proch embraced working at a non-traditional facility. "I have been here since Day 1," he says, "and I believe in this. I believe this is the future."

SHORT YARDAGE, BIG POTENTIAL AUDIENCE

What's different about Mountain Shadows?

For starters, the footprint. The course consumes just 33 desert acres. Realizing potential dilemmas surrounding water, even in a state with proactive resource management plans such as Arizona, Richardson reduced maintained acreage to 13½ acres.

Richardson's work represents a modern version of his mentor's vision. "What Jack accomplished in 1961 was way ahead of his time: 18 holes on 40 acres that you could play in 2 ½ hours with your grandkids, wife, whomever," he says. "The concept that's here today is the same concept that was hatched in the '60s."

Before the renovation, Mountain Shadows was classified as an executive course, playing to a par 56 because of two par 4s. The renovation transformed Mountain Shadows into a layout consisting entirely of par 3s. Richardson says he had conversations with Snyder about removing the

Honoring a mentor

Forrest Richardson's connection with Mountain Shadows transcends most architect-course relationships.

A longtime Phoenix resident, Richardson played high school matches at Mountain Shadows, whose original architect, Arthur Jack Snyder, lived in the area. Richardson first met Snyder in 1973 and they remained friends until Snyder's death in 2005. Richardson considers Snyder, who served as ASGCA President in 1982, his mentor.

Working on a site where Snyder designed the original course placed Richardson in a tricky spot of trying to honor his mentor while satisfying a client seeking to offer customers a modernized product. Snyder instilled in Richardson the value of creating fun courses. The principal guided Richardson throughout his work at Mountain Shadows.

"He absolutely loved this place," Richardson says. "We had his memorial service here in 2005. But at the same time, I had to be careful because I was working with a developer who wanted something different than what was here. This wasn't about keeping the old Mountain Shadows. It was about giving it a new life and a new spirit. It's kind of like, 'What is old, is new again.'"

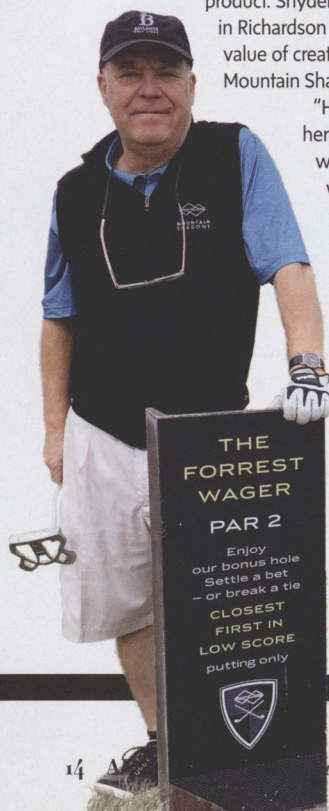
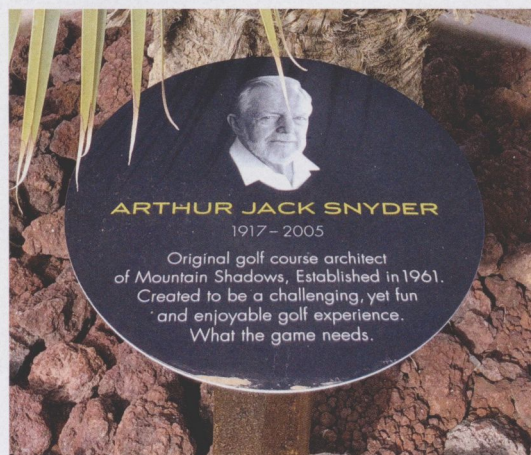
Snyder hailed from a renowned turf family. His father, Arthur A. Snyder, a longtime superintendent in Western Pennsylvania and Arizona, received the USGA Green Section Award in 1979. Snyder's brothers, James H. Snyder and Carl H. Snyder, were also longtime superintendents.

Snyder spent most of his career as an architect, although he served as the superintendent at Oakmont Country Club from 1951-52. "He would say, 'I'm the only black sheep in the family. I was the only one who went into golf course architecture,'" Richardson says.

Snyder designed more than 60 courses and contributed to golf's growth in Arizona. A plaque below a palm tree by the seventh tee honors Snyder's legacy at Mountain Shadows. The plaque reads:

*Arthur Jack Snyder
1917-2005
Original golf course architect of Mountain Shadows. Established in 1961.
Created to be a challenging and enjoyable golf experience. What the game needs.*

◀ Richardson





par 4s in 2002, three years before Snyder's death.

The revamped course includes forward, middle and back tees, with total yardage ranging from 1,735 to 2,310. From the forward tees, the longest hole plays 150 yards, the shortest 50. From the back tees, the longest hole can be stretched to 220 yards, the shortest measures 75.

Par-3 courses comprise a small portion of the U.S. golf supply – just 514 of the country's 14,794 total courses, according to the National Golf Foundation's 2018 "Golf Facilities in the U.S." report. "This is one of the few high-end, 18-hole par-3 courses in the world," the well-traveled Richardson says. "You can count them on one hand. You can do a 13-hole par-3 course at Bandon Dunes, because of the 18-hole courses there. You can do the Cradle at Pinehurst, which is 10 holes, because you have all these other courses to play."

Richardson adds that offering 18 holes, instead of nine or 15, gives Mountain Shadows "substance" as a standalone facility. It takes most golfers between two and three hours to complete an 18-hole round, according to director of golf Tom McCahan. Providing 18 holes that can be played in under three hours allows Mountain Shadows to offer more and later tee times than other facilities in the competitive Phoenix-Scottsdale market. Quick rounds help attract summer play, despite average high temperatures exceeding 100 degrees in June, July and August.

"Something like this could be viable elsewhere, but what really makes this work is this Phoenix-Scottsdale market," Richardson says. "You get a lot of buzz being in a golf market. If you tried doing this in the middle of nowhere, you would have to have a different angle to it. This is a market where you can play virtually every

day."

Mountain Shadows sells rounds via dynamic pricing, with most online tee times ranging from \$35 to \$65 depending on time, day and season. The course averages around 1,000 rounds per week this past winter, according to Proch.

Mountain Shadows doesn't have a narrow audience. Beginners, juniors, seniors, high-handicappers, couples, families, low-handicappers and Arizona-based celebrities (Arizona Cardinals wide receiver Larry Fitzgerald visits frequently) experience the course on a typical day. A group of local golf professionals even uses Mountain Shadows for regular Tuesday skins games.

"Year over year, we're getting more play," says McCahan, who arrived in 2016 after 25 years at The Boulders, a 36-hole facility north of Phoenix. "The stigma of it being a par-3 course is being overcome, but

▲ Mountain Shadows has successfully positioned itself as a "high-end" 18-hole par-3 course in a competitive golf market.

it's still out there. Some people think, 'If I can't hit my driver, I'm not playing.' But word is getting out that you can get around here and have a fun experience in two to three hours."

THE 'HIGH-END' EXPERIENCE

Quality course conditions and interesting architecture are helping Mountain Shadows remove stigmas associated with a par-3 golf course.

When fully staffed, Proch leads a 12-person team responsible for maintaining the golf course and resort grounds. As part of a \$100 million overhaul, Dallas-based Woodbine Development Corporation and Scottsdale-based Westroc Hospitality also introduced a new 183-room resort in 2017. Proch devotes four employees to maintaining the resort grounds.

The other eight workers spend most of their time maintaining the

golf course. The practices implemented by the crew contrast most standalone par-3 courses, thus leading to the "high-end" label used by Mountain Shadows officials.

The crew uses walk mowers on greens and rolls the surfaces "a minimum of three times per week," Proch says. For events such as the high-stakes skins games involving local professionals, Proch says green speeds can exceed 12 feet on the Stimpmeter.

Walk mowers are also used on tees. Playing surfaces were overseeded last fall, enhancing course aesthetics this past winter. TifDwarf Bermudagrass is the base surface on greens; 419 Bermudagrass is the base surface on tees,

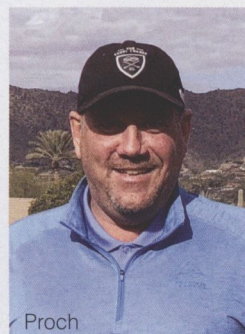
surrounds and approaches.

Richardson designed a practice green by the pro shop and outdoor bar and a feature called "The Forrest Wager" between the 17th and 18th holes. The 20 greens average 6,100 square feet, which is comparable to a regulation course, although Richardson concedes green size is a future concern because of heavy play.

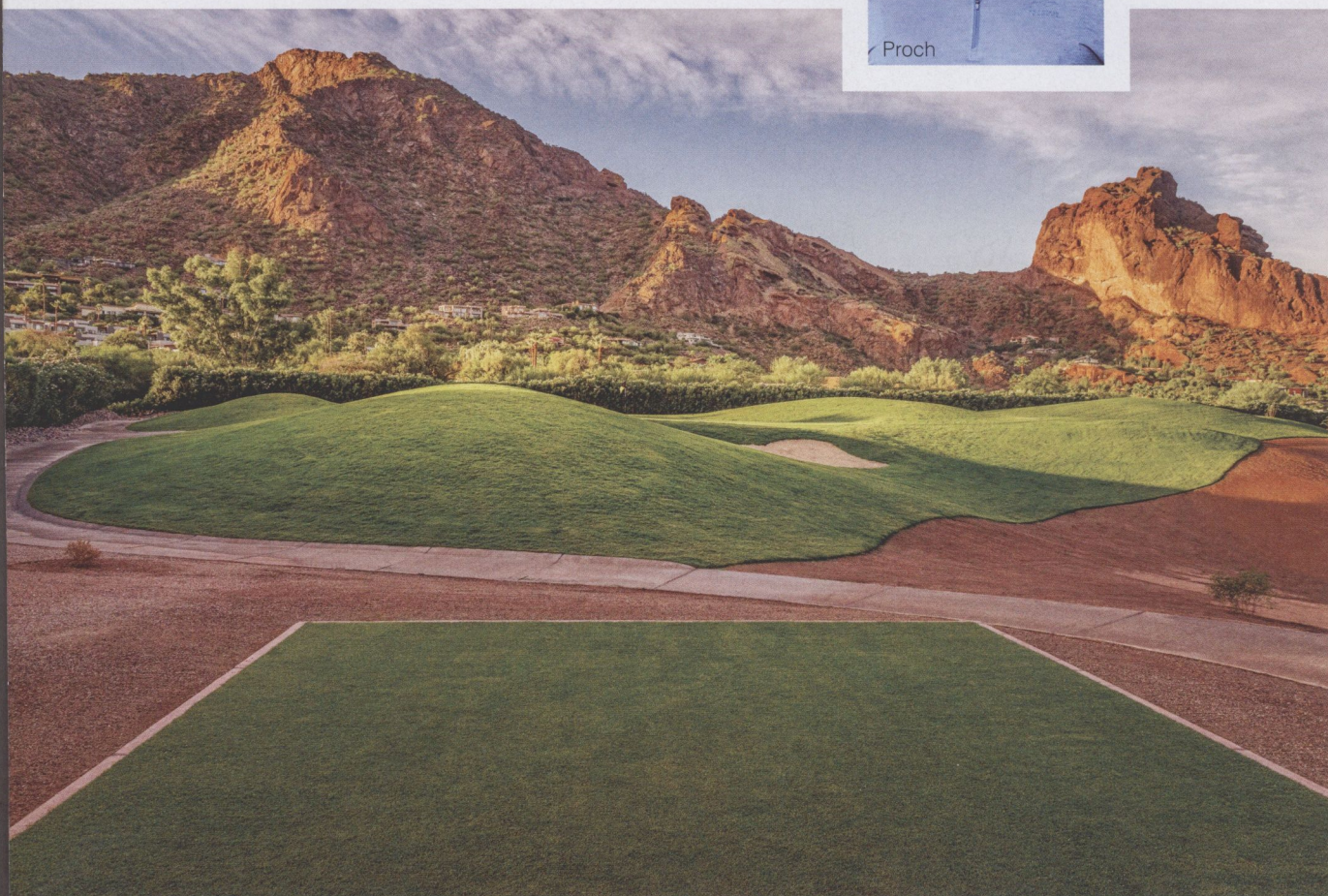
"You can always play Monday Morning Quarterback and think about different things," says Richardson, who worked within a \$3.5 mil-

lion construction budget. "Would it be nice to have more budget? Maybe. Would it be nice to have had more land? Maybe. My biggest regrets here are the green sizes. Each one could be a thou-

▼ Architect
Forrest
Richardson
reduced the
amount of
maintained
turf at
Mountain
Shadows to
13 ½ acres.



Proch



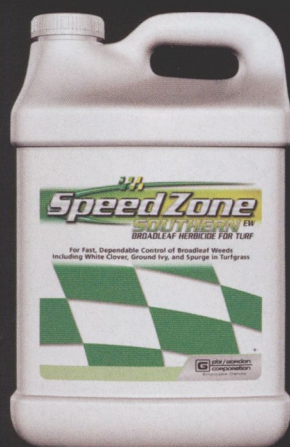
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Mowing between mountains

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The maintenance facility is only partially enclosed and superintendent Ron Proch elected against investing in a grinding unit when the course reopened in 2017. Proch frequently purchases new reels to ensure a quality cut.

"With our backups, we only have 14 reels," Proch says. "Why am I going to invest \$60,000 in grinders? It would take 10 years to spend \$60,000 (on reels) the way our shop is set-up. It's not totally enclosed. Grinders would be outside, and in four or five years, the grinders would be no good. For that kind of investment, it wasn't worth it for us in the beginning."

sand square feet more. I would be happier, Ron would be happier, probably the golfers would be happier because it would handle wear better."

Richardson might be his toughest critic. Green complexes are strategic with memorable features, including a Biarritz and punchbowl. Room to place pins in several spots on each green prevents frequent customers from playing reoccurring shots. The 13th and 14th greens are combined with a small bunker sitting in the middle of the surface. Richardson placed tees in dynamic spots, giving golfers varied views of Camelback Mountain to the south and Mummy Mountain to the north.

A compact layout promoting swift rounds means the crew must hustle – and daily work doesn't go unobserved. "On such a small, tight site like this,



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Signs alert golfers to views at Mountain Shadows capable of generating social media attention.

there's nowhere for the crew to hide," Richardson says. "On a 200-acre golf course or a 160-acre golf course, you can sort of hide."

The crew begins at 5 a.m., with Proch devoting one worker to each of the following tasks: mowing greens, mowing collars and approaches, mowing tees, raking bunkers, and changing cups. Tee times commence at 7:30 a.m.

The 18 bunkers – a number Richardson kept modest to create maintenance efficiencies – are protected by the Better Billy Bunker system. Bunker, tee and cart path edges are maintained once play begins. Decomposed granite requiring grooming and weeding covers non-turf areas along the course.

Golfers playing 18 par-3 holes produce thousands of divots. Following morning assignments, one worker will

spend the rest of the day mixing seed and sand and filling patches. "The No. 1 hardest challenge we have is filling divots," Proch says.

