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Reseed Florida's Lake Wales CC's greens with T-1 bentgrass?
How this turf team succeeded when others thought they'd fail.



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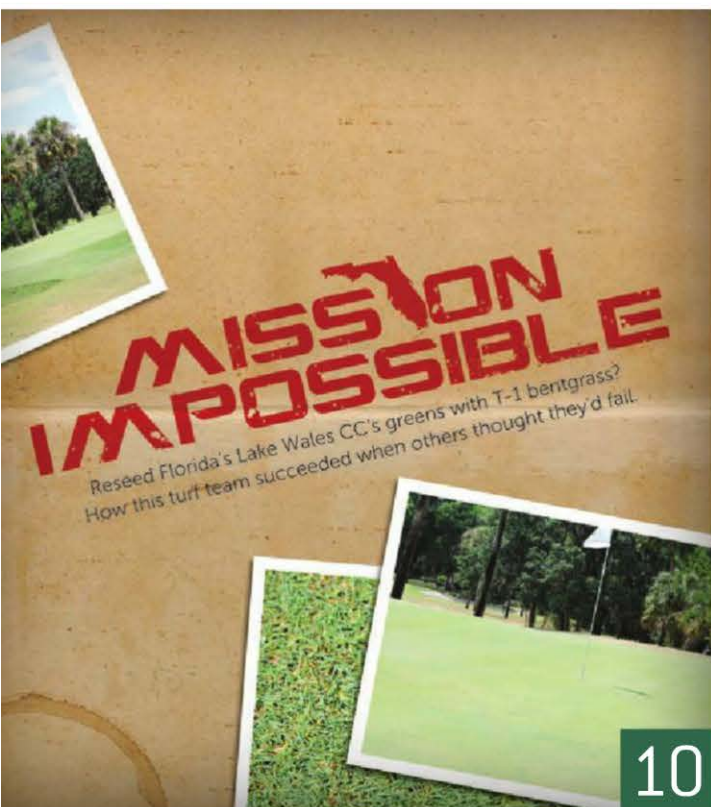
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MILES AND MILES

When I first got wind a course in Florida was going against the grain (pun intended) to install bentgrass greens, I responded pretty much the same way most of you did – Idiots.

There was some kerfluffle about it on Twitter for a day, then I forgot about it. A few weeks later the phone rang in my office and it was a voice from the past. It was Tim Miles, whom I'd met in Chicago years earlier. He was the "idiot" who approved seeding T-1 bentgrass onto a Donald Ross course just south of Orlando. He wanted us to help tell his story.

Tim has worn lots of hats in his golf career: super, pro, owner, management company operator, jack of all trades. That alone was enough to make me take him seriously.

But, what really made me take him seriously was his bloodline. His older brother is a fellow named Oscar Miles.

Oscar was the first superintendent I ever met. It was 1987, Ronald Reagan was the president, I had just started work at GCSAA and, back then, I was the idiot.

My job on the GCSAA staff was to crunch press releases for the magazine (there was no Internet as we know it now), organize the massive photo and slide file that filled about



Pat Jones

Editorial director and publisher

12 cabinets at the old Lawrence HQ and do grunt work. I was told I wouldn't even travel much except for the national show.

That changed about five days after I started when we learned that Butler National GC up in Chicago, host course of the Western Open (now the BMW Championship) was completely flooded. It was a disaster and they needed me to fly to Chicago and cover it. The superintendent there – the aforementioned Oscar Miles – was the chairman of the publications committee and it was the politically correct thing to do to send a writer.

I arrived in Chicago clueless. I knew zero about turf, I'd never been to a tournament and I only had the vaguest idea of what was happening. I walked into Oscar's office expecting chaos. Instead, I found a calm, smallish fellow with a huge smile who was more concerned about my well-being than he was about the bazillion gallons of creek water covering his front nine the day before one of the year's biggest Tour events was supposed to start. That was my welcome to the business. Pretty neat, eh?

I'll save the rest of that story for another time. The bottom line is that I quickly learned why Oscar is a legend: he was a brilliant superintendent and a consummate gentleman.

And Tim Miles has carved out his own legend, as well. His GolfVisions ownership group specializes in defying the odds. Read our cover story to find out how he plans to do it this time...and never, ever underestimate one of the Miles boys. **GCI**

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John Deere, which quietly started bringing superintendents to Alabama last year, is beginning to fully understand the benefits of its partnership with FarmLinks.

Riding into a new chapter

GCI's Guy Cipriano visited rural Alabama to witness the evolution of FarmLinks Golf Club and its partnership with John Deere.

His original reasoning was the coating of his family's control-released fertilizer matched the primary color of the equipment company David Pursell wanted to bring to rural Alabama.

So before building a research and demonstration golf course on his vast property, David Pursell contacted the company. The call didn't yield an immediate arrangement between Pursell Technologies Inc., creators of the green-coated Polygon fertilizer, and John Deere.

But 15 years after making the call, Pursell admits that John Deere was the first company he approached about a partnership at FarmLinks Golf Club, a course that brings superintendents to Sylacauga, Ala., to try products and forge relationships. "It was all kind of coming together in my head of what we wanted to do," says Pursell, FarmLinks' co-founder and CEO. "John Deere was very, very nice and all, but they decided they were going to go a different direction."

Pursell pursued – and inked – numerous industry partners, and thousands of superintendents have participated in the "FarmLinks experience" on Pursell's 3,500-acre piece of land. Late last month on the wooded 16th hole, eight superintendents, a sports turf manager, and multiple dealers and regional sales managers, split into four groups and operated mowers, tractors

and utility vehicles. Nearly 20 vehicles were used to maintain the hole.

The color of the equipment? Green and yellow.

In the middle of the fairway, FarmLinks director of agronomy Mark Langner interacted with the superintendents, who hailed from Virginia and Kansas. Ren Wilkes, John Deere Golf's new marketing manager, paced the 250 yards from the green to the start of the fairway, answering questions and overseeing demonstrations.

John Deere, which quietly started bringing superintendents to Alabama last year, is beginning to fully understand the benefits of its partnership with FarmLinks. "It provides us a chance to get the customers and dealers away from their facilities and to really look at equipment, look at the technology and to ask questions of the Deere people they might not get to ask questions to on a regular basis," Wilkes says. "And it provides us as a company a great venue to bring someone to."

Besides some of the corporate partnerships, many things have changed since FarmLinks, a 7,400-yard course designed by Michael Hurdzan and Dana Fry, opened on June 4, 2003. And more changes could be on the way.

The surfaces superintendents maintained and relaxed on included almost every imaginable turfgrass

variety capable of growing in Alabama. One of the trickiest questions Langner must answer involves the number of turfgrass varieties on the course. The total was 16 by Langner's most recent count. The turfgrasses range from uniform coverage (T-1 bentgrass on the greens) to curiosities (Discovery Bermudagrass on the 15th tee). "We keep playing with different grasses and changing them out and seeing what might be the perfect grass," Langner says.

The people visiting FarmLinks are also changing. Pursell sold the family fertilizer company to Agrium Advance Technologies in 2006. Koch Agronomic Services purchased Agrium in 2014. FarmLinks represents Pursell's major golf-related emphasis and he says the facility is "trying to operate more like a classic resort." Adding amenities that appeal to leisure golfers is part of the growth strategy, although Pursell doesn't want to stray too far from FarmLinks' research and demonstration roots.

"One phase of what we are trying to do here is to continue on with what we originally did with the end-users," Pursell says. "But we don't have a dog in the hunt as we say in the South here. When we sold the fertilizer business, we didn't have anything to sell to superintendents. We have changed some partners and kept some. It's fun."

TAKE CARE OF YOURSELF

It's easy to think of skin cancer as a problem for older golf course superintendents, but it's a danger for anyone working in the sun. Andy

Jorgensen was in his 20s when he visited his dermatologist for the first time. Five biopsies later, his whole life had changed.

Jorgensen told his story as part of our Superintendent Health series for SRN. Hear how he works to protect himself and his crew now with small changes. Then check out our interview with Mike Fabrizio about dealing with his work-stress balance, and Tom Werner's fight with alcohol for his family, his job and himself.

Listen to all three stories live on the web at <http://bit.ly/1GiRtA3>, or check back through our iTunes feed.



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From THE FEED

We provided a guide for adding ornamental color in our May issue (bit.ly/1JFC8Hj). The story sparked some colorful social media dialogue.



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Travis Blamires
@travis_blamires
@KaseyKauff @GCImagazine I'm so glad I don't have to plant flowers anymore.



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DUCKING PUNCHES



Henry DeLozier is a principal in the Global Golf Advisors consultancy. DeLozier joined Global Golf Advisors in 2008 after nine years as the vice president of golf for Pulte Homes. He is a past president of the National Golf Course Owners Association's board of directors and serves on the PGA of America's Employers Advisory Council.

Abemused Mike Tyson listened as reporters talked to him about an upcoming opponent, lauding his style and strengths, as if they were going to be enough to challenge the undisputed heavyweight champion of the world. He's going to give you a lot of lateral movement. He's going to move, he's going to dance, they told Iron Mike.

"Everybody has a plan until they get punched in the mouth," Tyson famously responded. Iron Mike was never known as a strategic thinker, but he did understand how adversity can affect a good plan.

Most club operators and managers have experienced adversity. An economic recession coupled with changing lifestyles were a one-two punch that staggered many businesses and KO'd others. When they hit, some plans came unraveled, some plans proved ineffective and some plans never were.

As an uneven recovery continues to gain momentum, it's a good time to examine your own plans to determine if you're prepared to take advantage of improving economic conditions and meet your performance goals. Here are three plans for your operations toolbox.

STRATEGIC PLAN

The most important components of a reliable strategic plan are clearly stated objectives. Objectives should be SMART. That is, they should be Specific, Measurable, Assignable, Realistic (based on market research and current resources), and Time bound.

Examples of SMART objectives: Increase revenue by 10 percent over prior year for the next three years; add 10 net (new members in minus existing members out) new members this year; host new outings with at least \$10,000 in net revenues this year and increase outing revenues by 10 percent each of the next four years.

Effective strategic plans are consistent with the direction the club wants to go. They set the destination and identified the speed and direction that will be followed. Without a destination, one road is as good as the next.

The plan should be based on thorough market research that identifies realistic opportunities and suggests marketing tactics aimed at specific audience segments. Well researched and carefully executed strategic plans give a club a foundation for sustainable success.

AGRONOMIC PLAN

After design, no one characteristic more immediately influences the value proposition of a golf course more than its agronomic health and condition.

Top-performing golf clubs have carefully developed their plan of caring for the course and grounds because their condition makes a statement about the standards of care and the attention to detail that govern the entire club.

The best agronomic plans clearly state the methods, procedures and timing that apply to each discipline. These standards address mission-critical programs for irrigation, fertility, pesticides and mowing practices. Equally important, the plan describes sustainability objectives and methods to steward water use, arboreal practices and chemical applications. Within the agronomic plan, many clubs also describe their plans for maintaining the water and distinctive geologic features.