Proch notices more divots as the new Mountain Shadows ages. They are signs of a small course developing a big reach.

"I have been at places where the budget has been \$450,000, and I have been at places where the budget was \$2.4 million and I had 42 people," Proch says. "I didn't change the way I thought. Now, can you do more projects? Sure. But I'm going on my third year here. What this originally started as with what the job description was, what we were going to do to the golf course and how we were going to maintain things to what it is now ... I would say our budget and manpower has increased 40 percent since Day 1." **GCI**

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Maintenance as a priority

Paul R. Van Buren describes his experiences leading a team responsible for a maintaining a high-end par-3 course in Virginia.

About 20 miles west of downtown Richmond, Va., out in cherished horse country, past the county water lines and fiberoptic communication wires, there's an inconspicuous set of four mailboxes marking the entrance to a piece of land I've been responsible for maintaining over the last 15 years. A keypad lays hidden inside a hedge protecting our entrance. Two stone columns flank the metal entrance gate, on the left, "Kanawha," on the right, "private."

The unmistakable look of confusion permeates when others learn I work at a "high-end," private 9-hole par-3 golf course. Most don't even know it exists, let alone understand the nuances around such a unique golf setting. I have experienced the luxury of overseeing the property transform from a tract of semi-forested rural land into one of the most interesting golf experiences folks describe after their first couple of rounds.

A 9-hole round at Kanawha Club generally takes the average golfer about an hour-and-a-half. Members have developed their own ways to enjoy Kanawha. We have three to four sets of tees on every hole, with yardages ranging from 55 to 240 yards. Twice a year, we convert the 9-hole layout into a 6-hole loop of

cross-country golf. These events offer members a non-traditional approach to the game and a new way to enjoy our setup.

Kanawha Club started as an idea for a challenging private practice facility, spawned as a larger version of its owner's urban backyard practice facility. The club takes its name from Kanawha County, set along the Kanawha River bisecting Charleston, W.Va. – the hometown of the owner and his wife. Ironically, the southern border of our property is the Little River, a manmade canal constructed in the 1800s that allowed bateau boats to circumnavigate the rapids of the James River toward their destinations upstream as part of the encompassing Kanawha Canal System.

Managing a par-3 course is an interesting endeavor. Overseeing the entire construction of a 55-acre parcel of land into a golf course with a few adjacent private residences was an interesting part of my first superintendent position. At 26 years old, I embarked on a mission that started as an idea and has grown

into something I care very deeply about. It has continued to feed my passion for turf-grass management.

It's difficult to understand daily life at a par-3 course. Kanawha has some extreme terrain and requires a different approach to what most turf managers

experience, and it provides a unique approach to golf course maintenance and preparation. Due to the smaller size and

minimal acreage, most duties on the course only take a fraction of the time to complete. Instead of mowing greens for the first few hours each morning, our jobs only take about an hour or so to complete.

It is not uncommon for some of our seven full-time staff members to complete six or seven different jobs on any given day. Because of this, a job board doesn't make sense, as our list of tasks vary so frequently that we would spend more time updating and adjusting it rather than just allowing each day to dictate the revolving task list. Our staff members enjoy the variety. Their skills reflect knowledge and proficiency of every piece of equipment in our maintenance facility.

Perhaps the single most challenging aspect of managing a golf course for such a small membership is never losing sight of the expectations and standards of the Kanawha experience when there is a very real chance nobody besides staff members will pass through the gates. There aren't many managers who can count the number of daily rounds on one hand or who can count the ball marks, divots and bunker shots of the prior day – and likely know who created them.

The minimal number of rounds means we generally have carte blanche as far as day-to-day operations. We rarely need to make accommodations for a full course, work backwards against play or fret over other headaches plaguing almost every other maintenance operation in existence. At Kanawha, maintenance has the luxury of being a priority. **GCI**

“The unmistakable look of confusion permeates when others learn I work at a ‘high-end,’ private 9-hole par-3 golf course.”



PAUL R. VAN BUREN, MBA, is the golf course manager at Kanawha Club in Manakin-Sabot, Va.

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'POWER OF THE MOLECULE'

How discovering an emerging dollar spot solution helped New Jersey superintendent **Eli Rodriguez** adjust to the first year of a new job.

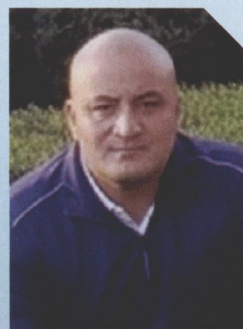
By Rick Woelfel

Located in Hillsborough, N.J., midway between New York City and Philadelphia near the northern edge of the Transition Zone, Royce Brook Golf Club, provides 36 golf holes to its members, guests and customers.

The two courses were designed by Steve Smyers and both opened for play in 1998, yet they offer distinct differences. The East Course, a parkland-style design, plays to a maximum of 6,946 yards with a par of 72 and is open to the public. The West Course, which is restricted to member play, measures 7,158 yards from the tips with a par of 72.

The facility is managed by Billy Casper Golf.

Between them, the two courses occupy approximately 250 acres, including L-93 bentgrass fairways (70 acres) and greens (five acres), rough that is a mix of tall fescue, bluegrass and ryegrass, and 245 bunkers, some of them



Rodriguez

of considerable size.

When Elizer 'Eli' Rodriguez took over as the superintendent early last year, he found himself confronting a significant dollar spot problem. That circumstance hardly made him unique, but in this instance, the situation was aggravated by a combination of significant spring rains and high humidity. "Last year it was real bad because of the weather," he says. "Because of all the rain and humidity and everything, it was brutal."

Rodriguez started out mixing a pair of products to combat the problem. But he experienced little success, in large part due to the weather. Searching for a solution, Rodriguez huddled with Lee Kozsey, a Syngenta territory manager, with whom he had an ongoing relationship.

Kozsey suggested he try Posterity, a Class 7 SDHI fungicide that was being introduced to superintendents on a trial basis at the time. Rodriguez agreed to conduct a trial of his own. "I didn't know about Posterity for a couple of months until Lee came to me and they said they wanted to do some tests on the golf course," Rodriguez says.

Matt Giese is Syngenta's technical manager for turfgrass in the Midwest. He first worked with Posterity (active ingredient: pydiflumetofen) more than two years ago and notes it's one of a number of SDHI chemistries that have been introduced over the last decade.

Giese says Posterity's effectiveness against dollar spot makes it stand out. "It inhibits respiration in the pathogen," he says. "It basically stops spore germination, it stops the mycelial growth of the pathogen, particularly dollar spot. That's how it's so effective, and it's just a little

bit different subclass than some of these other SDHIs and that's sort of where we get what I like to call 'The power of the molecule.'"

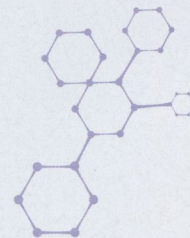
When Kozsey suggested the idea of doing a trial with Posterity, Rodriguez was on board immediately, especially when Kozsey agreed with the idea of conducting it on two green approaches rather than small patches of fairways. "I said 'Lee, I'd rather test a big area,'" Rodriguez

says. "You spray a big area. It's better because with the atmosphere and the weather you're not seeing the (same conditions) all the time."

The trial lasted from April through July. Rodriguez applied Posterity on one approach (Q-Action on the other) at a low-end application rate of 7 fluid ounces/acre and at mid-range intervals of 20 to 22 days. He observed immediate results.

"It cleaned (the dollar spot) right up," he says. "We went almost a month without spraying anything and we had some nasty, nasty weather. I told Lee after we did the tests that I didn't spray on that approach area at all the rest of the year. I just wanted to see something because I know it's a different mode of action going into the plant. I wanted to see how long I could (go without spraying again) and didn't see anything."

Giese notes that Posterity is listed as having a 28-day residual. "That's what we claim on the label," he



Eli Rodriguez and the Royce Brook Golf Club team maintain two courses encompassing around 250 acres.

says, "but there are times when it certainly can go longer than that."

That certainly impressed Rodriguez. He appreciated what a 28-day interval could mean to his chemical budget, because much of his career has been spent working at daily-fee facilities with limited budgets.

A native of North Philadelphia, Rodriguez has worked at golf courses for more than three decades. He started when he was 16, working alongside his father at 1956 PGA Championship site Llanerch Country Club in suburban Philadelphia.

Rodriguez was so highly regarded that when he decided to enroll at Rutgers University, the members at Llanerch paid his tuition. Rodriguez commuted from his home in North Philadelphia to the Rutgers campus each day while continuing to work at Llanerch between semesters.

After earning his degree, Rodriguez worked for a decade at Five Ponds Golf

Club, a municipal facility in the Philadelphia suburbs before spending six years at Cobbs Creek, another municipal course on the western edge of Philadelphia designed by Hugh Wilson of Merion fame. Cobbs Creek and Merion are a short drive apart.

At Royce Brook, Rodriguez oversees a staff of 14, including himself. Apart from its effectiveness against dollar spot, Posterity helps make his budget work.

"If you don't have a big budget and you've got a lot of dollar spot issues, (Posterity)

Incorporating Posterity into the agronomic program helped Eli Rodriguez and the Royce Brook team handle challenging 2019 weather.



is the way to go, because you're not spraying every two weeks," he says. "If you can make it last 28 days, 29 days, almost a month, it's perfect. That's money saved in my pocket."

Posterity was officially introduced to the American turf market late last summer. As of this writing, it's approved for use in 46 states plus the District of Columbia. In addition to dollar spot, it's been shown to be effective against spring dead spot.

Syngenta (greencastonline.com/programs) recommends application rates of 7 to 14 fluid ounces/acre at intervals between 14 and 28 days and not making more than two consecutive applications of the product.

Dr. Bruce Clarke at Rutgers University says his research showed Posterity to be effective in circumstances where other SDHI fungicides were not.

"It seems to give us good control even where we've had some cases of resistance to the SDHI fungicides for dollar spot," he says. "I'm not saying it's going to work wherever you have resistance issues, (but) we started having resistance to SDHIs in general for dollar spot on our research greens at Rutgers and we noticed that where we used Posterity in those areas, we still had some control with that chemistry."

Giese says a key to Posterity's

effectiveness is the product gets into the foliage of the plant and remains there. "That's where the pathogen is active," he says, "and you have the ability of it to move upward in the plant, so it is systemic upward in the plant. So anywhere that spray droplet lands, it seems like that's where you get that activity and it continues and stays in the plant for an extended period of time, giving you that long residual."

Rodriguez utilizes Posterity as his primary dollar spot control agent while applying Secure Action as his alternate chemistry. Because of Posterity's effectiveness, he can time applications so there is little impact on play.

"Me and my two assistants will come in at three o'clock in the morning," he says. "We'll alternate and do nine holes on the East course, then nine on the West, then come back and do the other nine on the East. We have a lot of outings, but because (an application) lasts so long, I don't have to worry about them."

When the opportunity arises, Rodriguez shares the virtues of Posterity with his professional peers.

"A lot of my superintendent friends don't believe (how effective the product is) because they never had Posterity," he says. "I tell them 'You've got to try it.' GCI



**IF YOU DON'T HAVE
A BIG BUDGET AND
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IT'S PERFECT. THAT'S
MONEY SAVED IN
MY POCKET."**

— Eli Rodriguez



All together now

In 2008, Carolinas GCSA executive director Tim Kreger had an epiphany. After meeting with representatives of both Clemson and NC State to discuss budget cuts as a result of the economic recession impacting turfgrass programs at our land grant institutions, he recalled a fundraising effort for the Clemson men's golf team.

A donated round of golf for four at a prominent facility in South Carolina went unsold in the silent auction. The gift certificate later sold online for \$250, and the idea for Rounds 4 Research was born. Tim figured if there are approximately 900 golf courses in North and South Carolina, and if each donated one round of golf to be sold at auction, we could finance vital turfgrass research without the needs of funding from state governments.

Four years later, R4R had grown larger than Carolinas GCSA could operate internally as other states like Virginia, Georgia and Texas had joined, and the program was transferred to GCSAA. R4R is now organized by GCSAA's philanthropic arm, the Environmental Institute for Golf. Since going national in 2012, R4R has generated over \$1 million. I'm pleased to report in North and South Carolina we have distributed over \$366,000 to Clemson and NC State since the program's inception.

This year's auction is April 29 to May 5. Last year's auction generated more than \$312,000 – GCSAA's largest total since taking over. But that is still only a small drop in the proverbial bucket when you realize there are approximately 15,000 golf facilities in the United States. What would happen if each facility nationwide sold one foursome at auction for the low price of \$66.67 each? You would raise \$1 million!

You may think I'm crazy. But I truly believe with nearly 15,000 golf facilities nationwide and approximately 19.5 million "committed golfers" (as reported by the National Golf Foundation in

2018) we can together fund research that will help provide better playing conditions in the future. Whether it's developing more drought-tolerant grass varieties, discovering disease and pest resistant cultivars or helping states establish and implement Best Management Practices, the possibilities are limitless.

I know what you're thinking, not every golf course in the U.S. can participate. Some facilities just are not willing to open their doors to Joe Q. Public. You're right, but that doesn't mean they can't help. We encourage our member facilities in North and South Carolina in similar circumstances to make a monetary donation in an amount equivalent to four guest fees.

Another thing we have done successfully in the Carolinas is gain allied support. We have partnered with our regional golf associations, the Carolinas PGA Chapter, the Carolinas CMAA and the owner's associations of both North and South Carolina to raise the level of awareness and make it easier for a superintendent to request a donated foursome from his or her facility. And why are state/regional golf associations an important partnership? They have databases with thousands of golfers that would love to know about the auction and bid on these rounds. Ever hear of GHIN handicap?

In fact, my facility, Carolina Golf Club, did not participate in the first R4R auction. After reopening from renovation, our general manager at the time did not want to ask the

board for permission considering we had been closed for 11 months. One year later, our GM received a letter from his CMAA chapter about the upcoming second R4R auction and he instructed me to make the donation without ever discussing it with the board. The simple fact his professional association endorsed the cause swayed his opinion.

So, I encourage you to get involved. I reached out to Arkansas GCSA to lend support as a favor to Dr. Mike Richardson. Dr. Doug Karcher, Richardson and others do a great job at the University of Arkansas. When I heard back from Arkansas GCSA President Dade Wilson, I was pleased to hear he and his fellow directors are making a concerted effort to increase their chapter's participation. Believe me, every dollar counts and researchers across the country are resourceful at stretching research dollars. Heck, sometimes it's as simple as acquiring new mowers and/or other equipment that benefits us all.


GCSAA is committed to seeing this program's success grow. They formed a Task Group two years ago to brainstorm ideas. From these conversations we've seen an increased presence on social media, air time on Sirius XM PGA Tour Radio, and promotional support sponsored by Golf Channel, Golf Advisors and Golf Now. These efforts help spread the message to the committed golfers. It's up to us to procure the rounds for these committed folks to bid on. **GCI**



MATTHEW WHARTON, CGCS, MG, is the superintendent at Carolina Golf Club in Charlotte, N.C., and President of the Carolinas GCSA. Follow him on Twitter @CGCGreenkeeper.