REVENUE PLAN

Without a revenue plan, you're already whistling your way through the graveyard. Roughly one-quarter of clubs and courses are increasing year-over-year revenue. An active and aggressive revenue plan is in the DNA of top-performing clubs. This is a sure sign of informed and experienced leadership.

Here are the first steps in developing your revenue plan.

Prepare a "revenue menu." Identify and enumerate the revenue sources and measure potential revenue growth. Take a realistic and assertive view of how revenue can be increased. Be aggressive and set big goals.

Use a dynamic pricing model. Don't be bound by one-size-fits-all pricing. If you host daily-fee golfers, sell the worst tee times first. Use market demand and elasticity as a guide to growth.

Consider all sources of potential revenue, including innovative F&B strategies, private parties, wedding receptions, mitzvahs and movie nights on the lawn. Gone are the days when golf was the only way courses could make money. **GCI**

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A close-up shows the density of the T-1 in the Tif-dwarf Bermuda. While they felt the coverage was good, they wanted excellent.

MISSION IMPOSSIBLE

Reseed Florida's Lake Wales CC's greens with T-1 bentgrass?

How this turf team succeeded when others thought they'd fail.

By **Steve Trusty**

**“WHAT
ARE THEY
THINKING?”**

**“ARE THEY
NUTS?”**

All across the Sunshine State, golf course superintendents were scratching their heads upon hearing that the historic, Donald Ross-designed Lake Wales Country Club in Lake Wales, Fla., had reseeded its greens with T-1 bentgrass, the variety that performed well at Louisville's Valhalla Golf Club during the 2014 PGA Championship.

Consternation had been spreading across Twitter and Facebook like a bad case of

Pythium blight, along with concern for superintendent George Mackanos' job security.

Lake Wales management contacted Golf Course Industry to set the record straight and provided access to the key people involved to do just that. We first talked with Tim Miles, Sr., owner and president of GolfVisions Management, Inc., whose company has leased and operated this semi-private club since early 2013, reversing its declining fortunes in the process.

Before we get into the why and how they came to the decision to try T-1 bentgrass, how they proceeded and how it's going, let's introduce the key players.

First, a little background on Miles to better understand how

his thought process evolved. He has a degree in horticulture from the University of Mississippi and a strong background in agronomy. He has been a certified golf course superintendent. He has been a PGA professional in the Illinois section for over 13 years. He co-founded GreenVisions Inc., a golf management company in 1989. That company merged with Crown Golf Properties in March 1995. It quickly became a \$25-million-per-year golf course construction business. He left that business in 1998 to start the full services management company, GolfVisions Management Inc. Between this company and others he was involved with, he has had a part in building courses in 15 states and managing courses in seven

or eight states. GolfVisions now manages 20 courses, three of which are near Orlando. They have leased and managed Lake Wales Country Club since early 2013.

Miles is a big believer in hiring the right people and letting them do their jobs. He hired Mackanos as superintendent with that clear understanding right after taking over the course. "I've been a superintendent, I have a brother and brother-in-law that are both superintendents," Miles says. "When I want to know something about a course, I go to the superintendent."

Mackanos is a lifetime PGA member as well as GCSAA member. He gained his experience as a superintendent on courses from the Midwest to

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COVER STORY

the Southeast. "I've been growing bentgrass for 25 years from A-1 to Pencross to Seaside," he says. "I saw how T-1 performed at Valhalla for the PGA Championship near Louisville. I checked weather conditions between their course and those in Lake Wales and saw enough similarities to do some more digging."

Meanwhile, Miles also hired Robert (Bob) Foreward in as general manager and head pro. Foreward is a PGA Master Professional and has been involved with the rules of golf in both the PGA and USGA and has served on the rules committee of the Masters. He not only has a good grasp on the game of golf, he knows the relationship between a good course and a good game of golf.

Miles was considering what he could

do in the case, it is not that much of a problem. Those months are our slowest anyway. The whole idea revolves around providing the best conditions during prime season, when revenue is best, to serve those willing to pay for the product."

The Lake Wales team didn't have a lengthy discussion and they agreed the potential benefits were worth the attempt. "I believe that if you don't try, you can't succeed," Miles says. "If things don't turn out as well as expected, at least we'll know we made the attempt and we can move forward from there."

The decision was made. They proceeded to develop the overall plan and take action.

THE PLAN AND THE PROCESS

The first step was to decide on the variety

“In two years, I have invested over \$500,000 in improvements there. Second-guessers love to sit on the sidelines and be cynical, but I am in the game.”

— Tim Miles, owner/president, GolfVisions Management Inc.

do to make Lake Wales stand out. He expressed his thoughts to Mackanos and Foreward. They discussed expanding the greens back to their original size. The gradual shrinkage over the years had impacted the look and playability. So they decided to restore 35,000 square feet of greens, bringing them back to their designed configuration.

But then Miles asked the question: "What can we do to make these greens the best in the area over the eight or nine months of the year that they receive their heaviest play?" Mackanos suggested changing the greens from Bermudagrass to bentgrass. He had already successfully grown bentgrasses through June in Central Florida. With his bentgrass experience and seeing it at Valhalla, he thought it was worth the attempt.

"We avoid the usual transitioning in and out of the Bermuda in the spring and fall," Mackanos says. "If the bent doesn't do too well in July and August, as will probably be

of bentgrass to use. Mackanos talked with his Jacklin Seed representative Scott DeBolt and also went over various trial results. Between seeing T-1 in Louisville, comparing temperature, moisture, humidity, the summer challenges and DeBolt's recommendation, they decided to use T-1.

The greens were a combination of 419, Tifgreen and Tifdwarf. The middle part of some of the greens had excess thatch. Mackanos decided to leave the Bermuda. He scalped it and started verticutting several times in different directions. He then slit-seeded it in October with the T-1 at the rate of 1.5 to 2 pounds per thousand. Temperatures were in the mid-eighties. Mackanos reported that he considered going up to 3.5 to 4 pounds per thousand, but noted the information from DeBolt and others cautioned against too heavy a seeding, so he felt the lower rate would be sufficient.

Mackanos now knows the higher rate would have been better. He overseeded



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This is how the course looked on April 8. Color and density was satisfactory.

at 3.5 to 4 pounds per thousand on April 12 and 13 after repeated verticutting leading up to that weekend.

While the stand wasn't quite what Mackanos had hoped for, he hasn't received any complaints from players. In fact, the Symetra Tour, a stepping stone to the LPGA Tour, conducted a three-day event at Lake Wales in late March. "We've received many cards with comments from the ladies on how much they liked the course," Miles says, "We had good, fast greens. We're looking for excellent greens."

Mackanos and his maintenance staff have deployed – and will continue to deploy – a host of cultural practices to support the bent during adverse conditions. They will begin aerifying by mid-June, maintaining dry conditions as much as possible, quadra-tining/micro-tining weekly, topdressing and spraying three acres of greens every 7 to 10 days if necessary in July and August. "In general, being intense about management," Miles says, "As any super knows, many more factors than these will be addressed: soil profile, turf nutrition, insect management, weed control, etc."

Mackanos' fertilizer package includes Ammonium Sulfate 25-0-0, some 0-0-25 with a micronutrient package. He also uses humates. The topdressing is 75 percent sand and 25 percent peat mix. He does not water at night. He will use a sprinkler four or five times a day on the new seeding if necessary to get it established.

For the summer, the plan is to continue aeration and hold back on the nitrogen applications by the end of June. He
(continues on page 62)



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THINK LIKE A DESIGNER



Jeffrey D. Brauer is a veteran golf course architect responsible for more than 50 new courses and more than 100 renovations. A member and past president of the American Society of Golf Course Architects, he is president of Jeffrey D. Brauer/GolfScapes in Arlington, Texas. Reach him at jeff@jeffreydbrauer.com.

The saying, “A camel is a horse designed by a committee” may not have originated from golf course renovations, but it often sounds applicable. When retained for a master plan or renovation project, the architect endeavors to understand the problems of the course and the mindset of the green committee. However, committees can be more effective, and the process smoother when committees understand the golf course architect’s role and mindset, too. Here are some tips on understanding your golf course architect’s mindset.

DESIGN IS ABOUT FUNCTION, NOT JUST AESTHETICS

Aesthetics are the first thing golfers’ notice, so grasping that they are potentially the last things considered by architects is difficult.

As Steve Jobs said, “Design is not just what it looks like and feels like. Design is how it works.” Golf architecture is “arranging elements to best accomplish the particular purpose of making golfers’ enjoy their rounds.” “Following the land” and “creating strategy” are only tools in facilitating a better golf experience, not the end goal.

Architect Louis Sullivan coined the phrase, “Form follows function.” He later added, “But the building’s identity resides in the ornament.” Good golf courses are both functional and aesthetic. Good and bad design are usually apparent, but great design is transparent. Design is like offensive linemen – it’s rarely mentioned except for big mistakes like the QB being sacked.

Golfers can easily identify bad design – they just don’t like it. But, they can seldom pinpoint why a course “feels good.” It’s great design!

GOOD DESIGN IS GOOD BUSINESS

“People ignore design that ignores people.” (Frank Chimero) If you considered avoiding an architect to “save money” then you don’t understand this, and you don’t even understand what you don’t understand!

Everything is designed, but few things are designed well. The only alternative to good design is bad design ... which will either bug you for 20 years, or be expensively rebuilt in 10. If your architect is fighting you, he is fighting for good design, and for your own benefit, even if he drives you bananas.

THERE ARE NO “MASTER BUILDERS”

Some committees expect the architect to “come down from the mount” with visionary proposals. Even the egotistical Frank Lloyd Wright said, “I never design a building before I’ve seen the site and met the people who will be using it.” Design is an ongoing collaborative effort between owner, users and architect.

THE DESIGN PROCESS IS SIMILAR TO THE SCIENTIFIC PROCESS...

Both analyze first, hypothesize solutions, test them, and then pick the best.

Design always starts with investigation and analysis before any design occurs and a mission statement. It follows with multiple preliminary concepts, each based on different premises regarding competing priorities (typically like adding length, harder holes, saving trees, easier maintenance) Only after comparison, combination and modification of these (and some spirited debate), do you arrive at your best and final plan.

...EXCEPT WHEN IT ISN'T

Inspiration strikes architects at any moment, and ideas can come from unlikely places. Einstein said, “I never came upon any of my discoveries through the process of rational thinking.” While I obviously disagree somewhat with the above, I agree with his sentiment that free thinking must always be allowed, never discouraged – by the architect or the end users.

Even if inconvenient and non-sequential, is there ever a good reason not to make the permanent design better? Not to architects, often to the chagrin of committees, and later, contractors.