A HISTORY LESSON

The earliest two-wire system was installed on a Robert Trent Jones Sr. golf course in the late 1960s and was developed by Wayne Davis as an employee of BINAR Corporation. Davis is credited with designing one of the first electrically controlled, automatic golf course irrigation systems. It was the Johns-Manville Corporation that would later purchase BINAR in 1970 and go on to patent the technology with Davis. This system used a numeric address to distinguish one sprinkler from the next and operate them for specific run times. Other manufacturers would follow over the years with their own iteration of a two-wire system.



Considering an irrigation system enhancement? Ian Williams offers a checklist to guide your course's decision.

TWO-WIRE, FIELD CONTROLLERS AND PLENTY OF FACTS

It's time to make a decision. You have already spent months, maybe years, educating your club members and staff on why the golf course will benefit from replacing the current outdated and inefficient irrigation system. The club has allocated the funds necessary for such an expense, and membership has voted or your owner has signed off. You have met with irrigation consultants, designers, suppliers, contractors, manufacturers and all other stakeholders interested in the club's foray into the future. How you got to this point with your sanity intact is a whole other story.

What you are now faced with is a decision of whether you select a more conventional field controller

irrigation system or the increasingly popular two-wire controlled system. This decision is typically made before plans are created, specifications are prepared, and bids are solicited. Sometimes it is required to solicit pricing for both types of systems.

So, what is the difference between the two control systems? You want to make an educated decision and select the best fit that will meet the needs of the club and your maintenance schedule, as well as follow the project's budget guidelines. Your decision will impact the club for years to come. As a professional manager

and responsible club representative, you want to make a decision that will take the club and its investment far into the future.

In simple terms, a field-controlled irrigation system is one in which the sprinklers are activated by a controller, usually placed somewhere on the golf course. They are usually located within line-of-sight of the golf hole, but there are circumstances where the controllers may be hidden from sight. Sometimes the club will go as far as to wall mount them in structures on the golf course in an attempt to hide any evidence of an

irrigation controller on the course. Most controllers can store start times and run times, as well as provide manual operation of the sprinklers assigned to them. Sprinklers are directly wired back to the field controller. The quantity of sprinklers per controller is limited by the model. Ideally, the controllers are linked to a central control computer that allows for flow management and automatic scheduling.

A two-wire system, or satellite-less system, on the other hand, has very few or no controllers on the golf course, and the sprinklers are directly connected to a wire path. Depending on the manufacturer, the wire path can host many sprinklers and the sprinklers are spread out over a great distance. The term two-wire is referring to the fact that the wire path consists of two conductors.

More recently, hybrid systems are available that incorporate controllers in their two-wire system. Acting as an interface, these controllers, which have a programmable faceplate, can operate independently of a central computer but still utilize a wire path that connects to each sprinkler and provides both power and communication to and from the sprinkler.

Different manufacturers provide many options of two-wire and field controller systems, but we are not talking about manufacturers at this point. We are weighing the pros and cons of a two-wire system and a field controller system so that you can make an educated decision. Consider this a checklist of questions and data points you want to answer so you can make an informed decision.



1. STAY OPEN

Do not go into this decision close-minded and relying on what you are already comfortable with. If we all went about our daily lives in that manner, we would still be using flip phones and listening to vinyl records. This decision is not only for you. You are selecting the best options for your club and its long-term goals. You could also be selecting a system for the next superintendent depending on your current situation. This is a 25-plus-year decision. You do not want to box yourself in with only what you are comfortable with before performing your due diligence. Don't shy away from learning everything you can about the latest technology available.



2. CONSIDER A CONSULTANT

Have you employed the help of an irrigation consultant? Irrigation consultants will offer an objective view from years of experience with different brands and the different styles of systems available today. An irrigation consultant specializes in design and specifications, as well as different manufacturers' equipment. They know the different types of systems well and can answer those burning questions while helping you separate fact from fiction.



3. USE YOUR NETWORK

Talk to your peers. Talk to the courses in your area that have upgraded or replaced their irrigation systems. What do they like? What do they dislike? If they had to do it all over again, would they make the same decisions? What would they do differently? Do they feel they got the system they were promised? Is the system performing as they expected? Most superintendents are more than happy to discuss the ins and outs of the decisions they made during the process. Don't be afraid to ask.



4. TRY BEFORE BUYING

Take the systems for a test drive. This may entail visiting a few courses. Your peers will most likely be more than happy to host you and allow you to spend time with them looking at software or hardware and going through the system with them and their staff. This is an opportunity to get a first-hand feel for the different types of systems.



5. SET GOALS

Write out your goals and expectations with a new irrigation system. Is it to reduce water use? Is turf health your top priority? Does ease of use mean anything to you? Is it all the above? With a new irrigation system, you are getting a new hydraulic delivery system regardless of the type of control system you select. Think of your control goals. Do you expect to operate solely from a tablet or mobile device? Does the idea of some sort of in-field control appeal to you?



6. SERVICE MATTERS

Understand your support network. Who is there to service and troubleshoot the control system if the need arises? Can your staff support issues, or will you be



In a two-wire irrigation system, sprinklers are directly connected to a wire path.



A field-controlled irrigation system is one in which the sprinklers are activated by a controller, usually placed somewhere on the golf course.

reliant on third-party service? What kind of downtime is acceptable to you? Understand the equipment needed to maintain the control system so that the system is always operating as designed and protected from lightning/surge damage.

7. CHAT WITH A CONTRACTOR

Contractors have experience installing the systems, troubleshooting and operating the systems. They may have personal opinions, but we are looking for the facts. Ask them about their experiences installing both types of system. What is it like to add to the system after the fact? What are the costs associated with adding sprinkler heads or landscape zones to the system down the road?

8. BE ON THE MONEY

Budgets are a real thing, and when the funds are available you don't want to risk missing the opportunity. Understand the cost differences associated with the two types of systems. Do not just consider materials, but focus on installation costs as well. Don't stop at understanding the upfront costs. What will the control system cost your club in two years, five years or 10 years? Can you expect costly hardware and/or software upgrades for the system to stay as current as possible?

9. LEVEL ABOUT LOOKS

Are aesthetics important to your club? Both two-wire systems and field controller systems can have pedestals located on the golf course

depending on the manufacturer. With two-wire systems, you have the option of the field interface/controller or just a local interface mounted adjacent to the central computer or remotely located on the course in a weather-proof environment. Some clubs have gone to great lengths to hide the field controllers from the golfer's field of vision. Maybe hiding a pedestal is not a priority for you or the club.

10. PAY ATTENTION TO POWER

If you are involved in a total golf course renovation or new construction project, you will need to take into consideration that you may only have power available from one source, or no power initially for that matter. You will have to pay special attention to sequencing the installation with the type of control system you have selected. You may be operating on a temporary power source for a period, or you may not have shelter for a central control computer.

11. THINK AHEAD

Understand your maintenance requirements now and in the future. Will there be high-voltage equipment, such as fans or wells, that you would like to operate over the irrigation control system so you can integrate smart responses from central control? Question whether the type of control system you are considering can handle that type of integration. What are the additional costs associated with this, if any?

12. PLAN FOR THE WORST

Understand the redundancies of both types of control systems. What is the action if a field controller or a group of field controllers or power wire to the controllers is compromised? How can you irrigate if an interface fails or your central control software is down?



Selecting an irrigation control system is a complex decision for golf course operators and stakeholders.

Field controllers and two-wire systems have been around for a long time. Enhancements and reliability have been improved over the years in both systems. As with any decision, there are measurable pros and cons. Writing them out is helpful, and you can add to the list as this period of exploration goes on. Seek the help of qualified professionals whenever possible. There are a number of objective consultants who have been through this scenario many times and they can help guide you through the process. Above all else, keep an open mind. Don't be afraid of the latest technology. Unless you are still listening to Steely Dan on your Walkman, this should not be a problem. **GCI**

Ian Williams, CID, is a partner with Don Mahaffey at the irrigation design and consulting firm Green Irrigation Solutions.



Fired Up

Yes, you could lose your job. But it could be just the shake-up you need.

This column is about losing your job.

Now, before you think “that’s not going to happen to me,” or if, as my wife said, “no 30-year-old is going to think this column pertains to them,” think again. The subject here isn’t why you lost your job or how not to; it’s what to do when it happens.

Trust me, it happens. It happened to me.

And it happened to a superintendent I know who called a few weeks ago to tell me he had just been fired. His termination was a total surprise: Two weeks earlier, he’d received a stellar performance review and the club was “so happy to have him on the staff.”

What happened? Doesn’t matter. What does matter is being ready when/if/should this happen to you. Will you be ready for your next chapter, whether it’s a move up, laterally, down, or into a redirection of your career? I’m not suggesting you dwell on this, but somewhere in the back of your head should be a little voice that reminds you to, as the Boy Scouts say, “be prepared.”

I don’t care how old you are now, 30 to 65. Think about it. The way our industry is going, you need to be alert to the possibility of being out of a job at any minute. In particular, I’m seeing an unfortunate trend in over-50 dismissals. Maybe I’m noticing

“Don’t be bashful, get on the phone right away, ask for help. Even if you’re getting a long-term severance, don’t delay.”

it more because I’m getting more phone calls like the one above. Or maybe because I’m in a position to help people like you find their next jobs.

So, whether you think everything at work is great and everybody loves you, or you have that sneaky feeling that something isn’t quite right, it’s time to take stock.

Start by understanding your financial situation. Take a good look at the current status of investments, savings, health care, insurance and, if applicable, savings programs for your children’s education.

How well do you understand the terms of your current employment? Does your contract include a severance package and/or a buyout clause? Do you even have a contract? Has it been checked lately by a lawyer? If you think your job is truly secure, consider asking your club for a new contract better aligned to your current financial needs.

OK, bang! You lose your job. What do you do?

Look in the mirror and ask yourself why and what are you going to do about it. Don’t beat yourself up, but think back and look for clues you may have missed. If you can, ask your now-former employer for a detailed explanation if only

to have a road map to future improvement. (While I’m not advising you threaten legal

action if you think your firing was unwarranted, this “explanation” is worth showing to a lawyer who can compare it to the terms of your contract. It’s just something to consider.)

This is important: If you did something wrong, own up to it, at least in your own head. Blaming others for your actions will not help you move forward.

Something else is important to understand: There is no such thing as “wrongful termination.” If there is a reason — any reason — your position can be terminated. A good attorney can make sure you get what you’ve earned and are entitled to, under either state or federal employment regulations or your employment contract.

Expect a flood of emotional reactions. It could take days, if not more, before the shock wears off. But don’t wait too long to get thinking about a few key elements.

Are you prepared to pay for your own health care? COBRA is your legal right and available at your own expense for 18 months following your termination. Verify the details with human resources or an insurance professional. And expect it to cost a lot more than you’re paying for health insurance now.

An important aside: Right now, while you are still employed and covered by health insurance, get a full physical. Superintendents are under a great deal of stress, often more than they realize, and I’m getting tired of hearing



TIM MORAGHAN, principal, ASPIRE Golf (tmoraghan@aspire-golf.com). Follow Tim’s blog, Golf Course Confidential at www.aspire-golf.com/buzz.html or on Twitter @TimMoraghan

about colleagues suffering heart attacks, strokes and other stress-related ailments. Get on top of your health. Now.

Cut miscellaneous household spending. The bills still have to be paid so figure out how you're going to do that. Lattes, games, hobbies, satellite TV, dining out, etc. may have to be put on hold until you get your next job.

Should you dip into your savings or retirement fund? That's a personal, but potentially very expensive, option. Talk to an accountant, financial expert, someone who understands the tax implications. I'm not qualified to give such advice, but I do know that tapping into "rainy day" funds when you're over 50 is a bad idea because there won't be enough time to recoup.

If you're in your 60s, retirement may be an option. However, are you really ready to shut it down? Can you go from go-go to slow-go overnight? Check your social security, too. Depending on your situation, early or semi-retirement could be great. There are lots of less-than-full-time opportunities out there, but you're going to have to work hard to find them.

You're going to have to start paying for lots of things that were once perks such as company vehicle, cell phone, gas and computer. Figure those into your new budget.

As important as managing your money is managing your mental health. Don't be embarrassed by what happened. Job loss is way too common, particularly

in our industry. Start networking right away. Be honest with the people you talk to. Explain what happened, and ask them to keep their eyes and ears open for you. Don't be bashful. Get on the phone right away, ask for help. Even if you're getting a long-term severance, don't delay.

Don't get angry at family and friends. They're not at fault, they are there to offer help and encouragement.

If you want another job, stay current in the industry. Going to conferences and tournaments not only keeps you up to date, it gives you more ways to network. It might even be worth stepping down a rung on the ladder — taking an assistant's job, for example — to help financially and remain plugged in.

Finally, consider this an opportunity to change your life for the better. You may uncover new interests or find a job that offers new challenges. Or have the time to de-stress, reconnect with family and friends, improve your health and seriously assess your life as a golf course superintendent.

I know lots of people in many different industries who look back at the misfortune of being fired as the best thing that ever happened to them. There's no guarantee, I make no promises. But if you've been smart and made the right arrangements, and if you're still willing to work hard while being totally honest with yourself, the loss of a job can be the first step to gaining a great new life. **GCI**

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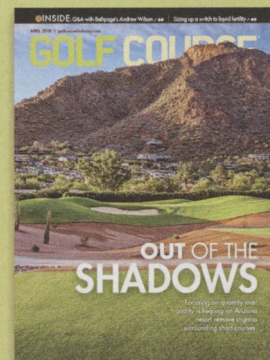
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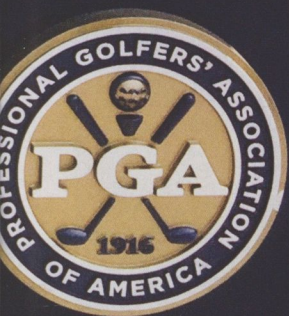
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Bethpage State Park
director of agronomy
Andrew Wilson,
right, and his wife,
Delphine Tseng.





He breathes **Bethpage**

Andrew Wilson found a career – and a lifetime of incredible turf memories – by staying close to home.

By **Guy Cipriano**

Andrew Wilson grew up in a mixed borough household. His father hailed from the Bronx; his mother was a Brooklynite. Wilson started his life in a middle ground: Queens. He doesn't remember much about the bustling borough life, though.

Jim and Louise Wilson drifted from the city in the early 1970s and moved to Bethpage, a Long Island hamlet bordering a 1,500-acre state park. The move shaped the direction of Wilson's life.

The family recreated at public sites, with Jim introducing his son to golf on Long Island's municipal courses. "Once in a blue moon," Wilson says, his father would take him to Bethpage State Park, which supported five golf courses. A.W. Tillinghast designed three new courses and renovated another one for the park in the 1930s. A fifth course was added in 1950s. A young Wilson noticed stark contrasts between Bethpage, especially the



FACT BOX

Bethpage State Park

Where: Farmingdale, N.Y.