STRUCTURE MATTERS

Design freedom actually requires a structure of “design rules” from the history, evolution and theory of golf design. Designers respect this framework, but retain some childlike wonder to remain open to ideas. The architect must know when to break rules. Never is boring, but too often is usually a disaster.

DESIGN IS A BALANCING ACT

The best design finds your best balance between budget/business/practicality/logic and art, as well as concept and engineering/detail. While there are few universal rights and wrongs in golf course design, there is a best solution for your situation – one that solves most of your most important issues, without unduly sacrificing lesser concerns.

Designing for everyone and everything equally is impossible, so someone will be unhappy to a degree. Sometimes

(BRAUER continues on page 65)

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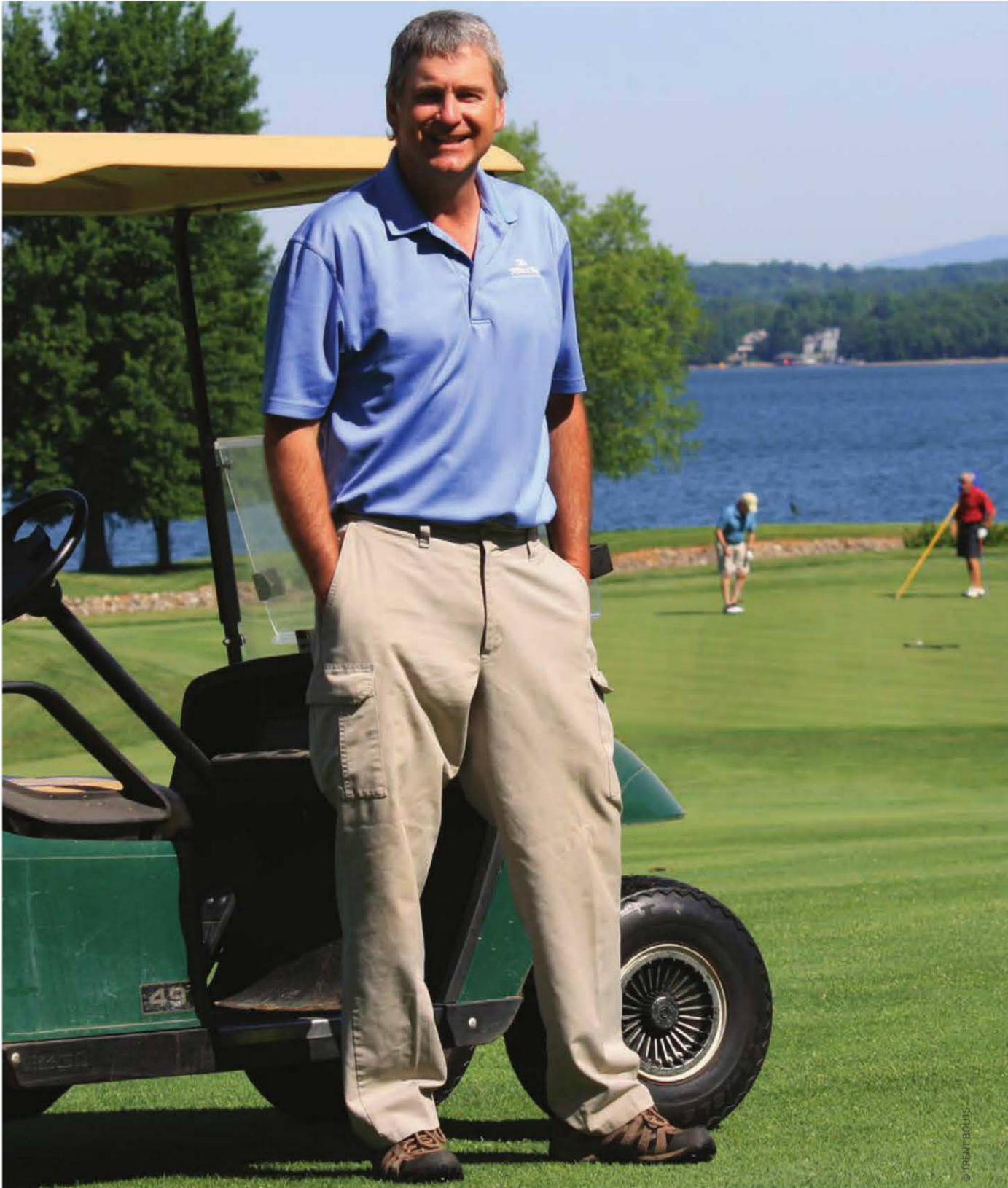
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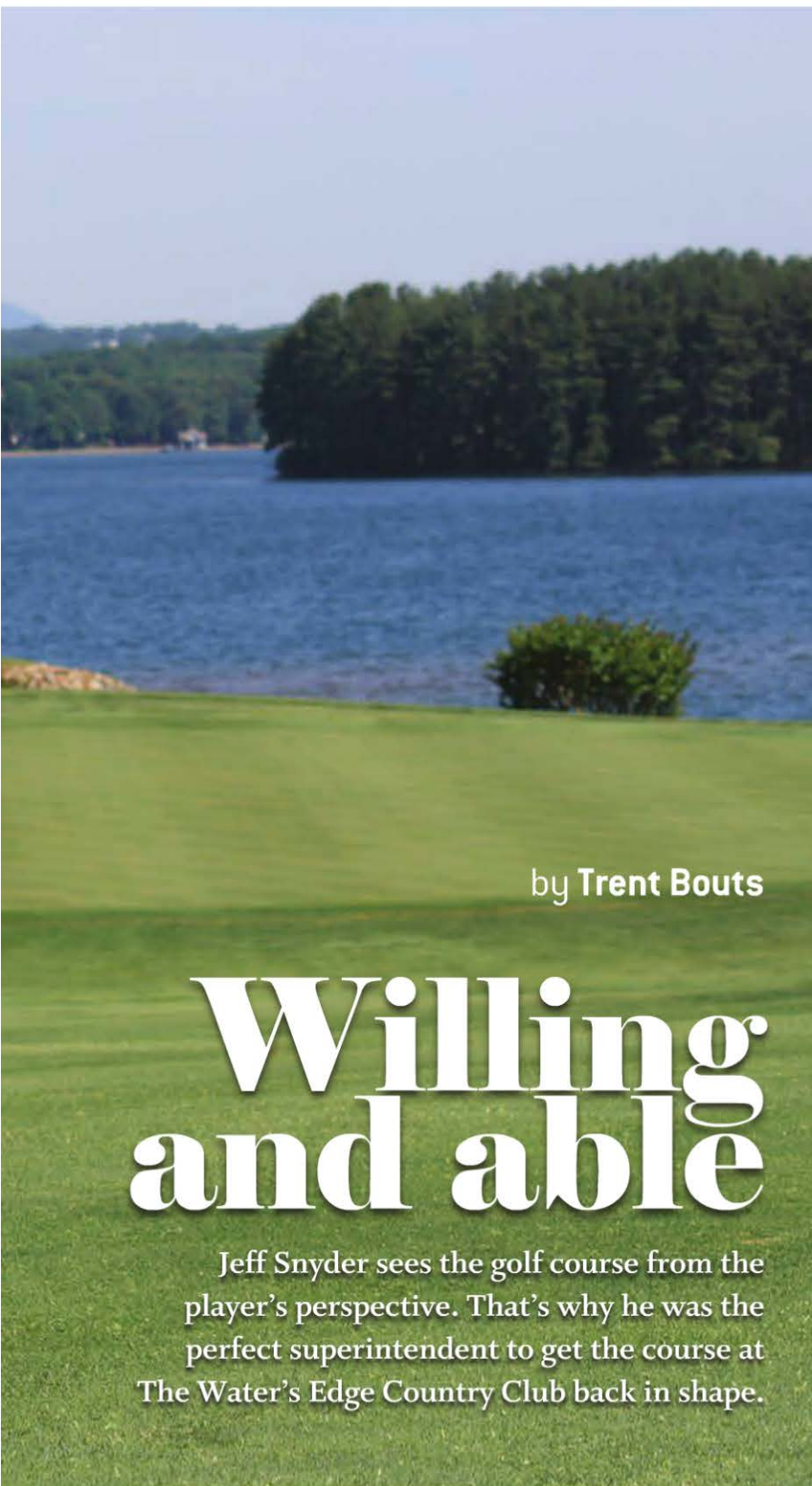


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by Trent Bouts

Willing and able

Jeff Snyder sees the golf course from the player's perspective. That's why he was the perfect superintendent to get the course at The Water's Edge Country Club back in shape.

That Jeff Snyder made a career out of golf is no surprise. His father John forged his own legend as a professional winning trophies, friends and universal respect over a Hall of Fame career in Virginia. Not surprisingly, the kid learned plenty from the dad and by his teens Snyder was competing in the U.S. Junior Amateur Championship. A brother Jack, six years older, would become a pro. It seemed logical, even a matter of destiny, that Snyder would do the same.

Instead, he became a golf course superintendent. "My dad had the art of politics down," says Snyder, who is in his 22nd year at The Water's Edge Country Club in Penhook, Va. "I just don't have that. That's just not me. If I don't like you, you're going to know it." Fortunately, Snyder must only encounter people he likes – or at least only those who like him – because today he commands the kind of standing among his own peers that his father enjoyed in professional ranks.

Snyder served as president of the Virginia Golf Course Superintendents Association from 2003 to 2005 and received that organization's Distinguished Service Award also in 2005. He was an integral part of the team that created the Virginia GCSA's landmark bible of environmental best management practices in 2012. And he's been a fixture on his state's team in the Virginia Cup, an annual challenge against the Carolinas GCSA presented in partnership with Syngenta.

Virginia GCSA executive director David Norman scoffs at Snyder's own suggestion that he might lack a little finesse when it comes to people skills. "Jeff's a great guy," Norman says. "At an association level, he's served his fellow superintendents with honor, dignity and determination. And he's always done it in a humble manner."

Snyder has come a long way since heading to James Madison University for a business degree he thought would launch him into a career in the bar industry. "My thinking then was that people drink when times are good and when times are bad they drink even more," he smiles.

It was on a break from JMU, while playing in the Kendridge Open at Farmington Country Club in his hometown of Charlottesville, Va., that it dawned on Snyder he might be happier

LEFT: With less time and labor being consumed when spraying, Snyder is now able to walk mow greens and tees as well as hand rake bunkers.

nurturing turfgrass than tending bar. As well as competing, Snyder, then 20, was preparing the golf course as seasonal help for another Virginia industry legend, Dick Fisher.

"I was riding around the golf course with Dick this day and the final players were coming through and I was struck by all the accolades he was getting from the players," Snyder says. "They were all saying how wonderful the golf course was. And, of course, I knew all the neat things that were going on behind the scenes to make it that way. That's what really triggered it for me."

Snyder transferred to the turfgrass program at North Carolina State University and with credits from JMU, graduated in 18 months. After nearly a decade working at various

facilities, he arrived at The Water's Edge in 1994. The golf course, a Buddy Loving design that opened in 1988, was a showpiece amenity for a 700-acre high-end residential development on Smith Mountain Lake about an hour southeast of Roanoke.

With about 400 members, the club and the development have survived through an era when "a lot of others have come and gone," Snyder says. His expertise has been a major reason why. "I think we would be very comfortable putting our golf course up against anybody in the area," says Ron Willard II, whose father developed the property, which sees between 11,000 and 12,000 rounds each year, the vast majority of which are played between Memorial Day and Labor Day. "Jeff's

attention to detail is a major asset. That and his ability to make sure the guys under him understand his expectations and follow suit. Jeff has always shared the same drive we have for The Water's Edge."

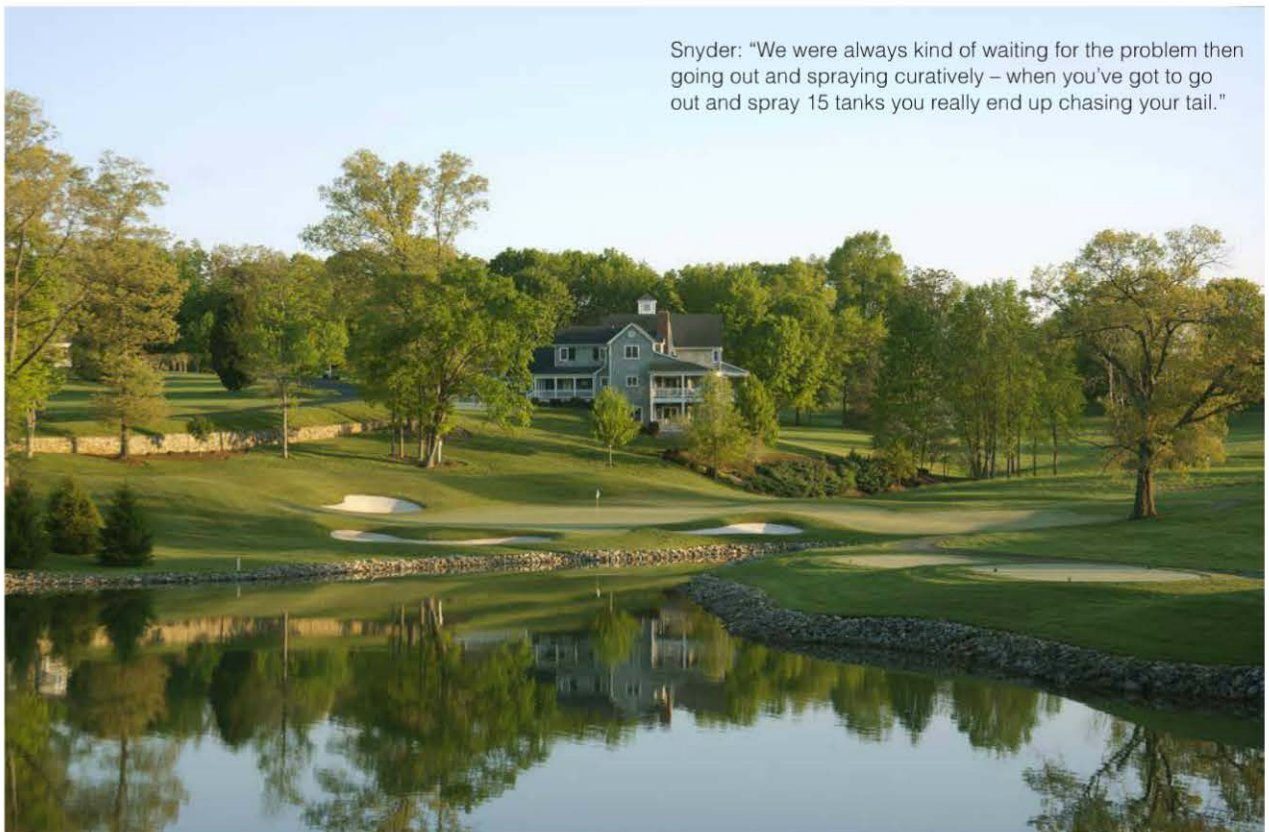
That shared commitment was evident in the passion Snyder brought to the table when the Willard family invested \$5 million in a major renovation under the architectural hand of Richard Mandell in 2008. "Jeff was a breeze to work with," Mandell says. "He's committed to excellence across the board. He has such a good perspective on things and he's a great golfer so he sees the golf course from a player's viewpoint."

Snyder was as ready as anybody for the revamp. "The golf course needed to be brought up to the 21st century," he

says. "But if we saw what was coming, I don't think we would have spent \$5 million on a renovation."

Of course, the economy crashed and within a year the real estate market followed. Housing starts and re-sales at The Water's Edge hit a wall like they did all across the nation. Naturally, Snyder's budget contracted along with everything else. "I was in the \$1.3 million range back in the day but now it's more like \$1.1 million and a dollar doesn't get you the same thing today so it's less money with less buying power," he says. "Pre-renovation, I'd run 10 full-time people even in winter and now I carry five. But at the same time, we've gotten our people raises and improved the quality of the golf course. At the end of the day, I think that's

Snyder: "We were always kind of waiting for the problem then going out and spraying curatively – when you've got to go out and spray 15 tanks you really end up chasing your tail."





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pretty good.”

Snyder points to a new spray program as a significant factor in improved course conditioning. “We were kind of getting by with our spraying program on greens tees and fairways but our (fescue) roughs were our biggest problem,” he says, citing brown patch as his “biggest nemesis.” “We were always kind of waiting for the problem then going out and spraying curatively – when you’ve got to go out and spray 15 tanks you really end up chasing your tail.”

With help from Syngenta’s Steve Dorer, CGCS, and Dr. Lane Tredway, Snyder revised his approach. What they came up with was a program with Headway as the primary product that Snyder says allows him to “spray preventatively for basically the same dollars I was chasing my tail with curatively.” Now Snyder is down



Snyder: “I guess that’s probably the biggest thing I’ve contributed is to add that level of flexibility by matching personnel levels with the income stream.”

what are largely out-of-play areas, about 35 acres in all. He mows primary rough at 2½ inches. “We also incorporated Primo in the roughs, so we had tighter turf and slowed the grass down so that the fungicide stayed in the plant a little bit longer,” he says. “That meant we could get three-plus

greens and tees as well as hand rake bunkers. “It’s all about making us shine,” he says.

Another key element to that polishing is a long-term conversion of what were bluegrass and ryegrass fairways to Memorial bentgrass. Instead of laying sod, which would have resulted in the closure of the course, Snyder used Primo on fairways and interseeded with the Memorial.

“We got a good stand the first year,” he says. “At that point, we started managing the bentgrass fairways, even though we had a lot of competition. We knew it would be a 5-6 year process and this is going into our fifth year.” The conversion also means Snyder must manage *Poa* in fairways. “I’m pretty heavy with Trimmit now for *Poa* control,” he says. “It helps with the consistency of the turf.”

To accommodate the change in irrigation needs between fairways and rough, he is also in the midst of a program converting select heads to in and out sprinklers. Doing that work gradually and in-house allows him to absorb the expense over time rather than taking the cost in a single big hit.

Since the recession, Snyder has made a concerted effort to align maintenance expenditures with club revenue flow. “I guess that’s probably the biggest thing I’ve contributed is to add that level of flexibility by matching personnel levels with the income stream,” he says.

Snyder’s key allies – he refers to them as his “life-line” – in all that he does are long-time assistant superintendent Donald Huston and equipment technician Joey Woody, who is six years into his second stint at The Water’s Edge. As special as he regards his working relationship with those two men, nothing will resemble the bond he enjoyed with his first head professional at The Water’s Edge. Snyder got to collaborate with his dad who came to the facility when it opened and stayed for a decade until his retirement in 1997.

“It was the best experience of my life to work that closely with my father,” he says. “He was one of the best golf professionals in the state and a fantastic ambassador for the game. Our communication obviously was easy and we just clicked. The property was better for it.” GCI

“I think we would be very comfortable putting our golf course up against anybody in the area. Jeff’s attention to detail is a major asset. That and his ability to make sure the guys under him understand his expectations and follow suit.”

—Ron Willard II, *The Water’s Edge*

to nine tanks when he sprays in the rough. “The dollars are about the same,” he says. “We might have saved about 10 percent, but improvement in the quality of the fairways and the rough went up 100 percent by using better products.”

Snyder has raised his mowing heights to five inches in

weeks out of it. They helped me tweak some product combinations to put together a really good spray program on fairways where we stretched that out from spraying every two weeks to spraying every three weeks.”

With less time and labor being consumed when spraying, Snyder is able to walk mow



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LAST RITES



Monroe Miller retired after 36 years as superintendent at Blackhawk CC in Madison, Wis. He is a recipient of the 2004 USGA Green Section Award, the 2009 GCSAA Col. John Morley DSA Award, and is the only superintendent in the Wisconsin Golf Hall of Fame. Reach him at groots@charter.net.

About the time of this year's Masters Tournament, a new James Patterson book hit the bookstores. "Miracle at Augusta" immediately had a spot in my library, along with 33 other books about the Masters and Augusta that are in my collection.

It's a slender volume – about 200 pages – and is easy to read. Patterson is one of our most experienced and prolific authors, and the story he tells in "Miracle" holds your interest tightly. It can be read in one sitting.

The three pages that make up Chapter Two describe the scattering of the ashes of a beloved friend, grandfather and father who was a long-time member of the Creekview Country Club and had recently died. The group of 200 gathered and walked holes No. 1 through No. 18. At each hole, a few of "Pop's" ashes were scattered and memories shared.

That brief chapter struck a chord with me. Over my 36-year career as a superintendent, a number of scatterings of cremains happened on our course. When asked, I did my best to accommodate them. There were more than likely many more scatterings I was not aware of. There is little to no evidence of the ashes, so unless someone tells you, you would never know.

The remains of a cremation are called ashes, but they really aren't that. The ashes are actually bone pieces that have been pulverized. My experience is that cremains are more like sand. Cremains pose absolutely no health risk, no safety issues and no environmental concerns, reasons it never bothered me to allow scatterings to happen on our golf course.

The first time I was asked about scattering ashes on the golf course, I got an OK from the green committee chair. Next, I checked with the municipal administrator where our course is located and received his permission. Finally, I checked with an attorney-member and learned there weren't any state law restrictions (except to reduce particle size to 1/8 inch or less). He even suggested the best way to describe state law was "no laws say yes and no laws say no."

It is not a surprise that golf courses are where some want their remains scattered. They are the favorite places for many people. Others choose their farm fields, some select a favorite fishing spot or a park they love. A friend of mine scattered his WWII B-25 pilot father's remains by air over open land. I know of cremains that will be scattered, when the time comes, in a flower garden.