Courses: Five

Major championships on the Black Course: 2002 and 2009 U.S. Open

What's on deck: 101st PGA Championship, May 16-19, 2019; 45th Ryder Cup, 2024

challenging Black Course, and Long Island's other municipal golf facilities.

"The conditions were probably equal to the other courses," says Wilson, the park's director of agronomy since 2010. "But I could tell the difference with the layout in about a minute. A lot of the other courses in the area were flat tracts. Bethpage had bigger bunkers, the undulations were more distinct, and you could see the structure of the whole park. The whole facility was awesome."

When he searched for a job as a teenager, Wilson applied for a clubhouse maintenance position at Bethpage. He started working at the park in the summer of 1989. He has never left and now oversees the maintenance of the park's five

colorfully named golf courses. His 30th anniversary at Bethpage coincides with the Black Course hosting the 101st PGA Championship in May. The park near Wilson's childhood neighborhood amazingly morphed into one of golf's premiere championship venues, hosting the U.S. Open in 2002 and 2009, and PGA Tour playoff events in 2012 and 2016. The state's agreement with the PGA of America will bring the 2024 Ryder Cup to the Black Course.

Above all, Bethpage remains a facility open to the people of New York and beyond. The park supports more than 225,000 annual rounds, meaning around 7 million golfers have played the Black, Blue, Yellow, Green and Red Courses since

Wilson arrived at Bethpage the summer before he enrolled at Fairfield (Conn.) University. An English major turned turf savant who later earned a turfgrass certificate from Rutgers, Wilson now leads a highly trained and educated 60-employee department.

Why did you decide to apply for a job at Bethpage as a teenager?

I guess I liked the golf courses. It was close to home, it was outside. I was mowing some lawns around the neighborhood before that. Even when you cut the grass – as silly as it sounds – it's shaggy and unkempt looking. You give it a haircut and it looks a little bit better. It's just that immediate satisfaction. You're making something look good. And

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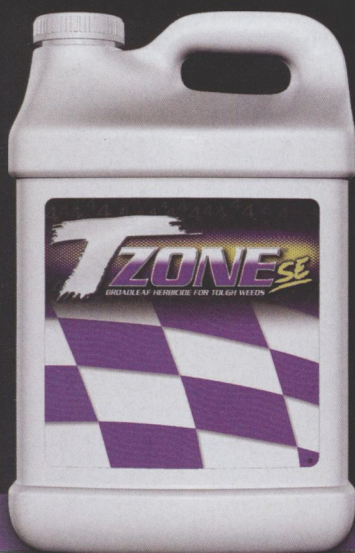
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INDUSTRY Q&A

it always seems like the public enjoys parks. You're dealing with people who are coming to have a good time and hopefully we can provide that to them.

What do you remember about the first time you stepped on Bethpage's courses as a member of the golf course maintenance crew?

It actually took a little while. I started clubhouse maintenance, where I was working on the tennis courts. We had clay tennis courts, so we would sweep them, roll them and put down calcium chloride. I was doing general park maintenance for a while. In the mid-90s, Dave Catalano took over as park director. I had just finished up at Fairfield University and had my English degree. I wasn't too sure what I wanted to do with that. Dave and I would talk here and there. He would give me some office-type responsibilities such as writing displays for Women's History Month and Black History Month. I think some of those displays are still in the clubhouse. I even sold greens fees tickets for a while. Then, in 1997, the USGA made the announcement that we were going to host the U.S. Open. At the time, the superintendent had a turf degree and that was it. It was a second career for many employees. Coincidentally, it just happened the superintendent retired the same year. Craig Currier came on board. The day Craig started, I think I was one of the first people he met. Dave had told me you're going to go on the golf course when Craig gets here. I was looking forward to it as a new challenge. I was familiar with the golf courses and some of the basics of grass cutting. I was excited, but I had no idea what I was getting into. The first day or two after Craig came in, I was seeing these weird spots all over the grass. It was dollar spot. Craig is a force of nature and he's a great superintendent. I think I was spraying the Black Course greens within two weeks of him starting. It was trial by fire. It was basically a five-year sprint to that U.S. Open in 2002.

When you were working on the clubhouse grounds, how aware were you of what the golf course maintenance team was doing?

I'd see the guys out there. I would see the machines. There were a few triplexes, but a lot of what they were mowing they were still mowing with gang mowers – even into the early '90s. I knew they used reel mowers for the short grass and rotary mowers for the rough height grass. I would kind of see what went into it. To me, it was all physical labor. There was no art or science into how to water the golf course or how the irrigation system works. That was beyond me at that point."

What was your reaction when you learned the USGA was bringing a U.S. Open to Bethpage?

The superintendent at Montauk Downs State Park, Charlie Reidlinger, and I are sort of the same story. We started working at the park the same summer and we were still working at the park in 1997. I was in a phase where I wasn't sure what I wanted to do. I had to make a decision on what I was going to pursue, whether it was something like publishing or writing, or was I going to stick with where I was. I was working but wondering if there was potential to move up here. Word of the U.S. Open coming to the golf course obviously changed my life. It was a whole new horizon.

What is the crew like at Bethpage now and how has it evolved?

Every course has a superintendent. They all have turf degrees. We have four or five assistants on the Black Course with turf degrees. We have a super mechanic right now, Sean Brownson. For the first U.S. Open, we had good mechanics. They could fix anything, but if you ask them to do inventory or keep an Excel spreadsheet on how many times a piece of equipment has been in the shop, they had no idea. Now our mechanic has iPads in the shop. It's kind of night and day in that regard. It's been pretty satisfying to see what has happened to some of the guys who have stayed here.

You have roughly 60 people on the crew, you have five golf courses and you're pushing out



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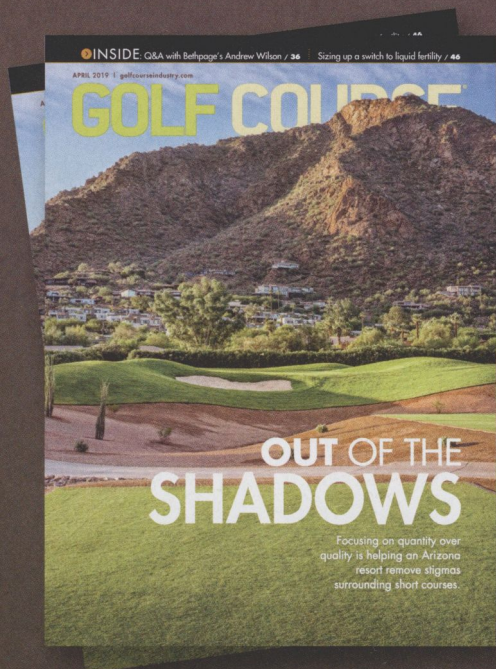
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The earliest tee time we have is 5:24. When I first started, we had some 5:08. At least we are at 5:24 now. It's really just about diligence. I think most golf course superintendents would agree that you have your plan the night before and maybe the next day you can implement 75 percent of it depending on the weather and other factors. It's good that we can mix and match the crews. If the Yellow Course has an outing, we can take a few people from the Blue Course and help out, or we can take a person or two from the Black Course to help out. And when the Black Course has a tournament, we will pull somebody from each course to help with bunkers or something like that. That helps with economy of scale and what we can pull off.

What is it like operating golf courses within the New York State Park System and how much consideration do you give to the greater mission of the parks?

More and more. When Craig first started and I first started, the knowledge base wasn't there on the golf courses, which didn't help, and the budget wasn't there. The parks really stepped up after the USGA invested in us. The park system felt a need to invest in us as well. Because the golf courses are in good shape, I can now concern myself in some of our environmental efforts. We have a retired biology teacher who monitors our hawks and owls. We have pollina-

tor gardens that we started building 10 years ago. Once we had the base down of having the golf courses in fairly good shape, we could start worrying about those things. It was really like a pyramid where we had to establish a solid foundation and then we could get higher and higher. We have a relationship with SUNY-Farmingdale, we host the local Girl Scouts here several times a year, gardening groups come to visit our horticulturist and we have beekeepers now. For a while, you were afraid of what the public was going to think. And then we started reaching out to people and people really started enjoying some of those extras that we do. They will come and say, 'We never even knew that you guys did this.' Part of the reason they didn't know we did things like that is because we never told anybody.

How fortunate have you been to do all of this at one place?

Very fortunate. It's pretty incredible. I have been lucky to work for good people, work with good people and have good people working under me. I'm in a defined benefit pension system. When there's a posting for a superintendent job, I will check it out. But I have 25 years in on my pension. Something that non-golfers don't quite understand are some of the pressures superintendents are under. By the time superintendents are 55, a lot of guys are looking over their shoulder. I kind of have a good safety net underneath me. I think that's why some of the other guys have stuck around, too. It's a good place

“

I was working but wondering if there was potential to move up here. Word of the U.S. Open coming to the golf course obviously changed my life. It was a whole new horizon.”

to work. We have a talented superintendent, Mike Hadley, on the Black who has done an incredible job getting the course prepared for the PGA Championship. We have a good relationship with major golf organizations and our local organizations. Having those guys around every year keeps us on our toes. We get to work with good people.

Have you wondered what day-to-day life is like at a golf course other than the ones at Bethpage?

Sure. I talk to some of the guys who left. Craig stopped by the other day. We'll talk about differences. You hear stories. Some guys have good stories. Bethpage might have a smaller budget, but we get a little bit left alone. If you're at a private club with a small budget, you might have expectations that people don't quite understand. Some guys will say they really like the private course compared to Bethpage. They don't have to worry about things like getting three quotes if they want to spend \$5,000. They don't have to go through a cumbersome purchasing process. They can move with a little bit more fluidity. If you have a great membership, some

guys can't say enough good things about working in the private sector. There are pros and cons to every situation. But parks have been great to me. It's been a great career.

You're not just dealing with the 1 percent. Anyone can play Bethpage at almost any time. What is it like providing enjoyment to so many people?

It's pretty cool. Our crew likes the 'People's Country Club' label. Golfers feel like they have ownership of the place. It's their golf course. It's their facility. Anybody can play the Black Course. I live in Farmingdale, and I'll be going home and see people with golf clubs at the train station who are going back to the city after their round. It's a diverse crowd. We have different ages and shapes and sizes and races. It's nice that we are a welcoming facility. Sometimes as a municipal facility we might have a little bit of a chip on our shoulder. We want to be as good as the private sector and some of the most storied clubs in the world. Maybe we don't have all the amenities, but we make up for that in character and other ways. **GCI**

Guy Cipriano is GCI's editor.

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Seeking authenticity

"The made course cannot compete with the natural one"
— George C. Thomas, "Golf Course Architecture in America"

We lead busy lives. A digital world connects us in ways that boggle the imagination. More information and more options provide greater distractions and more dilemmas. Our identities are tied directly to where we live and work. But digital connectivity keeps us from understanding our regional uniqueness. Regional character and distinction are eroding because of the expanding digital world. If we are truthful, our phones, computers, cars and television have become weaponized.

This is one reason why golf matters.

The game of golf is refuge. It is respite. It is recovery. Yes, golf is a challenge, but it is also, as the saying goes, "a chance for the game and the 'out-of-doors' to sweep away the cobwebs."

Golf has the capacity to provide the outlet for millions. More important, golf provides direct and indirect benefit to lives and communities beyond the boundaries of the golf course through stormwater management, water quality benefits, open space and native habitat.

Conservationist Aldo Leopold documented a year living in the middle of Wisconsin during last mid-century. From "A Sand County Almanac" he wrote, "Our grandfathers were less well-housed, well-fed, well-clothed than we are. The gadgets of industry bring us more comforts that nature can, but do they add to the glory of our existence as much as nature?"

More and more we seek legitimate, genuine experiences. While we strive for more and better things, we are confronted with the

simple need for authentic places and spaces. They exist all around us, but less and less. These places fulfill us in ways that help us maintain our most basic human needs and instincts. Humans will persist without natural things and wilderness. But humanity will not.

There is a strong need to seek authenticity.

Golf, even with all its maintained green, can be such a place. These manufactured landscapes provide a small inoculant against modern comforts and digital distraction and dysfunction. This game pits us against the wind and the ground, against vegetation and gravity and our own mental and physical limitations. How can such a contrived landscape offer such respite? Because these places are rooted in substance.

The best golf courses, and my best golf experiences, are those that were on golf courses that were true to the landscape, genuine to the character and reflected the site in ways that were honest and compelling. Golf is best when architecture reveals a site, rather than creates it. Golf course architecture is more fun, enjoyable, maintainable and sustainable if it remains truer to the site. What is better than a golf course that is connected to a site? Authenticity is about connection and integrity, and we are hungry for those characteristics.

Authenticity is quite different than the recent deliberations about sustainability. Sustainability is defined as the ability to be maintained at a certain rate or level. Therefore, sustainability

is an attempt to ensure, at minimum, status quo.

Is that what we want? Status quo? Of course not. We want more than just "the same." We want and seek authenticity.

Sustainability is a byproduct and an outcome of solid design, thoughtful engagement of resources and long-term benefit. Sustainability creates a better experience and it is engagement that is genuine. Sustainability is the result of authenticity.

We've been thinking about sustainability as something commercial. It is not.

Sustainability does not increase sales, produce golfers, sell memberships or generate rounds. Sustainability will not entice golfers to make the drive or spend the money and time with friends. Experience is the essence of the game and authentic experiences are generated from a unique property, producing enjoyment of golf and delight in the game. Thoughtful, integrated environmental benefit and solid sustainable practices can produce better experiences. Experience compels golfers to play.

We need to strive for less perfection and more authenticity. The best golf courses are less about perfection and more about place, the atmosphere, the character and ambiance. You can't notice it, but you feel it. The personality of a golf course is clear and based upon this unique site-specific link. You can't ignore it. It is genuine, it is connected, sustainable and it is authentic. GCI

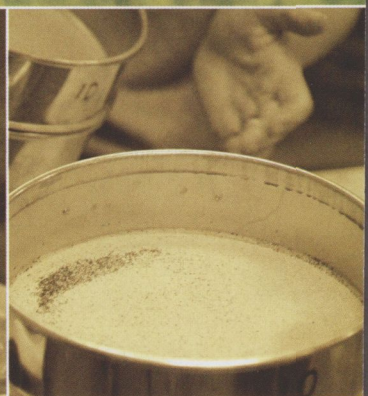
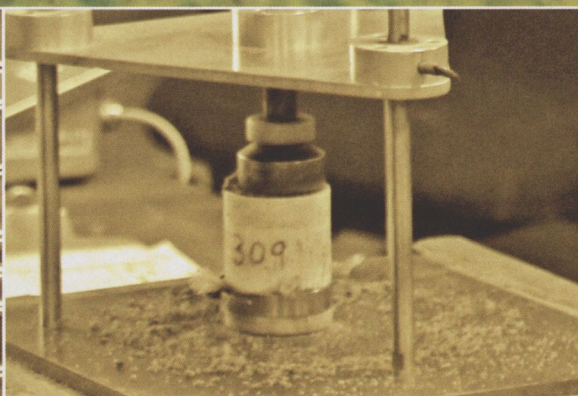


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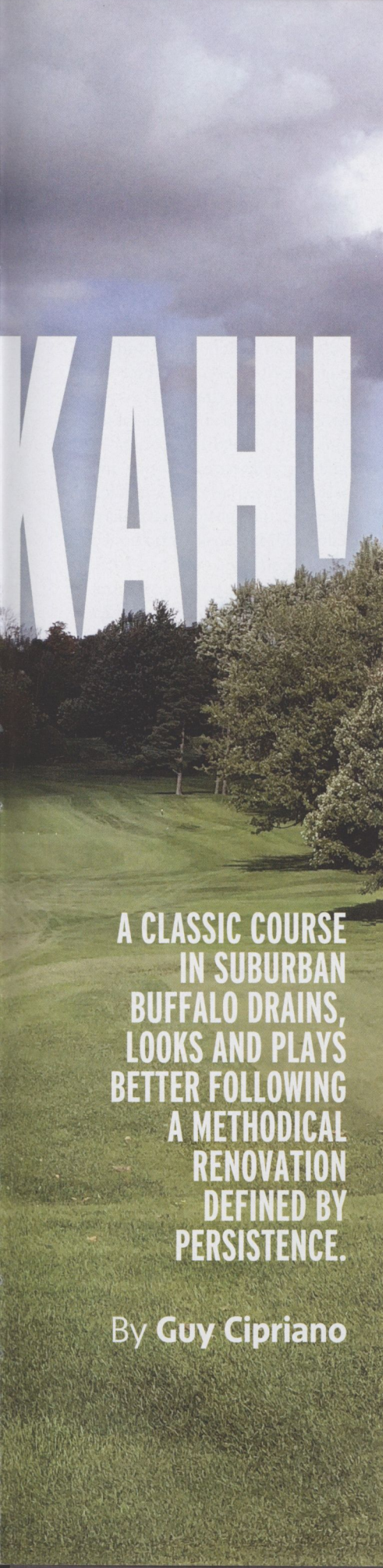


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BUFFALO DRAINS,
LOOKS AND PLAYS
BETTER FOLLOWING
A METHODOICAL
RENOVATION
DEFINED BY
PERSISTENCE.**

By Guy Cipriano

Venerable doesn't always mean functional. Consider the conundrum facing Wanakah Country Club.

The club formed in 1899, meaning it endured a pair of World Wars and multiple recessions. And recessions wallop Great Lakes communities such as Wanakah, N.Y., a hamlet within the Buffalo suburb of Hamburg, harder than other places. Through the uncertainties of the western New York private golf market, Wanakah maintained a stable membership.

The club celebrated multiple traditions, including the 106-year-old League of the Iroquois matches alongside three other upstate New York clubs and the four-day Ganson Depew Memorial Invitational in early August. Yes, there are superintendents out there preparing for major-championship length invitationals.

Before invitational time arrived, members greeted Fourth of July with glee. The patriotic holiday served as the ETA for Wanakah's cart season.

The history, camaraderie and cyclical charms of club life offered distractions from a lingering nuisance: the golf course was failing. Gritty work by superintendent Gale Hultquist and his crew, and members willing to carry their bags into July often prevented the beginning of the western New York golf season – the sport is a mid-April to mid-October game in the region – from draining enthusiasm.

The water table, fortunately, has turned on Wanakah. A major and methodical project spurred by bolstering surface and subsurface drainage concluded last spring. The project served as the closing act for Hultquist, whose three-decade run at Wanakah ended with his 2018 retirement. Pennsylvanian Rich Gladhill became superintendent April 2, 2018, giving him a turfside view of a drier present and future. The revamped course demonstrated its drainage prowess multiple times last year, including after a 5-inch, multi-day dousing in late September and early October.

"With the way this course was before, it would have shut down play and carts for the remainder of the year," says Gladhill, who accepted the Wanakah job after a stint as an assistant superintendent at highly regarded Fox Chapel (Pa.) Golf Club. "We were able to have carts out 36 to 48 hours after the last of those storms."

Planning and persistence by dozens of determined members, Hultquist and architect Chris Wilczynski

placed Gladhill's team in a desirable position. After playing an Arthur Hills-designed course inside the Capital Beltway, a Wanakah member convinced others at the club to contact Hills's Toledo, Ohio-based architecture firm in the mid-2000s. Wanakah wanted to improve its drainage, the Hills team saw an opportunity to improve the entire course, which had never experienced a major renovation since debuting an 18-hole Willie Watson layout in 1925.

Over time, Wanakah had become overgrown with trees, particularly silver maples, while bunker style and tee position struggled to meet modern private club standards. "We conveyed to them, 'Hey, if you're going to rip up this entire golf course and add drainage everywhere, it's a perfect time to enhance the course from an architecture perspective,'" says Wilczynski, a former Hills & Forrest associate.

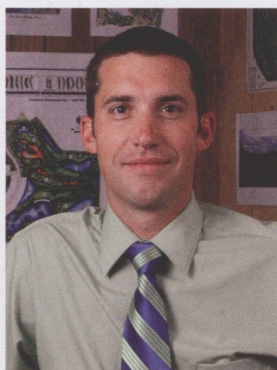
The plans sat idle for nearly five years. Wilczynski left Hills & Forrest in 2008 as the recession staggered the golf economy and started his own company, C.W. Golf Architecture, in 2010. Wanakah's new greens committee opted to move forward with the plans and Wilczynski's previous bosses supported his desire to continue working with the club.

Selling the drainage part of the project was simple. Members could see, feel and touch wet spots – and there were plenty of them. Not only were members playing on a flat course without adequate surface drainage. The club sits on heavy clay-based soil. "This project was always about the drainage," says Mike Karnath, the club's energetic general manager and COO.

A drainage study amplified the anecdotes, revealing more than 90



▲ Pictured from left: Mike Karnath, Rich Gladhill and Chris Wilczynski.



percent of the course was sitting on 1 percent or less of fall. A minimum of 2 percent of fall is required to move water laterally on turfgrass, Wilczynski says, adding 3 percent of fall is ideal for expediting water movement. Wilczynski uses a household analogy to describe drainage to a membership.

"Take a glass of water and dump it on a flat table," he says. "Where does the water go? It spreads out everywhere and just sits there. Take that table, pick it up a little bit and tilt it, and where does that water go? It goes to the lowpoint. That's essentially all we were trying to do at Wanakah: create highs and lows within the fairway that looked attractive and tied in with the existing surrounds, but still provided good drainage and got water to collection points."

The first Watson-designed hole the club improved was the ninth, a par 4 playing back to the clubhouse, in 2009. But the project didn't formally commence until 2010. The club executed the work in phases during shoulder seasons, closing a few holes at a time. Two builders, Eagle Golf Construction and TDI Golf Construction, were involved in the project, which also addressed bunkers, tees and trees.

"Our season in western New York is short," Karnath says. "There are five to six months of good, quality golf. We will lose half of our members if we shut our course down for the whole summer. There was always a minimum of 15 to 16 holes open from the end of September through the beginning of May. And from Memorial Day to Labor Day, and even past Labor Day, we always had 18 holes

available to the membership."

The club moved aggressively in the final phase of the project, using the fall of 2016, spring and fall of 2017, and the

early stages of 2018 to complete the work. The final hole to be revamped, the low-lying par-5 11th, epitomized the intent of the project. Subtle shaping and contouring, a back tee stretching to 555 yards, and cross bunkering 50 yards short of the green boosted strategy. Removing dozens of silver maple trees and replacing them with native areas improved turf conditions and opened Lake Erie views.

The lake is a well-struck short iron from the club's entrance, but mature silver maples obstructed refreshing views. Wanakah sits 10 miles east of downtown Buffalo and members can now see the skyline from the course.

"You literally could not see Lake Erie," Wilczynski says. "When the club went to 18 holes, the reason they chose that site is that it sat above Lake Erie. You could have these sweeping views of Lake Erie and downtown Buffalo. Those were lost over the years. They planted silver maple everywhere. They are just not good trees for golf

courses. They are constantly dropping limbs and they are not attractive trees. There are still some silver maples left, but now you can see Lake Erie. You can see all the way across to Canada and it's beautiful."

Wanakah officials are finding an enhanced course is good for the club's long-term vitality. The club has added more than 100 members from 2016-18 and it experienced significant spikes in cart revenue and guest green fees last year, according to Karnath, the club's general manager since 2014. Wanakah also hosted a premier statewide event in 2018, the New York State Men's Mid-Amateur, for the first time in nearly 20 years. New tees stretched the course to 7,035 yards and condensed the course to 4,919, making Wanakah appealing to elite, developing and aging players. Regardless of skill level, golfers will see their ball roll farther – and remain cleaner – than previous generations of Wanakah members.

"Our goal is inline with the game of golf – firm and fast," Gladhill says. "We're now better able to manage our water to firm up not only greens, but also fairways. The broad strokes have been put in place with our renovation. Now it's up to us to focus on the detail of each one of those characteristics and maintain them for the livelihood of the golf course." GCI

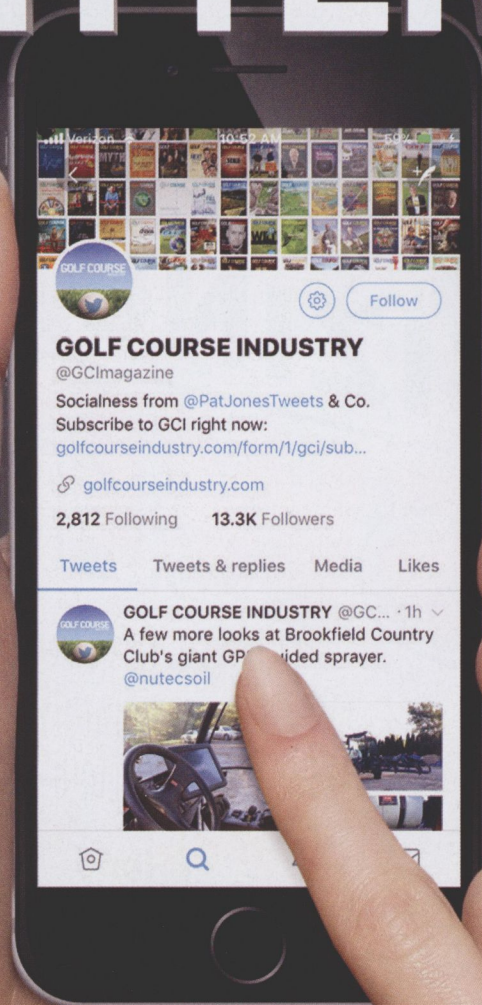
► The green complex on the third hole at Wanakah Country Club.



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SIZING UP A SWITCH

FOUR THINGS TO CONSIDER AS SCIENCE AND
TECHNOLOGY CHANGE THE DYNAMICS OF
IMPLEMENTING A LIQUID FERTILITY PROGRAM.

By **Ron Furlong**

It's not always an easy thing to transition away from something that has worked fairly well for you in the past. We get comfortable and even tend to resist change, thinking we've got it all figured out. Things are good enough.

However, often we have to fight these inner thoughts and realize that improvements are always being made. Technology, science, changing expectations and even environmental concerns are altering the way we do things. Resistance is (sorry for this) futile.

For golf course superintendents, one such area that has evolved over the years is the manner in which fertility is applied to the golf course. Science and technology have combined to make the way we manage turfgrass something completely different than in the past. The evolution of liquid nutrient applications has been and is changing the industry. It's an advancement in an area that is simply becoming harder and harder to ignore.

So, if you're considering implementing a new liquid fertility program, let's look at four key areas superintendents might want to consider when deciding to switch to or expand their liquid fertility program.

1 BENEFITS TO CHANGING – OR EXPANSION OF – A LIQUID FERTILITY PROGRAM

The first thing to consider is finding the answer to the simple questions, "Why switch?" and, "What are the benefits for me?"

I went to a sales rep from Simplot, Eric Thompson, who in addition to being a well-respected rep in the Seattle area, is also a former superintendent. He knows what it's like to be on both sides of the fence.

"The benefits are many," Thompson says. "Ease of use for starters. The product is already in suspension and can be added directly to the tank. And, of course, the huge variety of products offered is growing annually. I also think having the ability to change the program easily during the season based on performance is a big plus."

Thompson also explained how companies such as Simplot can work with superintendents to customize programs best suited for them. "Creating custom combinations is a big selling point," he says. "We can build you a liquid fertility program that is tailored to your turf needs."



▲ GPS-guided spraying is an emerging practice that can boost a liquid fertility program.



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—Steve Datwyler, *The Club at Ravenna*



▲ The Club at Ravenna's Steve Datwyler made a conversion to liquid fertility after becoming superintendent in 2012.

And the flexibility of in-season alterations allows you further control in determining overall inputs.”

Steve Datwyler, superintendent at The Club at Ravenna, in Littleton, Colo., agrees. “Our liquid program has yielded great results,” he says. “I like the flexibility of adding different products throughout the year.

2 AREAS ON THE COURSE THAT CAN BENEFIT FROM A LIQUID PROGRAM

Consider your fertility program as a whole, taking into account all areas you currently apply fertility to, be it granular or liquid. Then consider if some or all of the areas currently receiving granular apps – or perhaps receiving nothing at all – could benefit from a liquid program.

Greens are the obvious choice here, but all other areas can and should be examined at as well. Fairways, tees, approaches, rough, surrounds. Nothing is off limits.

At Ravenna, Datwyler has made a huge switch in the way fertility is applied to the private club south of Denver. “At Ravenna, we have implemented a liquid fertilizer program on greens and fairways,” he says. “Additionally, we fertigate 40 percent of our nitrogen requirements course wide.”

Ravenna made a big conversion



▲ Thompson




▲ Datwyler

to liquid when Datwyler took over as superintendent in 2012.

“Prior to 2012, we applied three bulk fertilizer applications per season,” he says. “Following these apps, we had a flush of growth for a two- to three-week period that resulted to increase mowing frequency and often resulted in having to blow clippings from fairways and rough.

In 2012, I started adding liquid nutrients to our plant growth regulator/wetting agent applications to fulfill the monthly nitrogen requirements. We experienced more even growth and color



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▲ Spoon-feeding has promoted even growth and color on The Club at Ravenna's playing surfaces.

with the spoon-feeding, our roughs no longer needed additional mowings, and clippings were no longer a problem."

Datwyler was able to clearly identify the areas on the course that would benefit from a liquid program.

3 GPS SPRAYING TECHNOLOGY TAKES LIQUID APPS TO ANOTHER LEVEL

Although there is certainly a cost upfront in purchasing a GPS sprayer, they can offer a huge advantage for today's superintendent with the revolutionizing technology that they can add to applying liquid nutrients.