Maybe the most unique and curious scattering I've known of was noted on the CBS program "60 Minutes" that aired this past May 3. The Scottish island of Islay is known worldwide as home of the finest single malt whiskey distilleries. A serious connoisseur of single malts requested his cremains be scattered on the waters faced by his favorite distillery! Really, there aren't many limits when it

comes to scattering of ashes.

My involvement ran the gamut from tacit approval to actual assistance (but always in the background). Tacit approval came with the caveat "no cremains on putting greens." They could potentially interfere with putting or mowing, and the lighter color might make them visible.

In two instances, club member couples wanted their remains placed in the root zone of a new tree donated to the course for each person. Each couple donated two new trees and family members scattered the ashes around the partially planted tree. We then finished planting the tree, all before play started. The families were pleased and it seemed a very appropriate honor for long-time members, if they wished. There may well have been memorial services immediately after passing, but the scattering can take place long after at a time convenient for all the family members.

I have also placed cremains in a shallow hole under the canopy of a favorite tree – if I remember correctly I even used a cup cutter to make the hole. In another case, cremains were placed on the surface of a remodeling project and became a part of the feature as it was graded in.

Golf courses are beautiful places, and the increased use of cremation in our society makes me believe there could be an increase in cremains scattering on them. Our golf course is on the National Park Service List of Historical Places in America for our collection of Sac Indian effigy and burial mounds. Even 1000–1500 years ago the property was considered a beautiful place and a fitting final resting place. The same is true today.

If a superintendent is involved, it should be with respect for the deceased and the family, with consideration for players and in accordance with whatever rules or laws apply. And today, in the end, it is a thoughtful final place for a person who also loved golf. **GCI**



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Adding a fertigation system seems like an overreaching expense, but the benefits just may outweigh the sticker shock.

By **Jim Dunlap**

Unlike many terms sprung from modern culture or technological advances, fertigation means exactly what we might think it does – the application of fertilizers through an irrigation system. If the budget permits and a course's irrigation system and infrastructure is functioning properly, fertigation can be an ideal way for superintendents to stimulate turf and soil health and provide uniform course conditioning.

The alternative to fertigation is the application of dry or granular fertilizers with the use of spreaders and other machinery, or by hand in difficult to reach areas. In many cases, superintendents opt for the best of both worlds, supplementing their fertigation program with granular applications as the situation dictates. For those who must choose, the decision frequently comes down to initial cost vs. long-term savings.

“It can get kind of contentious between the liquid guys vs. the

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granular guys,” says Jason Gray, a technical sales representative for the Southeast for Growth Products, Ltd. “With fertigation, the application is easy and usually cheaper since there’s hardly any

labor involved. Also, with granular, it’s subject to leaching and you can lose a lot to evaporation, whereas with fertigation you’re spoon-feeding continually, so it’s less wasteful.”

As for downsides to fertigation, Gray says some granular advocates claim fertigation leads to “channeling,” which he described as the irrigation tending to follow the same path in the soil, causing accumulation of fertilizers in some areas and none in others. However, that is not typically a problem except occasionally in very sandy soils, although generally plant roots will locate the nutrients and spring up there.

He also notes superintendents need to ensure fertilizers are fully soluble before they are added to the irrigation system to avoid the heavier materials sinking to the bottom of the tank and overloading the end of the irrigation cycle. As for initial cost, Gray says there is a huge variance, depending upon the sophistication and technological capabilities of the fertigation system, ranging from the most basic injection pump system around \$500 to “tens of thousands” for larger, more advanced systems. He says one of the bigger units with the Dosatron system runs around \$1,100.

The ease and accuracy of nutrient application are perhaps the greatest advantages of fertigation, according to Paul Roche, Rain Bird’s national sales manager for golf. Additional products like trace elements and iron can easily be added to a fertigation cycle to provide custom formulations, and nutrients can be applied at a very low rate, thus avoiding the overly fast response from turf in some cases where dry fertilizers are applied less frequently in heavier doses. He also says that fertigation allows superintendents to deliver nutrients to difficult areas like slopes and it doesn’t involve the use of tractors or spreaders which could damage seedling turf.

Downsides to fertigation, according to Roche, include



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the up-front cost of the equipment, the labor to install it and the cost of any containment structures required to ensure safety of storage and handling and prevent contamination. Additionally, Roche cautions that irrigation systems need to be monitored and periodically inspected to ensure that the fertilizer-enriched irrigation water is going where it is intended and providing complete coverage.

Roche says that in many parts of the country liquid fertilizers are priced competitively with dry formulations, although in both cases, local availability of materials and transportation costs can affect the price. Many superintendents say they can recoup the up-front fertigation system installation costs in the first year through savings in labor and fertilizers, according to Roche.

"Fertigation was really common earlier during the [golf course] construction boom," he says. "Those new courses needed grow-in water and many of them had larger tanks which can be used for fertigation, although some of them are just filling those tanks halfway now. Also, a lot of golf course superintendents develop kind of a buddy system, sharing tanks and materials among several courses in an area. Superintendents today are strategically looking at how much fertilizer they'll need and when they'll need it, and they've got it down to a science."

Superintendent Mark Burchfield of Sun Lakes

Country Club in Banning, Calif., has been fertigating his courses for nearly 20 years, uses a Watertronics pump and the Inject-O-Meter injection pump and metering system and includes fertilizer nutrients such as nitrogen, iron, carbon and micro-nutrients in virtually all of his irrigation cycles.

"To me, fertigation is an excellent system to keep soil from having peaks and valleys," Burchfield says. "It's my opportunity to take advantage of low labor levels and also not interfere with play – sort of a stealth way to fertilize since we run the systems at night." Robert Thorn, general manager of Clovis, N.M.-based Inject-O-Meter, says a simple fertigation pump system is available for around \$1,500 and "will last forever" when it's contained in a pumphouse and maintained.

On the other side of the country in upstate New York, Country Club of Rochester superintendent Rick Holfoth estimates that he delivers around half of his fertilizer through fertigation, and says he feels that leads to more even, steady turf growth response. He says he finds the method particularly effective in reaching difficult to fertilize areas such as green surrounds, bunker banks and hillsides. "I like it because of ease of application," he says. "You just set it up, and once that's done, you're just married to your flow meter for the pump station. It's a great tool to have."

Holfoth cautions that with his older irrigation system, it's necessary to prime

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the system and then purge it to ensure an even and steady flow of fertilizer through the system. The system also needs to be checked regularly for leaking or “weeping” heads, which will lead to excessive growth response in turf near the defective

One convert to the Turf Feeding Systems approach, who has taken it farther with his own experimentation in sustainable fertilization practices, is Cheyenne (Wyo.) Country Club superintendent Matt Whalen. Whalen has been with the

“To me, fertigation is an excellent system to keep soil from having peaks and valleys. It’s my opportunity to take advantage of low labor levels and also not interfere with play — sort of a stealth way to fertilize since we run the systems at night.”

— Mark Burchfield, Sun Lakes Country Club, Banning, Calif.

head. Holfoth tries to send his acid injection system out for cleaning every two or three years, but he admits that courses on the lower end of the budget ladder may not be able to afford the \$800-\$1,000 expense of factory cleaning. As far as the cost of fertigation compared to granular applications, Holfoth says, “Liquid applications are probably a touch more expensive, but with the labor savings [with fertigation], I look at it as a wash.”

Turf Feeding Systems in the Houston area designs and sells fertigation systems that the company’s owner and founder, Michael Chaplinsky, says will dramatically improve golf course sustainability and water use. Using low cost soluble nutrients applied in “spoon-feeding” or “micro-dosing” amounts and frequency, Chaplinsky has installed systems resulting in reduced water and chemical use throughout the world. Chaplinsky is passionate about his fertigation methods and their potential to produce top notch course conditioning at less cost, which he feels will help increase participation by making country club conditioning available at municipal course pricing. He is currently seeking a public course willing to participate in a case study involving Turf Feeding Systems methodology which Chaplinsky is confident will result in savings of \$25,000-\$30,000 per year on an investment of as little as \$7,000.

club since 2007, when there was a turf injection system in place, but it primarily added wetting agents and iron supplements to the irrigation. In 2011, Whalen won a trip to the British Open at Royal St. George’s, where he was impressed by the sustainable ecosystem developed at Royal St. George’s and other nearby courses.

“Nothing was taken off the property,” Whalen says, “and I decided we needed to start incorporating some of that type of practice on our property. Initially, I got a hold of some Genex compost feed with nitrates and natural enzymes and hormones from healthy bentgrass for our bentgrass and *Poa* turf. Once I got off the other product I was using and went with Genex, we saw some *Poa* reduction. We also use Sobec and Humalfa, which is a dry compost, calcium nitrate in the spring and fall on the tees and fairways, and have been using Holganix, which is a semi-cryogenic compost tea, since I found out about it at a trade show in 2013. In 2013, the first year we were on the full program, we saved \$75,000 in water expense because it was a particularly hot summer. Last year, which was more normal temperature-wise, we saved another \$25,000 off that.”

The lower water bills were not the only savings. Whalen credits his continued employment to the Turf Feeding Systems fertigation system and his own more sus-

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Fertigation is not for everyone

While the benefits of fertigation, both in terms of even distribution of soil and turf nutrients and labor savings, are well documented, there are some courses where it's not ideal or not feasible. In today's golf economy, the initial expense of fertigation equipment such as injection and pumping systems, controllers, holding tanks and storage facilities may be a tough sell, even with the promise of potential labor and material savings to come that could pay for the system in time.

The condition and scope of the course's current irrigation system is another consideration. To maximize effectiveness of fertigation practices, an irrigation system needs to deliver water uniformly to areas the superintendent needs to target with fertilizers or other materials such as wetting agents, according to

Paul Roche, Rain Bird's national sales manager for golf. Roche adds that housing for the fertigation system and access to it can be problematic. Fertigation systems require a containment or protection area to prevent contamination of a site or water source by leaking fertilizer material. A fair amount of space is required for that; Roche estimates that a mid-sized pump station with fertigation will require an area of at least 24 feet by 24 feet. And, once that is constructed, there needs to be access to it to accommodate deliveries of liquid materials, or a tank fill pipeline. All of that costs money if it's not already on-site.

Fertigation is somewhat less common in the cold Northeast and other snowbelt regions partially because of the need to winterize fertigation systems and tanks. Country Club of Rochester (N.Y.) superintendent Rick Holforth says he winterizes his entire irrigation system and pumping station, including the fertigation equipment, and tries to use up available liquid or soluble fertilizer before the first cold snap.

tainable approach to turf health. Prior to his trip to Royal St. George's and his "aha moment" regarding sustainable fertilization practices, turf problems at the club had members grumbling.

"After 2011, I thought I was going to be fired when our greens went down," Whalen says. "Then I came back and went into the programs we use today whole hog. I figured if I was going to go down, I'd go down trying something my way and

giving it 100 percent.

"Well, the other day, one of the guys who was trying to get me fired came up to me and says the course is in the best condition it's ever been, and thanked me," he adds. "We haven't sprayed fungicide in two years, and we're building soils for the future." **GCI**

Jim Dunlap is an Encinitas, Calif.-based writer and frequent GCI contributor.

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Brian Vinchesi, the 2009 EPA WaterSense Irrigation Partner of the Year, is president of Irrigation Consulting Inc., a golf course irrigation design and consulting firm headquartered in Pepperell, Mass., that designs irrigation systems throughout the world. He can be reached at bvinchesi@irrigationconsulting.com or 978/433-8972.

The California drought has hit historic proportions and no end is in sight. The lack of water has forced the governor into issuing an executive order aimed at slashing water use by 25 percent. Although no one is immune to the mandatory reductions, irrigation and turf are hit hard. Eliminating turfgrass is the best solution for some, with hundreds of millions of dollars going toward that effort.

Golf courses will be hardhit in some areas and less so in others. The governor's executive order isn't specific about golf, but local authorities are required to reach a minimum reduction in water use. Most golf course regulation is going to be in the form of a "percent reduction." For example, a course may be mandated to cut its annual water use by 35 percent. Although this will save water, it is very unfair. That opens up a discussion on how water use restrictions for golf courses should be implemented. There are different techniques, so let's discuss a few.

One approach is to limit the amount of turf on a golf course. For example, a maximum of 90 acres for 18 holes. As we all know, turf loves water and green turf even more so. If you limit the amount of turf, you will at least theoretically use less water. Part of the California governor's executive order is a proposed 50 million square foot reduction in turf followed by a \$350 million turf buy-back program by the Metropolitan Water District, the water wholesaler for a large part of Southern California. It isn't because gravel and isolated plants look better than lawn, it's about reducing the landscape's water requirements.

As discussed, another way to reduce water is to cut every user a percentage of their current use. This saves water and forces wasters to be better water managers, but it severely and unfairly punishes those who have always been efficient water users. If you're a course already using as little water as possible, and then you're cut 25 percent, it is disastrous. Most superintendents have been judicious with water, and they will be penalized with a required large-percent reduction.

A third way to regulate is through water budgeting. In this case, you are allowed so much water per acre per year. It is a set amount and how you use that water is up to you. For example, the Southern Nevada Water Authority (Las Vegas) allows golf courses on their supply to use 6.3 acre-feet per acre (75.6 inches annually) and Arizona is 4.7 acre feet per acre. An acre-foot is 325,848 gallons. If a course is already at its number or close to it, then it's not much of a stretch.

However, if a course is over the limit, it will have to get better at irrigating, lose some turf or change the turf type. Although some people hate this approach if for no other reason than it is regulation, it is a fair approach. It doesn't penalize those already saving water and forces those that don't to think about efficiency. The downside is there has to be a basis for the water budget. How many acres are being budgeted for is an essential number and a mechanism that is equitable needs to be developed to determine that water budget number.

In California, golf courses will be required to reduce water use not only if they are on a potable water supply, but it looks like also for those using groundwater sources, which was a surprise. Recycled water however, does not fall under the restrictions. The percent reduction varies from 8 to 36 percent depending on your water districts average per capita water consumption based on 2013 numbers. The State Water Resources Control Board has assigned to each of California's 400 water districts specific water conservation goals. For example, Coachella Valley Water District is a 36 percent reduction while the City of Coachella is 24 percent. These restrictions must be put in place by this summer.

Although the restrictions are not permanent, they will most likely stay in effect until the end of the current four-year drought.

California has reminded us that there are ways of implementing water-use restrictions. Some are fair and equitable while others are more punitive. The best way to argue against restrictions is to measure your water use so you have a record of what you're using. Estimations are just that and actual real-world metered results provide data that is hard to argue against. **GCI**

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Celebrating 60 Years



EQUAL MEASURES

Routine calibration is a tedious, yet necessary task to keep your turf in top shape.

by **John Torsiello**

During morning or evening rounds you notice the condition of your turf is starting to suffer. The culprit – and solution, for that matter – could be your sprayers and spreaders.

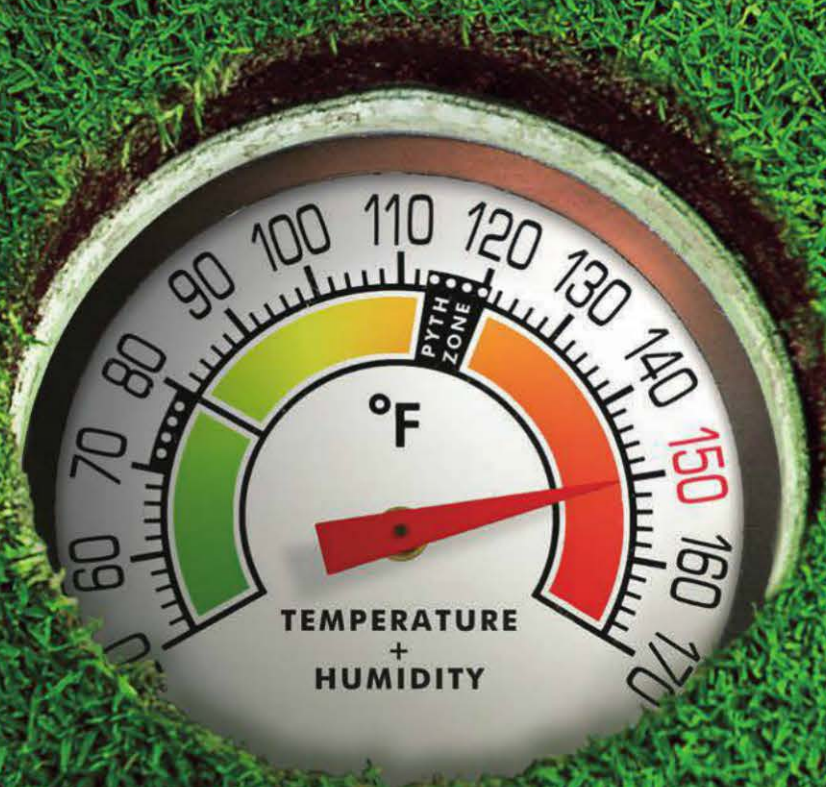
Over applying or under applying pesticides and fertilizers pose any number of turf maintenance problems. Improper calibration is one of the top reasons for pesticide or fertilizer performance failure, which in turn leads to turf decline, poor aesthetics and playability issues, says Brooks Hastings, product marketing manager for John Deere Golf.

Excess applications due to improperly calibrated fertilizing equipment can result in nitrate leaching or phosphorous runoff, says Dr. Tamson Yeh, pest management and turf specialist at the Cornell University Cooperative Extension.

“Excess nutrients, especially nitrogen, promotes diseases such as rhizoctonia,” he says. “Too little nitrogen promotes diseases such as anthracnose. Excess phosphorous can promote the growth of algae on greens.”

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Over application increases the risk of the product moving out of the intended spray area and damaging nearby desirable plants, says Dr. David Han, associate professor and extension specialist, of turfgrass management at Auburn's Department of Crop, Soil, and Environmental Sciences.

Lastly, with escalating fertilizers and fungicides costs it makes sound financial sense to accurately control product use, says Trevor Broersma, superintendent at Washington National Golf Club in Auburn, Wash. "On the extreme end of things, it is cheaper to calibrate a sprayer or spreader than it is to re-sod a green due to damage done by non-or poorly calibrated equipment," he says. "I have seen the end result of courses that had miscalculated lime applications on a driving range and it caused a majority of the turf to die."

With so many potential negative consequences, why isn't sprayer and spreader calibration a routine task? For one, Hastings says calibration is often thought of as a time-consuming undertaking. But that isn't necessarily true. "Calibrating is commonly thought of as a burdensome task," he says. "But in the grand scheme of things, the amount of time you spend calibrating is nothing compared to the work it would take to repair the turf as a result of over application."

Often, calibration is only time consuming the first time, says Dr. Aaron J. Patton, associate professor of horticulture and turfgrass extension specialist at Purdue's Department of Horticulture and Landscape Architecture. "After the first time and when organizing the resources needed to calibrate,



calibration can be quick and easy," he says. "Golf courses should consider creating a tub or box of the necessary materials that they need to calibrate."

Han has found a number of helpful Smartphone apps. For example, area calculator apps are great and make finding the area to be treated go much faster. "You don't need a separate calculator and stopwatch anymore, either," he says. "For calibrating and using handheld or pushed equipment, a metro-nome app makes walking at a constant speed much easier."

Getting the math correct is essential, especially when it comes to fertilizing greens, says Broersma. "We do our greens in two directions, wheel to wheel," he says. "So, while doing the math our guys have to divide by four for the amount

of pounds of product being applied per 1,000 square feet. We purchased a spreader calibrator for \$250 and it was the best money we ever spent."

Calibrating equipment shouldn't be time consuming, says Kevin Stinnett, a Jacobsen territory sales manager in North and South Carolina, especially if superintendents can get into a habit of doing it on a regular basis with a standard procedure.

"It can give turf managers a little piece of mind knowing one of the most important tools they have is dialed in and ready to make precise applications," he adds.

A firm rule superintendents should follow is that sprayers should be calibrated before using them at the start of each growing season, but more fre-

quent monitoring is advised, Patton says.

"How often you will need to check the calibration after that varies by personal preferences and amount of use," he adds.

Many turf pros calibrate daily or weekly. These frequent calibration checks ensure consistent application results.

"I advocate for more frequent calibration," Patton says. "Frequent calibration is especially important to find problems such as clogged nozzles, screens, or possibly to discover that some setting, such as pressure, speed, or nozzle type, was changed since the previous application."

In addition, always calibrate sprayers after maintenance is performed on them.

"Check nozzles for wear each time you calibrate the

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ALUMNI UPDATE

“The self-studies that the Syngenta Business Institute put together had the greatest impact because you learned a lot about yourself as a superintendent and about management. Also, the employee motivation seminar was extremely helpful.

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Brian Sandland

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EQUIPMENT

sprayer, and frequently clean screens,” he says. “And, before you calibrate your equipment, always inspect it to make sure it is in good working condition. Be sure the tires are properly inflated and hoses are free of cracks and wear.”

Other factors impact calibration, as well, says Yeh. For example, he advises performing calibration based on how frequently it's being used, how often product is changed, how abrasive the product is to the equipment, how rough the ground covered by the equipment is, and the material the spreader is constructed with (for example, a warped plastic body spreaders will require recalibration).

Rotary and drop spreaders should be calibrated when they are purchased, and at least once a season if the equipment is used for the same product, preferably twice, especially if the spreader has a plastic body, ideally three times if you are not changing product, or if you are going over very rough ground consistently. “If you suddenly encounter rough ground, check calibration after to make sure the bouncing has not thrown off calibration,” says Han.