I chatted with Michael McNeil, a sales account manager for John Deere distributor Pacific Golf & Turf in Seattle, about GPS sprayer technology. "You can simply manage your fertility program better with GPS sprayer technology," Mc-

Neil says. "They are more accurate, which, of course, can produce big savings over time."

Many of today's sprayers that are equipped with GPS technology offer shareable coverage maps and individual nozzle control. Also, the ability to capture all spray data and analyze the results is a huge positive.

"The automated documentation is a great feature," says McNeil, referring to the GPS Precision-Sprayer technology available from John Deere. "It eliminates the need for manual record keeping and, of course, increases accuracy of exact recording. No more guessing how much product went down and exactly where it went."

Larry Gilhuly, a longtime USGA Green Section agronomist, agrees that GPS technology is changing the way superintendents apply.

"With the introduction of GPS technology, it has taken fluid applications of all products to another

level," Gilhuly says. "Something as simple as being able to make applications without player interruption makes GPS sprayer use a highly recommended addition to any golf course maintenance operation."

4 MAXIMIZING LABOR WITH LIQUID APPLICATIONS

Although it shouldn't be the deciding factor, often it comes back to the money. Cutting down on labor costs is one big way liquid applications can benefit golf course operations.

A good example here comes from Datwyler, who told me the difference between the old way of putting down bulk granular fairway applications compared to applying the fertility in liquid form is simply night-and-day as far as labor.

"We utilize a 1,000-gallon mix tank," he says. "All of the products for all fairways go into one tank. This allows us to spray all fairways with our two sprayers in just a few hours."

Speaking of savings, let's go back to those GPS sprayers for a moment. Just consider what GPS sprayers bring to the table in the form of savings. Not just the labor hours spent on the sprayer, as Datwyler mentions, but other factors as well. McNeil adds savings can come from several areas.

"When you're dialing in your spraying to the detail that GPS technology allows, there are going to be savings on fuel and product," McNeil says. "But also, time spent on record-keeping. These sprayers can do the record-keeping for you. This all adds up."

Gilhuly agrees. "With GPS technology, cost savings on materials as well as labor make it invaluable," he says. **GCI**

Ron Furlong is the superintendent at Avalon Golf Club in Burlington, Wash., and frequent GCI contributor.

Q&A

WITH THE **EXPERT**

Q&A WITH THE EXPERTS

SUPPLEMENTARY LIGHTING



Q&A WITH SCOTT PURDY

Sales Manager, Bernhard and Company

1 What are the benefits of supplementary lighting?

A: We all know that sunlight is essential for photosynthesis. The problem is that sunlight is not always available: either because of obstacles such as trees or bleachers or because the days are shorter or shadier in the winter. So supplemental lighting is essentially used to increase the light cycle on the turf. Grass is a long day plant and depending on the species it may need more than six hours of direct light a day. If not, the Calvin Cycle being dependent on a supply of energy, photosynthesis will stop, hence reducing the creation of carbohydrates for growth and survival.

2 How much light does the grass need?

A: Turfgrass researchers have been using the DLI (Daily Light Integral) measurement as the new standard in determining minimum light requirements for turfgrasses.

DLI, it is the amount of "Photosynthetically Active Radiation" (PAR) received each day as a function of light intensity and duration. The DLI scientifically speaking refers to the amount of light received in 1 sq.m. of area, which equals 10.8 sq.ft, meaning the amount of photosynthetic light received in 1 sq.m. of area each day.



3 Does supplemental lighting work on all types of grasses?

A: The amount of energy a type of grass requires the environment, ie the amount of natural daylight. It is proven that shade commonly reduces turf quality on golf courses. Different species of grasses will require different DLI. Warm season grasses having their growing season during summer will need more energy, thus requires more light.

In general, shaded grass are subject to more stress because the amount of photosynthesis that takes place is greatly reduced, meaning that the rate of growth is also lower and so is the recovering process.

Grass respond to the lack of light by producing etiolated

leaves. These leaves are not as hardy as leaves grown in direct sunlight and are more easily damaged by leaf diseases.

Cold season grasses will have lower DLI requirements but since we are talking about supplemental lighting, there will still be a need for light if the grass is in a shaded area.

4 How can golf courses solve their shade issues?

A: Bernhard and Company working with MLR sports have developed a specifically designed Golf lighting rig. It is easy to manoeuvre and lightweight and to be used to treat turf areas that are suffering the effects of lack of light. It works as a substitute of natural light, providing to the plant enough energy for

its own maintenance.

5 How to use a Lighting Rig?

A: Although very easy to assemble and use, the most important element when using a lighting rig is to create the correct movement plan and feed the plant with enough energy for its growth. We all know that each golf course and sports fields have its own environment and management. It will however be easy to identify how many hours is the ideal for each area by analyzing the shade issue and the needs of the plant. This is where Bernhard and Company and technical partners expertise will come into play working with you to deploy the lighting rig according to the needs of your course.



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Q&A WITH THE EXPERT

NUTRIENT MANAGEMENT



Q&A WITH GORDON KAUFFMAN

Dr. Gordon Kauffman III, BRANDT Technical Manager for Turf & Ornamental

1 What should be your nutrient management focus in spring of 2019?

A: Apply complete and balanced formulations and spoon-feed with highly efficient GRIGG® Proven Foliar™ nutrients when soil temperatures are still rather cold (<50o F). This approach should include foliar micro-nutrient and magnesium (Mg) inputs, when the sun angle is lower, in an effort to maximize photosynthesis. Focus on nitrogen (N) application timing and dose. Consider the amount of residual soil nitrogen (N) and deliver more soluble N when plants are actively growing – mid-spring for cool season turfgrasses and late spring to mid-summer for warm season turfgrasses. Do not over apply soluble N, particularly where annual slow release N sources have been used. Low dose and frequent soluble N inputs will encourage rooting, tillering and stolon/rhizome growth, while insoluble N mineralizes slowly, releasing plant available N over an extended period of time; thus enhancing turfgrass vigor longer term. Do not try to push Bermudagrass with heavy doses of soluble N early in the spring – this can have a dramatic negative affect if you encounter extreme cold

in late March or April. For cool season turf back off the higher doses of soluble N late spring – shoot growth at the expense of root growth will negatively affect turf vigor because carbohydrate reserves used for protein synthesis and stress tolerance can become depleted. **IMPORTANT:** Before feeding the grass, calibrate the spreader or sprayer to ensure optimum delivery without waste. Without calibration, you run the risk of over or under-applying nutrient, which can compromise plant growth and development, risk environmental contamination, and waste money.

2 What makes nutrient formulation technology important?

A: Fortunately, turf managers have technologically advanced nutrient formulation options – from slow release GreenSpec™ granules that can be applied safely at higher rates, to highly efficient GRIGG® Proven Foliar™



and balanced nutrient package, built-in adjuvants and buffering agents – which offer stability of the spray solution over a wide pH range. Correctly and organically coordinated foliar applied nutrients can increase the speed of establishment, maximize vigor, enhance recuperative capacity, and improve overall color and quality. These effects are more pronounced on sand soils, during environmental stress, or when root growth is compromised.

3 Is it too early to plan for summer stress on cool season turf?

A: Spring represents the very best time to plan for the inevitable environmental stress that will occur during the course of the growing season. With so much out of your control, fine tune programs early in the season to develop the very best nutrient/water management and pest control strategies. For cool season turfgrasses, effective sum-

options, which are generally applied frequently and at low doses. Spoon-feeding allows turf managers more control and the ability to fine-tune nutrient inputs, thus enhancing uptake efficiency and offering an agronomic, environmental and economic benefit. Golf course superintendents require formulations that are also safe, compatible and easy to use. GRIGG formulations tank mix without issues, eliminating guesswork, and are available with a complete

mer stress spray programs require a preventative and integrated approach. Start programs at least 4-6 weeks prior to the onset of biotic (i.e. pathogen) or abiotic (i.e. heat, drought, salt) stress. For best performance, tank-mix efficient GRIGG Proven Foliar formulations, including those containing phosphite (H_3PO_3), with the correct fungicide for optimum turf performance and disease control. Over the years, our research results document a significant positive interaction between GRIGG Proven Foliar formulations and contact or localized penetrant fungicides.

4 In what other ways do your products make superintendents/golf courses successful?

A: GRIGG products are science-based and research driven. Our products are backed by years of university and field-testing, highlighted by increased uptake efficiency and unparalleled agronomic support. This is why GRIGG products are used and trusted by some of the most notable golf courses in the world. When a turf manager needs the best, they turn to GRIGG because they know and trust that it will perform. When used correctly, GRIGG nutrient management programs offer the

best turfgrass performance, environmental safety, and bottom line savings to golf course operations.

5 How do your products help improve golf course conditions and make them more playable?

A: Considering the intensity with which turfgrasses are managed on golf course putting greens today, superintendents rely on efficient and safe amino acid based nutrient formulations. GRIGG nutrient formulations provide a fast and overt improvement in turfgrass color and overall quality, plus they boost turfgrass vigor, improving its performance and playability.

These effects are most notable during environmental stress, when a turf manager needs it most. This performance along with fine tuned control, color and vigor without excess shoot growth, offers the very best in playability standards. Our trials have evaluated GRIGG nutrient formulations compared to ammonium sulfate ($(NH_4)_2SO_4$) (applied at the same N rate) during stress associated with tournament preparation and the recovery phase. The GRIGG program offered better turf quality, color and uniformity during tournament preparation and faster overall recovery compared to the nitrogen and untreated controls.

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Q&A WITH THE EXPERT

IRRIGATION



Q&A WITH RICH DUNN

Product Manager, Golf and Large Turf Rotors, Hunter Industries

1 Hunter Industries unveiled the new TTS-800 Rotors at this year's Golf Industry Show in San Diego. What sets these sleek-looking rotors apart from other golf rotors on the market?

A: The new TTS-800 Series Rotors, of course, include every feature expected by superintendents and the golf irrigation industry. They also include several new capabilities never available before in a golf course rotor. We boil the TTS-800 rotor package down into four categories: power, performance, versatility, and serviceability.

2 Power? That's intriguing. How does power come into play?

A: The heart of any golf rotor is the gear-drive. Hunter's patented G80 full-circle and G85 adjustable-arc gear drives for the TTS-800 went through six years of development and rigorous field testing. The end result is these high-torque-output gear drives are the most powerful in the industry, so water quality issues such as the challenges of reclaimed water and debris intrusion are mitigated. The bottom line? More power equates to greater longevity as the drives push past contamination that slows and stops traditional gear drives.

3 OK, got it! What about TTS-800 performance?

A: By performance, we are talking about not only durability and longevity, but also water efficiency. Playability and water efficiency go hand-in-hand when it comes to golf course management. This means great distribution uniformity and proper irrigation scheduling are crucial to ensuring world-class performance and beautiful results. At Hunter Golf, we take great pride that we provide products — like the new TTS-800 rotors with their exclusive PressurePort™ nozzle technology — that set the standard in golf course irrigation efficiency.

4 Why is versatility an important factor for golf rotor?

A: Our full-line family of TTS-800 rotors provide best-in-class solutions for any golf course, anywhere around the globe. Four different riser assemblies are available for the TTS-800 that satisfy a wide range of specific irrigation needs around the course. This single rotor can cover rotor spacings from 20' all the way up to 97' and accommodate 29 highly efficient multi-trajectory nozzles. The reliable VIH version pairs with our satellite control system and the DIH models, with integrated two-way modules, are matched to our two-wire hub

systems. The TTS-800 even has a two-station DIH solution for cost-effective control of back-to-back heads around greens. The DIH models also have the industry-exclusive ICD-HP tool for a fast and simple way to wirelessly program and diagnose two-way modules without rotor disassembly.

5 And finally, serviceability. Aren't all golf rotors serviceable?

A: In 2001, Hunter introduced the revolutionary G-800 rotor, the very first golf rotor with Total-Top-Servicing. With TTS, every serviceable component of the rotor can be accessed from the surface without digging. This convenient, no-dig solution means routine maintenance is a breeze. And now, the new ultra-serviceable TTS-800 includes a single, quarter-turn, stainless-steel, self-retained fastener to retain the compartment lid. The spacious flange compartment easily accommodates full-size 3M DBRY-6 splice connectors and all compartment components are color-coded for easy identification. For time-saving convenience, the solenoid and pressure regulator can be serviced and replaced without mainline depressurization. And, there is a large second-stage filter to protect the control components. Better yet, the TTS-800's robust inlet valve



All-new TTS-800 golf rotors from Hunter Industries are the most efficient on the market.

includes a replaceable seat and seat-seal as well as an exclusive Filter Sentry® scrubbing system — an industry first. Thanks to a powerful wiper, Filter Sentry scours the filter clean during every opening and closing cycle of the valve.

6 To recap, why do you believe Hunter's new TTS-800 rotors represent the future of golf course irrigation?

A: Hunter is the world's leading producer of gear-driven rotors, and we have been on the leading edge of golf irrigation for more than three decades. We build performance, reliability, and serviceability into every product we make. Now, we are proud to advance our legacy of golf industry firsts with the ultra-serviceable TTS-800 Series rotors — the most innovative and technologically advanced gear-driven rotors on the market. Learn more about TTS-800 rotors at <http://hunter.direct/tts800>.



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Q&A WITH THE EXPERT FERTILIZER



Q&A WITH CHRIS GRAY

Golf Channel Manager, LebanonTurf

Maximizing your labor in today's difficult workforce environment means you have to capitalize on every opportunity to multi-task wherever available. Accomplishing two tasks with one action saves valuable time and money. That's where the Country Club MD product line comes in. All Country Club MD products provide, in one single application, the needed nutrients for your turf to performance at its best as well as delivers stress-buffering biostimulants to help your plant defend itself against all the inevitable environmental stress that come with every growing season.

1 How can Country Club MD products save time and money in a golf course operation?

A: Country Club MD fertilizers are not like traditional NPK fertilizers. We developed it not only to provide the best nutrients and micronutrients available, but also to deliver powerful stress-buffering biostimulants, infused into each particle, that helps the turf plant activate its natural defenses against environmental stresses like heat, drought and disease pathogens. Rather than needing to make separate applications for nutrition and

biostimulants, Country Club MD efficiently delivers both benefits in a single granular application. Fewer applications needed to accomplish multiple tasks at one time save time and money.

2 What are the "stress-buffering biostimulants" that are infused in each particle?

A: Humic acid and sea plant kelp meal. Both biostimulants are "elicitors" which, when taken up by the plant, activate natural chemical defenses by initiating defense-related enzymes. You can think of them as a "flu shot" for the turf. And much like a flu shot, these biostimulants need to be activated before the onset of stressful conditions. The humic acid is infused at 1.5% and the sea plant kelp meal is infused at 1%.

3 How did you determine the right amount of biostimulants to be included to achieve the optimum response for golf course turf?

A: We did quite a lot of research to determine that these specific amounts would be the most effective. Rutgers University performed a study at



varying levels of both biostimulants to see if more of either one would have a beneficial impact on the performance and aesthetics of the turf. The 1.5% of humic acid and 1% of sea plant kelp meal outperformed treatments that had 2X and 4X these amounts. In fact, this research strongly suggested that higher application rates actually decreased overall performance of the turf.

4 What's the real world benefit of using Country Club MD products?

A: That's the real question isn't it? The real world impact for superintendents are that

when utilized, Country Club MD products will allow the turf to continue to maintain high quality performance longer once the stressful environmental begin and allow the turf to recover and regain its high quality performance quicker once the environmental stress has subsided. After years on being used by superintendents across the country and internationally, these benefit has been documented to provide 2 additional weeks on both sides of the stressful growing conditions. So during the hottest, driest

3 month period of the growing season, Country Club MD is providing one full month of extended performance for the turf.

5 What areas of the course are best suited for Country Club MD products?

A: Country Club MD products come in two different particles sizes, SGN 80 for putting green applications and SGN 125 for tees and fairways. Since the stress-buffering biostimulants are equally effective across all species of turf, it's very well suited for both cool-season and warm-season climates.

Turf (micro)management

Just got a whole lot easier.



TRUE PERFORMANCE

TURFGRASS PROGRAM

No two greens are created equal. Staying on top of your game means knowing every condition. Country Club MD granular with Emerald Isle liquid products offer proven results customized to your course. Backed by independent university research to manage stress, this unique putting green management program delivers the nutrients your greens need—for all microclimates and conditions.

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Q&A WITH THE EXPERT AERATION



Q&A WITH PAUL HOLLIS

Executive Vice President, Redexim North America

1 How would you describe Redexim North America?

A: Redexim North America is a leader in the design and development of professional turf equipment produced specifically for aeration, seeding, top dressing and more. The Company's philosophy is to supply to each market, products that meet local needs, are designed to withstand vigorous use in all conditions and which are backed by a distribution network that can handle technical, parts and service back-up that is the best available in the industry. Investment in new product development and research into finding better methods of grounds care/maintenance is a major objective of Redexim North America to ensure that we remain the world leader in meeting the specialist needs of the golf courses that we serve.

2 How did Redexim North America get started?

A: Redexim North America was formed as a corporation in the State of Pennsylvania in 1997. For 17 years prior to that Redexim equipment had been imported by a sales agent in the Scranton (PA) area. Since the beginning we have experienced tremendous growth



in the company, expanding into synthetic turf and other markets, while staying with our core philosophy that is to supply to each market, products that meet local needs, are designed to withstand vigorous use in all conditions and which are backed by a distribution network that can handle technical, parts and service back-up that is the best available in the industry.

3 Can you give us an overview of your products and services?

A: We lead the way with products like Verti-Drain, Verti-Quake, Over-Seeder, and the Sand-Master. These unique and trend-setting machines are the most advanced turf management tools on the market, recognized for performance, quality, durability

and customer satisfaction. All Redexim products pass the toughest test of all - the test of time. The quality construction and advanced design of Redexim products are backed by the best after the sale service program in the industry. Our distributor network, the finest in the world, guarantees spare parts availability to keep your equipment running. Redexim North America has become a leader in golf course and turf management equipment by supplying the best machines money can buy, and by listening to the people who use them. Forging strong relationships with customers, built on trust and respect, is essential to our promise of quality.

4 What about Redexim North America sets it apart from competitors?

A: Innovative design, craftsmanship, and heavy-duty construction make Redexim products the standard of quality in the turf management marketplace. We know what our customer's need - machinery that performs well, saves time and offers value. The market leading range of Verti-Drain's and other fine equipment have outsold and outperformed all competitors for almost forty years.

5 What do you see for the future of Redexim North America?

A: I'm extremely proud of where Redexim North America is in 2019. We are a more diverse company than we were even ten years ago with the addition of our landscape division, Blec Machinery, and our factory direct sales through Redexim Turf Products, and most recently spreading ourselves over into the wildlife land management market with RTP Outdoors. The addition of our new areas of business has been invaluable in making our company a success, but, getting there was quite the challenge and I'm sure there are more hurdles in front of us, but we are better prepared than ever to meet them.

Verti-Drain® 2216

“The Bullet”



*WITH A WORKING DEPTH OF 9" AND SPEEDS NEAR
4 MPH, "THE BULLET" IS ONE OF THE FASTEST DEEP-TINE
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Q&A WITH THE EXPERT

WETTING AGENTS



Q&A WITH MARK JULL

Target Specialty Products' Turf Fuel Division Manager

Most people would agree that balancing water and air in the soil is the key to optimal turf health. A great deal of time and money is devoted to implementing the right cultural programs, scheduling irrigation correctly, installing drainage and using wetting agents to manage soil/ water relations. Mark Jull, Manager of **Turf Fuel Products Division** at **Target Specialty Products** and Certified **ISTRC** Field Consultant discusses how wetting agents give turf managers an edge when balancing air and water in the soil.

1 There are many wetting agents on the market, how should one choose the right product?

A: There are many soil conditions as well. The first step in choosing the right product is to completely identify the soil conditions that are causing the problem. Localized dry spots, droughty course textured soils, slopes, compacted tight soils, and thatch layers all present different challenges that require specific solutions. We put a lot of emphasis on training our sales team to best equip them to help their customers identify their issue and prescribe the most effective solution, whether it is a cultural practice

or a product application.

2 Oftentimes, superintendents have several soil conditions that need to be treated with one application, it seems impractical to use different products for each area.

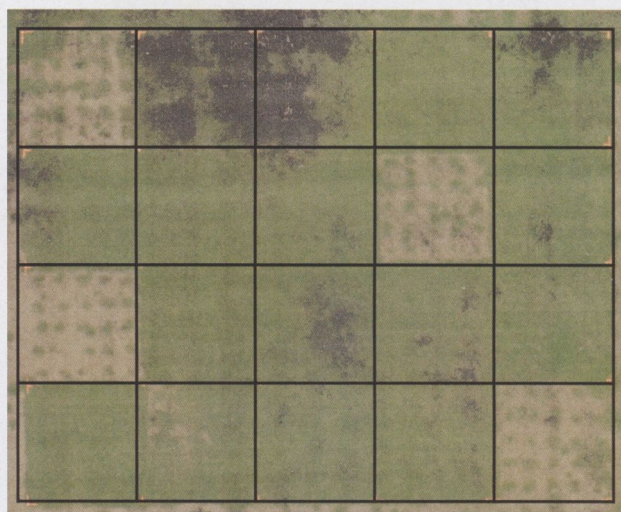
A: This is very common indeed. **Turf Fuel** formulates products utilizing our unique polymer stacking technology. This approach combines multiple active ingredients that complement one another to give a significantly more predictable outcome across different soil types.

3 Will wetting agents lead to wet, saturated conditions if an unexpected rainfall event occurs?

A: Several years of university testing has shown that **Turf Fuel Vanquish, Kraken and Distance** wetting agents actually help soils drain more effectively during rain events. This is because the chemistry makes the capillary pore space more receptive to water and provides more movement through the macro pore space.

4 Most wetting agents seem to require treatment every month. Why is that?

A: Traditional polymer based



Overhead drone image of Turf Fuel trials at University of Arkansas shows how proper wetting selection is critical to turf quality. Photo Credit: Douglas Karcher, Ph.D.

products are degraded by microbial activity in the soil. Since most products provide temporary "Band-Aid" type relief, once the product is degraded the soil problem will re-emerge. The newest products on the market provide more soil remediation, than "Band-Aid" relief. **Turf Fuel Cleanse** is an example of a next generation remediation product.

5 How does Cleanse provide remediation?

A: **Cleanse** is a dual action formulation. The primary cleansing action comes from a material that dissolves hydrophobic organic acid (HOA) coatings from soil and sand particles. The removal of this HOA restores soil to its naturally highly functional state. The second component is a bio-active compound that contains enzymes and secondary metabolites – **SoilSync**. **Soil Sync** replenishes weathered, poorly functioning soil and stimulates rooting.



Sometimes
you just need
to freshen
things up a bit!



Cleanse

Organic Soil Remediation System

Cleanse from Turf Fuel is a university tested, field proven product solution to help correct issues that develop as a soil ages, especially hydrophobicity.

How Cleanse Works:

Cleanse is formulated with a powerful solvent, capable of removing the hydrophobic coatings responsible for localized dry spot (LDS). Applications of Cleanse reduce LDS, improve rewetting and promote a healthier soil. Cleanse also contains a root driving biostimulant package and key enzymes to promote microbial population growth.








*Cleanse application
breaking apart
hydrophobic
organic coatings
versus the
competition.*



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Q&A WITH THE EXPERT

SAND TRAP RAKES



Q&A WITH LIND HUNEMULLER

National Sales Manager, Standard Golf Company

1 Standard Golf has been manufacturing Golf Course Accessories since the early 1900s, how did the bunker rake become a staple of your line-up?

A: In the early period of golf design most courses either didn't have sand traps or very few. Bunkers were smaller in design and had just one type of sand. At that time, Standard Golf started to make a very basic bunker rake and offered it in one size. As golf grew, new courses were being designed with more bunkers and of varying sizes and shapes. As this occurred, Standard Golf added more styles, shapes and sizes of bunker rake heads and handles. Bunker rakes have now become a staple of every early season order, just like cups and flagsticks.

2 Not all "bunker rakes" are meant to be used by the golfer. Does Standard Golf have a rake that would be more of a maintenance tool or one used specifically to prepare a bunker for play by the Superintendent and their grounds crew?

A: Yes, we do, our Debris Rake. This rake has a 21" head and has a multitude of uses not only in the bunker, but around the course. This rake is perfect for Spring / Fall to help

remove leaves and stones from the trap as well as to fluff up the sand after a heavy rain. In addition, this rake is great for pine straw areas, maintaining flowerbeds, mulch and areas between shrubs. It's a great maintenance tool.

3 There is a lot of talk about how a bunker should be maintained: little sand, lots of sand, steps edges, no banks. How has Standard Golf changed with the times and innovated new products for the bunker?

A: In the boom years of course construction many courses went to a bigger / deeper sand trap design. At this time, we added rakes with wider heads and longer handles. Most recently we introduced The Chief Bunker Rake in 2018. This rake was a collaboration with Oakmont Country Club's Superintendent David Delsandro and head pro Devin Gee to help with the "Aussie Style" of bunker maintenance. The rake is two-sided. A smooth side to pack down the vertical sides of the bunker to prevent balls from plugging and allow balls to settle on the bottom. The second side is a series of ridges (not teeth) that are used to rough up the bottom of the trap – with about ½" of

sand on the bottom, long teeth on a rake would dig into the underlying fabric and destroy the bunker.

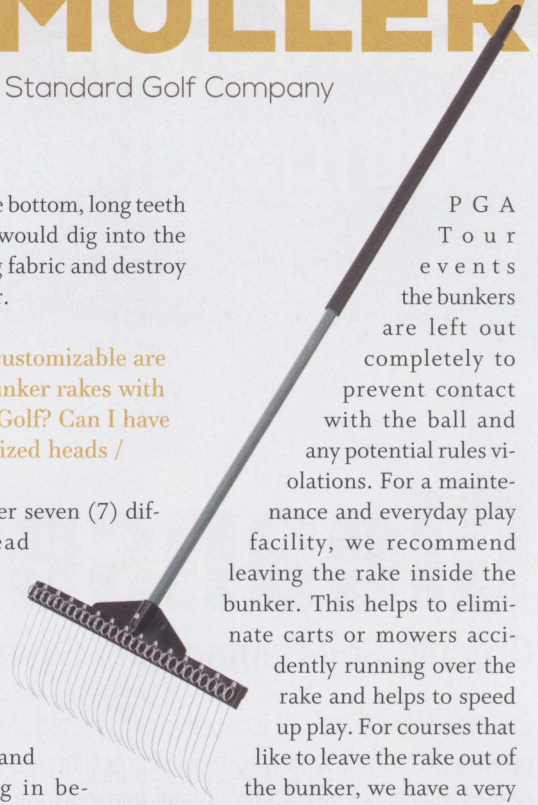
4 How customizable are the bunker rakes with Standard Golf? Can I have different sized heads / handles?

A: We offer seven (7) different head options from our 15" Economy Rake to the 25" Tour Pro and everything in between. Our handles also come in many sizes, styles and color options. We offer wood, ultralight steel, aluminum, composite and our very popular gator grip handle. Most all of our handles fit each of our heads (a few exceptions) so you can really mix and match to your specific need.

5 In or out of the bunker? What do you believe is the best place to leave a rake once used? And how do you prevent the rake from getting wet (dew) or sandy?

A: This is a great question, and one that does not have a firm response. I know that at many

P G A Tour events the bunkers are left out completely to prevent contact with the ball and any potential rules violations. For a maintenance and everyday play facility, we recommend leaving the rake inside the bunker. This helps to eliminate carts or mowers accidentally running over the rake and helps to speed up play. For courses that like to leave the rake out of the bunker, we have a very popular option, a curved rake handle. When used properly the head is on the ground, and then just the tip or top of the handle. The curve allows the majority of the handle to be above ground and easier to see and grab. Additionally, the ball can roll under and no dew or sand will attach to the rake head. We can add the curved rake handle to all of our rake heads except the Economy and Tour Lite.



TOUR LITE



When weight is the issue, the Tour-Lite rake is the lightest you'll find.

- Impact-resistant, 15" polyethylene molded head.
- Ultralight, plastic-coated steel handle.
- Redesigned neck for added strength and durability.

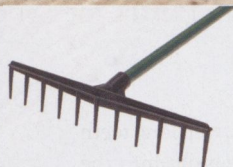
DUO-RAKE



One side furrows, the top side smooths. The entire rake floats!

- Now with stronger, gusset reinforced high-impact plastic head.
- Three handle options: 72" composite handle, 64" curved handle, 54" aluminum handle.

ECONOMY



Full size performance for smaller-sized budgets.

- Wood or ultralight, plastic-coated handles.
- Tough, high-impact 15" molded head (and handle)

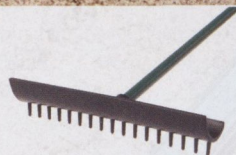
TOUR PRO



The stronger, lighter material has tines to help move deep sanded bunker sand into place. Flip over and the ridges smooth the playing surface without leaving the sand compacted and flat.

- 20" and 25" heads ensure tracks are covered with minimum effort, while pioneering design generates tournament quality surfaces.
- When durability is a must, the exclusive Gator Grip Handle is your best option, available in both 60" and 72" lengths.

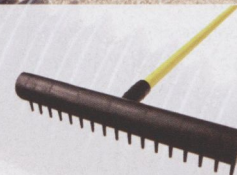
TOUR SMOOTH II



Performance of the original Tour Smooth Bunker Rake just got an upgrade. Improved rake assembly and the addition of the exclusive Gator Grip Handle makes the Tour Smooth II a must for all courses.