A back pack spreader calibration should be done when you change applicators (everyone has a different walking speed), when you change nozzles, if there is a noticeable change in product viscosity, or you are using abrasive products with your nozzle tips. Calibrate at least once a season if you are using a single product with a single applicator. Twice a season is

preferable to look for nozzle wear and tear.

A boom sprayer should be calibrated each time you change product or change nozzles, at least once a season, preferably two to three times if you are not changing nozzles or product just to make sure all parts are working correctly.

While it's important to follow the necessary steps in the process for proper calibration, Hastings says it's also important to not forget about the little things. “One of the most simple, yet commonly overlooked steps in the calibration process is checking the nozzles. Nozzles should be checked for wear each time a machine is calibrated and checked that they are the proper nozzle for what is about to be applied. As a general rule, if they are putting out 10 percent more than what they should be it's time to replace.”

When assuming what seem like “givens” are correct, such as gearing and speeds when calculating rate or even calibrating a machine, it is always a good idea to double check.

“Even with today's spray equipment and the new technology which is really incredible it's still a good idea, in my opinion, to double check what the system is reading,” Stinnett says.

Proper calibration is not something that should be rushed, Yeh says. It should be approached in a concerted, stepwise fashion with all of the steps and their outcomes recorded in a log book. “As spreaders and sprayers become worn, you will be able to look back over records to see when it begins to slip

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EQUIPMENT



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Frequent calibration is especially important to find problems such as clogged nozzles, screens, or possibly to discover that some setting, such as pressure, speed, or nozzle type, was changed since the previous application.

consistently out of calibration, which indicates a change in parts or an entire piece of equipment is necessary," he says.

Yeh recommends having one or two employees, preferably working together, who check the calibration on a regular basis and even the calibration of equipment right out of the box.

"By having the same individuals perform the calibration this removes some of the variability in technique and in record keeping, which will allow the calibration to be as finely tuned as possible," he says. "It is good to have two people work together because there can be an operator and a recorder and one can keep check on the other as an extra measure of accuracy. Having different people calibrate and record each time leads to minor inconsistencies due to varying techniques."

Ideally, the same person who will be operating the equipment calibrates it, Han says. "If your course has a dedicated spray technician, this is the person who should be calibrating." Consistency in operation, especially in driving or walking speed, is

important in maintaining accurate applications. If another person is going to spray that person should check the calibration before doing so.

Many newer sprayers contain a computer type console that reports speed and calibration, Patton says. While these tools that provide details on sprayer speed and flow rate are often "pretty accurate," remember these tools and sensors "require verification." You need to calibrate the equipment to verify you can trust the values reported by the equipment.

New tools, which Patton hasn't tested, can be used to give a quick calibration check by measuring the flow rate of a nozzle. "Using these tools, you wouldn't have to do a full calibration (assuming speed hadn't changed), but instead could just check your flow rate (combines nozzle and pressure settings) to verify that it is similar to your previous measurements and settings." **GCI**

John Torsiello is a Torrington, Conn.-based writer and a frequent GCI contributor.

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STAGE FRIGHT



Paul F. Grayson is the Equipment Manager for the Crown Golf Club in Traverse City, Mich., a position he's held for the past decade. Previously, he spent 8½ years as the equipment manager at Grand Traverse Resort & Spa. Prior to that, he worked as a licensed ships engine officer sailing the Great Lakes and the oceans of the world.

Here is a frontline story about the panic high-tech mowers cause. This is relevant because turf equipment is adopting the X-By-Wire design approach, and some of it is old enough to need serious troubleshooting and repairs. Shortly after the season started this year, the electronic brains in the Crown Golf Club's Jacobsen Eclipses 322 started developing mental problems. There did not seem to be any pattern to when it would work and when it would not, and eventually over the course of a week it quit working completely. The steering was goofy yet manageable, but the fact that the cutting heads would come up after traveling 15 feet made mowing impossible. While trying to cut with individual heads, they eventually all quit working. This mower is the highest-tech piece of machinery in the Crown's collection. It has eight computers talking to each other over a CAN bus. This vehicle has its own internal network. (Do I need to add an IT person on my team?) Even the horn button no longer directly controls the horn, instead the driver's action of pressing the horn button sends a signal to one of the computers that looks at the software to see what it should do at this point, then beeps the horn. I began wondering if I had the skills to deal with this or if it was time to consult with a robotpsychiatrist, such as Dr. Susan Calvin, about the machine apparently having a mental breakdown.*

GETTING SERIOUS

I began my work with a review of the manuals available for the machine I would be working on. Jacobsen provides technical manuals as PDF files online (bit.ly/1RoydTL) and provides technical support over the phone with both regional and factory technicians. The modern maintenance shop needs a computer

with high-speed Internet access, a printer and a telephone with long-distance service. The alternative is



A reel motor power plug after the potting compound was cut away to reveal solid wire that could connect and reattach the plug. This was a temporary fix while waiting for the new \$216 plug and pigtail to arrive.

to print out the 900 pages then bring them to the shop and to use your own cellphone calling plan; whatever it takes to get the job done.

TROUBLE SHOOTING

No matter how complex the system, start by checking the fuses and then looking for anything deranged. Physical damage is always a possibility. In this case, the insulation on the center reel 3-pin power connector had a crack in it (poor strain relief) and was bleeding green copper corrosion.

The 8-pin communication plugs on two of the reel motors, when wiggled, showed intermittent connection (break). A reel motor that says it is turning 0 rpm when it should be turning 1050 rpm is an error that shuts down the mowing units and raises them. The fix was to replace three connector pig tails at about \$216 each.

LIVING WITH X-BY-WIRE

The introduction of the CAN bus to turf machinery design has allowed machines to behave in useful complex ways such as one-touch mowing. It has also introduced a new complexity to troubleshooting and repair.

Jacobsen is in the process of equipping each of the regional repair centers with a service tool kit that includes known working mower computer modules so they can be swapped out when troubleshooting. This is especially useful when a golf course does not have multiple copies of a mower to swap modules between when troubleshooting. **GCI**

** Dr. Susan Calvin is a fictional character from Isaac Asimov's Robot series. She was the Chief Robopsychologist at US Robots and Mechanical Men Inc., the major manufacturer of robots in the 21st century. She was the main character in many of Asimov's short stories concerning robots, which were later collected in the books I, Robot and The Complete Robot.*

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By Guy Cipriano

On the money

A reliable option for controlling a nagging turfgrass disease like dollar spot allows Scioto Country Club superintendent Bob Becker to focus on an historic club's next step.

Evening treks around Scioto Country Club, a prime plot of Columbus, Ohio real estate filled with golf history, are part of Bob Becker's routine.

Curious members with a similar question often stop Becker during the solo treks. "They will be like, 'What are you looking for?'" says Becker, the club's head superintendent since 2007. "I'll tell them, 'I'll let you know if I find anything. If I don't find anything, that's good.' You have to watch it. You can't turn your back on anything."

The risks of complacency are high. Not only is Jack Nicklaus linked to Scioto – the 18-time major champion learned the game on the course – the club holds a place in golfing lore as one of just a handful of venues to host a U.S. Open, PGA Championship, Ryder Cup, U.S. Amateur and U.S. Senior Open. If that's not enough, there's another major tournament looming, the 2016 U.S. Senior Open, which coincides with Scioto's 100th anniversary.

Falling behind on a project or treatment isn't an option. Scioto's internal and external expectations are that high. Becker and his crew, which includes veteran assistant

superintendent Jason Spencer, maintain a golf course that receives 22,000 rounds per year, a high number for an exclusive Midwest private club. They are also maintaining a course in a region considered a haven for dollar spot activity.

"I would rate the Ohio area as one of the hardest hit regions in the country," says BASF senior technical specialist Kyle Miller, who covers the Northern section of the United States. "The Northeast also gets hit pretty hard up into New England. One thing I noticed in the Ohio area is that you have this deep, pitting type of dollar spot that can cause pretty extensive damage."

Because of the stakes, Becker displays extreme caution when trying new products to control dollar spot or any other turf disease. "I kind of let the market test some stuff," Becker says. "I will test everything, but I kind of sometimes hold off a little bit and let a product run its course before going full-scale with it. I will start it on the range, move it to tees, move it to fairways and then move it to greens."

With soil and air temperatures escalating, Becker is preparing for widespread usage of a product that flourished last summer at Scioto. BASF senior sales specialist Jerry Husemann, who covers Ohio,





Scioto Country Club, where Jack Nicklaus learned the game, has hosted the U.S. Open, PGA Championship, Ryder Cup, U.S. Amateur and U.S. Senior Open. The U.S. Senior Open returns to the Columbus, Ohio, course next year.

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CASE STUDY

Michigan, Indiana and Kentucky, introduced Xzemplar, a fungicide with long-lasting preventative and curative action, to Becker in 2014. Becker eased Xzemplar into Scioto's agronomic program, using the fungicide on portions of the range tee midway through last summer. During one of the trials, Becker says an area of turf covered with plywood was "riddled" with dollar spot while an exposed area "held up beautifully."

"Mid-summer, we always struggle miserably with having good products to use with broad spectrum control that works well," Becker adds. "That's where Xzemplar is going to fit into our summer program very well."

A major renovation led by Columbus-based architect Michael Hurdzan and Nicklaus resulted in the 2007 debut of greens that met USGA specifications and altered other key parts of course designed by Donald Ross and enhanced by Dick Wilson. Becker now manages a course with multiple bentgrass cultivars: A-1/A-4 and Alpha greens, L-93 fairways and Alpha tees. Becker's management philosophies also changed following the renovation. Scioto uses less water in the summer and members have accepted that slightly brown turf doesn't negatively affect playability.

Xzemplar's ability to provide extended control fits into where Becker wants to take the course this summer. Xzemplar has multiple usage rates on its label, and Miller says options exist to provide 14, 21 or 28 days of control. Brown patch, summer patch and fairy ring are among the other diseases that Xzemplar controls, according to Miller.



Scioto Country Club is located in a region where dollar spot flourishes without proper curative and preventative measures. Bob Becker, below, who has been the head superintendent at the club since 2007, plans on making Xzemplar a key part of his agronomic program this summer.

"We are going to use it right in the heat of summer," Becker says. "That's when we are going to use these products – when we know we need them to work."

Staying ahead of dollar spot, the importance of which Becker learned while studying under Dr. Mike Boehm at nearby Ohio State University, has helped Scioto control it better than some surrounding courses. The period from late June to early August is Becker's most worrisome stretch for the disease.

No two growing seasons are the same, but in his four-state territory, Husemann says turf begins becoming susceptible to dollar spot following the third fairway mowing and when temperatures two inches below the surface exceed 50 degrees. "It's like clockwork," Husemann says. "It's the simplest message

I can give people." Becker has "learned the hard way" that falling behind on dollar spot creates issues. "You remove all of that inoculate out of there early on and then you just don't let it get a foothold," Becker says.