- Pair the Tour Smooth II with the exclusive 60" Gator Grip Handle for a level of performance unmatched by any of the competitors.

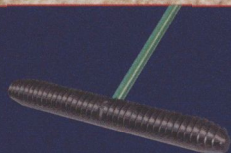
CART RAKE



Convenient, economical, time-saving bunker rakes designed specifically for carts.

- Shorter 48" handle and 15" high-impact plastic head fits most golf cart bagwells.

NEW CHIEF BUNKER RAKE



Designed by a golf course superintendent to be used with the "Aussie Style" of bunker maintenance. This tine-less or "toothless" rake has two sides, a smooth side to help pack down the vertical sides of a bunker and a side with ridges to rough up the bottom of the bunker without leaving large grooves in the sand.

- 20" head will come with one of 3 handle sizes: 54" Aluminum, 60" Green Gator Grip, or 72" Green Gator Grip

BECOME A BUNKER RAKE BUFF

**STANDARD
GOLF** COMPANY
EMPLOYEE OWNED



Q&A WITH THE EXPERT

INSECTICIDES



Q&A WITH LANE TREDWAY

Technical Services Manager for Syngenta

1 What symptoms should golf course superintendents look for when scouting for nematodes?

A: Nematodes usually don't kill turf directly, but they increase its susceptibility to stress. Symptoms might resemble wilt, nutrient deficiency or a variety of other stresses. These symptoms are usually very irregular across turf, but root-knot nematodes occasionally cause distinct patches. The variety of symptoms makes nematode damage very difficult to diagnose.

2 How are nematode problems diagnosed?

A: If nematodes are a suspected problem, superintendents should submit soil samples to a nematode laboratory for analysis. Tips for proper sampling, as well as where to find a local lab, can be found at GreenCastOnline.com/NematodeKnowledge. The lab will quantify each nematode population (sting, root-knot, lance, etc.). If the population is above the threshold values set for that species, then nematodes are likely con-

tributing to the problem.

3 What factors should superintendents consider when building an agronomic program for nematode control?

A: The best approach to nematode control depends on which nematodes are present, the turf species and climatic conditions. Nematode species have different feeding behaviors and vary in their sensitivity to nematocides, so a nematocidal program approach is a lot like building

a fungicide program. Divanem® nematocidal is an excellent foundation because of its broad-spectrum activity against root-feeding species. Depending on which nematodes are present, other products can be useful in a season-long approach to help manage resistance.

Roots compromised by nematodes are more susceptible to soil-borne diseases. An agronomic program typically includes fungicide applications that help protect turf from diseases that may develop as the

Broadcast vs. Spot Treatment Rate



'Tifeagle' Bermudagrass Greens. Nematodes present included sting, lance and root-knot.

Source: Neil Young, Florida, 2016.

result of compromised roots. Heritage® Action™, Velista® or Posterity® fungicides are great options that can help enhance turf quality, and protect against diseases and abiotic stresses. Visit GreenCastOnline.com/Programs to view agronomic programs for your region.

4 When conducting a nematode control trial, why is it important to leave an area untreated?

A: A side-by-side comparison of treated vs. untreated turf is the most definitive way to tell if a nematicide program is helping. Nematode populations naturally fluctuate during the season, so it's impossible to tell how a ne-

maticide affected the population without comparing treated turf to samples from an untreated area collected at the same time. In some cases, nematicide applications can actually lead to higher nematode populations because the root system is more robust and can support a higher population. I always encourage superintendents to focus more on turf quality and root growth. Having an untreated area for comparison allows you to see these real benefits.

5 What benefits should superintendents expect from the Divanem spot treatment rate?

A: Divanem features a spot treat-

ment rate of 12.2 fl. oz./10,000 ft.². Superintendents must have the Divanem supplemental label on file when making spot treatments. It is particularly useful for curative situations, where damage has already occurred or nematode populations are extremely high. The spot treatment rate provides greater control of nematodes as well as faster improvements in turf quality. Typically, two to three applications of the spot treatment rate are recommended before transitioning to a preventive management program.

Existing Divanem inventory can be applied at the spot treatment rate by downloading the supplemental label at [\[tOnline.com/Divanem\]\(http://tOnline.com/Divanem\).](http://GreenCas-</p></div><div data-bbox=)

For complete trial info, visit GreenCastOnline.com/Divanem

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By controlling nematodes down here.

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Visit GreenCastOnline.com/Divanem for more information about the spot treatment rate and to view trial results.

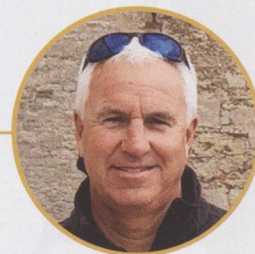


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#NematodeKnowledge

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Q&A WITH THE EXPERT AERATION



Q&A WITH WILL WOLVERTON

General Manager, Wiedenmann North America

1 What is the main purpose of the Triple Spike 375?

A: The new Wiedenmann Triple Spike 375 aerator is a great tool for relieving compaction in stressed turf. The vibrating spikes break up the soil and punch holes to put air into the ground. The flexible design, consisting of three independent floating heads, enables the machine to follow all undulations of the fairway, green, and collar. Each head is 25" for a total working width of 75". In addition, the flexible "A-frame" creates a turning pivot point allowing the machine to follow the contours and turns on a fairway, green, and collar.

2 What other functions can this machine perform?

A: Not only does the Triple Spike 375 perform aerification on greens, tees, and fairways, but it will incorporate topdressing material into the canopy at the same time. The Triple Spike 375 can also be converted into a Triple V 375 verticutter or a Triple Disc 375 vibrating slicer by exchanging the cutting heads of these machines.

a. The Triple V 375 verticutter is a tri-gang verticutter that has 3 independent floating heads which enables it to follow the undulations of a

fairway. Each head is 25" for a total width of 75". In addition, the "turnable A-frame" creates a turning pivot point, thus allowing the machine to follow the contours and turns of a fairway. Working depths up to 1" can be obtained and depth adjustment is quick and easy via two cranks on the front rollers. The standard blade is a 2.2 mm carbide tipped cutting blade with an optional 1.4 mm carbide blade at 1.5" spacing or optional 1 1/8" spacing. The Triple V 375 can be operated on a tractor as small as 25 HP. Each head is driven with an independent PTO shaft and one heavy duty chain. Operating speeds of 5 to 6 mph can be



achieved depending on conditions and depth.

b. The new Triple Disc 375 vibrating slicer is a great tool for cutting runners, thus producing new stolons, roots, and plant growth. The vibrating disc cuts into the surface with minimal disruption and slices

the existing plants which then creates more growth.

3 What separates the Triple Spike 375 from other similar machines on the market?

A: The Triple Spike 375 is a heavy-duty spiker with a central cam shaft that vibrates, causing the spikes to be hammered into the soil, breaking up the soil and leaving a nice, clean hole when retracted. The depth is easily adjusted by hand with twin cranks on each head. Twin rollers on each head helps follow the undulations of the surface. There are standard 3mm (1/8") thick spikes with 2" spacing. The machine punches about 30 holes per square foot at working depths of 1" to 2.5". The main cam shafts are driven by double, heavy duty V-belts. The three heads are maintenance free and each weigh approximately 150 lbs. for a total weight of approximately 2,000 lbs.





TRIPLE SPIKE 375

Vibratory spiker for
relieving compaction



TRIPLE V 375

Tri-gang verticutter



TRIPLE DISC 375

Vibrating slicer



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TRAVELS WITH TERRY

Globetrotting consulting agronomist **Terry Buchen** visits many golf courses annually with his digital camera in hand. He shares helpful ideas relating to maintenance equipment from the golf course superintendents he visits — as well as a few ideas of his own — with timely photos and captions that explore the changing world of golf course management.



TOPDRESSING DRAG MAT

This Toro 5040 Sand Pro does double-duty dragging-in greens sand topdressing. The framework is made out of 6-foot by 1-inch by 1-inch by $\frac{1}{16}$ -inch square tubing. The 52-inch by 80-inch scrap carpet remnant wraps around two 2-inch by 6-inch by 36-inch boards on both ends. Four spring clips, eight eye bolts and 4 feet of $\frac{3}{16}$ -inch chain comprise the parts list. The carpet goes up and down using the hydraulic lift used for the bunker rake. The carpet is placed vertically for transport with the flip of the wrist and two bungee cords. Materials cost around \$171, and it took about 10 hours labor time for fabrication, testing and configuration. Jesse Metcalf, superintendent, and Doug Meir, equipment manager, are the “A Team” at the Bonita National Golf & Country Club in Bonita Springs, Fla.

WILE E. COYOTE PREVENTION

The Vestavia Country Club in Vestavia Hills, Ala., rebuilt all of its greens using AU Victory Creeping Bentgrass in 2017. One Zareba ESP2M-Z (two Miles) Electric Fence Controller (\$112.71 Amazon) per green was hooked-up to Electric Fence Poly Wire/Poly Rope, Steel/Aluminum Fence or Poly Tap. Insulators available from Zareba or Gallagher were attached to traditional metal snow fence posts. Coyotes from the mountains were digging up the newly seeded greens. The bottom electric fences were placed low enough so the coyotes could not crawl underneath them and both fences were placed close enough together so they could not enter in-between them. The electric fence solved the problem, the 4-volt battery lasted one month and it took one day to install. They were borrowed from Rex Davis, superintendent, at Shoal Creek (Ala.) Golf Club. Owen Coulson, superintendent, Jeff Womack, 18-hole assistant, and Drew Charcandy, 9-hole assistant, created the fence.



Terry Buchen, CGCS, MG, is president of Golf Agronomy International. He's a 41-year, life member of the GCSAA. He can be reached at 757-561-7777 or terrybuchen@earthlink.net.



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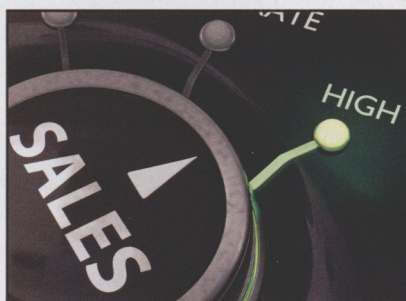
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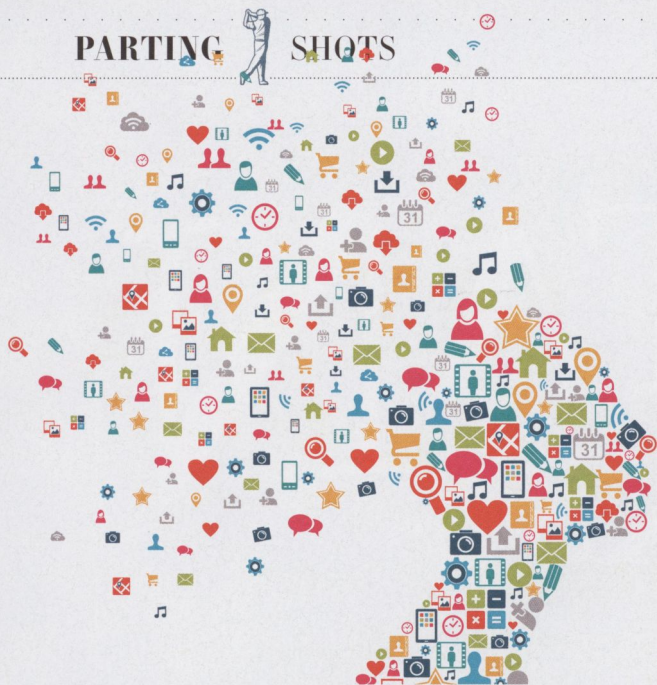
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Rethinking social

I've read or heard several things from turfheads recently who believe that the value of social media, particularly Twitter, is waning. These are some very smart cats saying this stuff, so I think it's important to examine what's going on in social world these days.

First, every platform evolves. The technology changes, they add new stuff and predictably they will constantly try to find new ways to monetize things. That's one very important distinction between Facebook and Twitter. Mark Zuckerberg has monetized the bejeezus off Facebook, but the Twitter people never really have found the golden goose. Despite the giant, crazy, world-changing platform they built, they can't seem to make big money off it.

Because of that, a lot of tech analysts think Twitter eventually will die or get absorbed into something else. I hope not because it's still by far the best platform for the kind of interchange and idea-sharing that helps superintendents thrive in today's wacky environment.

Yes, Twitter is flawed. It lends itself to arguments, and too many companies and other media outlets bombard y'all with ads and sponsored tweets. GCI does social media partnerships with industry partners, but we try to make them educational, or at least fun, rather than just vomiting out a string of #sponsored commercials.

And Twitter can be dominated by a few loud or angry voices. Sure, it's important to hear differing opinions, but not if it makes you crazy. My advice is to unfollow with extreme prejudice when people are using the platform to be abusive or angry. I also won't follow anonymous, fake or "parody" accounts, because if you won't put your name on your opinion, I won't listen to it. If I want the truth about turf, I want to hear

“Instead of decrying social media, let's figure out how to use it better. Let's talk about the meaning of the word 'curation.'”

it from people I know and trust, not some nameless keyboard warrior. One exception: I do follow and enjoy @grumpysuper because it's fun, positive and a good example of the type of empathy that keeps up all sane in turf world.

So, yes, I agree that the overall appeal of Twitter is fading ... but that doesn't mean you should write it off. Thus, instead of decrying social media, let's figure out how to use it better. Let's talk about the meaning of the word “curation.”

Our friends at Wikipedia define it this way: “Content curation is the process of gathering information relevant to a particular topic or area of interest. Services or people that implement content curation are called curators.”

In short, use your knowledge of a topic to selectively share information for a purpose. Fundamentally, too many of us just don't think like that on social media. We just react; we like, comment or share on an impulse. Instead, think about social as one more aspect of how you build your personal brand. What you share is a key indicator of who you are. What major themes are you repeating to remind people of your values and expertise?

It seems to me that turf professionals can make the most of social media by thinking carefully about how they want to be per-

ceived by members, customers, co-workers and colleagues, and then curating social content around things that boost that perception. Want to be thought of as environmentally responsible? Highlight your Audubon International programming or other ways you're focused on sustainability. Want to be considered a leader? Promote your chapter's BMP efforts and other key programs. Just remember that your social presence can and should be a very positive representation of who you are as a professional and as a person.

Think about a curation strategy that fits your personal brand or other needs (e.g., promoting your facility as a great place to work). Write down a few simple topics or themes you want to focus on and stick them on a note next to your computer. Before you share something, stop and check yourself: Does this support my curation plan? If it does, fire away. If it doesn't, think twice.

Twitter isn't dying any time soon (although I do believe that Instagram and Instagram Stories will be the next big platform particularly among younger folks), so let's make the most of it while we can. Keep it positive, have a plan and stick to it. Also, don't lose sight of the incredible value of the global art and science of green-keeping that's always being discussed 24/7 on social media. Sure, it's nuts sometimes, but focus on the good stuff and resist the urge to throw out the social media baby with the digital bath water. **GCI**



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