Having a reliable product for broad-spectrum control allow Scioto's crew to direct its attention to honing some recent projects. The recent pace has been furious, with the crew adding practice greens and tees,

dredging ponds, installing massive amounts of sod and rebuilding the photogenic eighth hole. The crew is also preparing to move into a new maintenance building that includes eight dormitory rooms for interns. Multiple projects were accelerated because Becker wants to shift the focus to performing the detailed tasks needed to further prepare Scioto for its return to the national spotlight. The club hasn't hosted a major tournament since the 1986 U.S. Senior Open.

A digital clock inside the clubhouse reminds members – and the staff – of what awaits. "As one of the architects told me, nobody wants to put the lipstick on the Mona Lisa," Becker says. "Everything we do comes with very high expectations and a long-term vision. We don't build short-term projects. If it's going to be done, it's going to be done right." **GCI**



The following research project examining reel and blade maintenance trends was sponsored by Foley United.



Setting the Standard with the Worlds Most Valued Grinders

Slave to the GRIND

Cut is king with superintendents, but some uncertainty exists with how to best achieve and maintain cut quality. GCI partners with Foley United to examine blade and reel maintenance trends.

While quality of cut is supremely important to golf course superintendents, it's the process and frequency of servicing and maintaining reels and blades that most influences this ability.

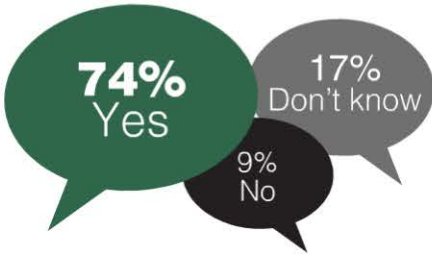
However, consensus on an "industry standard" with regard to reel and blade grinding and sharpening does not seem to exist.

GCI recently partnered with Foley United to examine reel and blade maintenance trends among superintendents and golf course equipment technicians. A survey was fielded in April via SurveyMonkey, an online research portal, to GCI readers. Nearly 300 respondents engaged the survey and shared their thoughts and opinions.

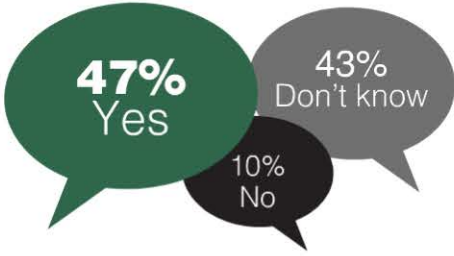
Superintendents and equipment technicians are often split when it comes to various practices and philosophies involved in reel and blade maintenance. In fact a vast majority (78 percent) of respondents indicated they'd be opening to varying opinions on the topics of grinding practices, regimens and philosophies.

What is undisputed, though, is the vital importance of this maintenance practice. For example, nearly 60 percent of respondents were grinding with the same frequency as they were three years ago, and nearly a third (32 percent) indicated they were grinding more in recent years. This trend very nearly remains consistent when respondents were asked to project how often they'd engage in blade and reel maintenance in the near future. — *The Editors*

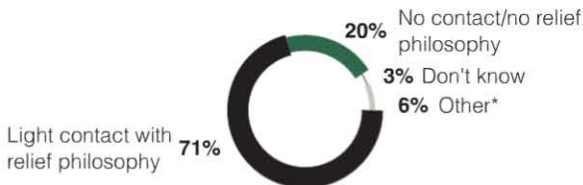
Would automation of the spin grind process reduce labor and increase productivity in the workshop?



Do reels stay on/cut longer when maintained to the reel manufacturer specification?

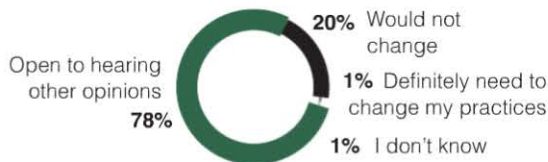


Do you subscribe to the "no contact/no relief" or "light contact with light relief" grinding philosophy?



**Editor's Note: "Other" responses included: both; no contact/light relief; no relief/light contact; depends on application; and based on manufacturer's recommendations.*

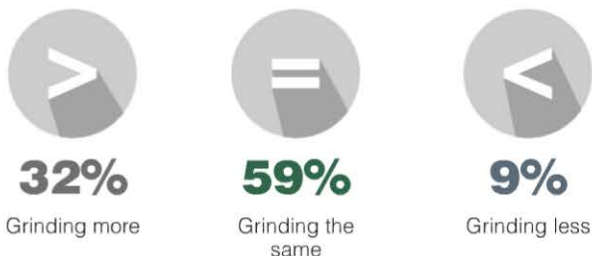
How committed are you to your current grinding practice, regimen or philosophy?



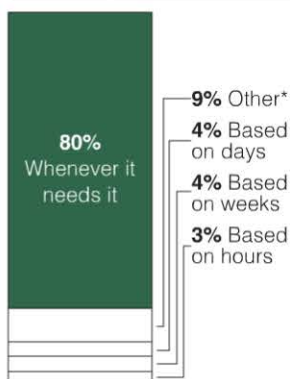
Who taught you, or where did you learn, how to maintain reel cutting units?

59%	37%	34%	31%	28%
Course's equipment technician	Equipment dealer's mechanic/technician	Educational seminar	Superintendent	Manufacturer
15%	12%	11%	6%	3%
In turf school	I do not maintain our reels, someone else does	Read it in a trade publication	Website online	YouTube

Are you grinding more, the same or less today than you were three years ago?

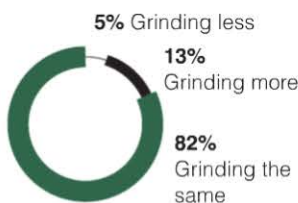


How do you determine when to grind?



**Editor's Note: "Other" responses included: winter/offseason; once a year; twice a year; and based on quality of cut.*

Three years from now, do you anticipate grinding more, the same, or less than you are today?



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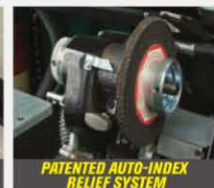
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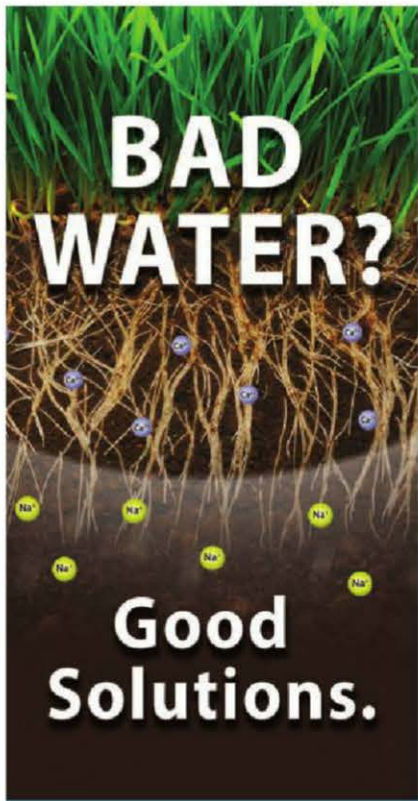


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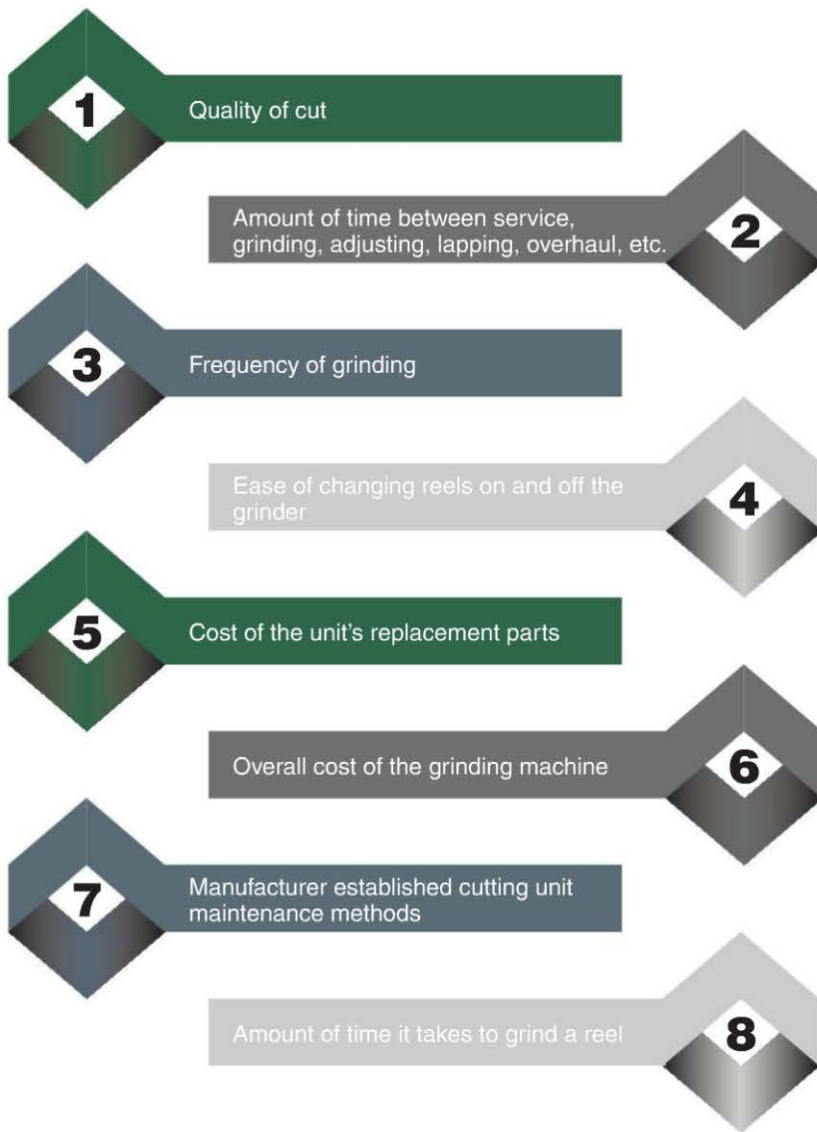
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NO PLACE AT THE TABLE?



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

"The leaders of five major golf organizations in the United States shared a refocused, collaborative approach to grow, protect and perpetuate the health of the game during a press conference at THE PLAYERS Championship in May. The LPGA, Masters Tournament, PGA of America, PGA TOUR and the United States Golf Association, as well as the World Golf Foundation and their allied golf industry leaders, attended and explained how they are working together on a number of initiatives aimed at bringing the game to young people and new golfers, as well as to tell the story of the positive impact of the sport."

—Geoffshackelford.com

How interesting that the "five families" are getting together to fix golf. But notice who is conspicuously absent from this gathering? Where is Rhett Evans and the GCSAA? How can any "collaborative approach" to the game happen without the people most responsible for golf courses? Without the superintendents, none of the programs discussed would be possible.

So why aren't we at the table?

Superintendents – both individually and collectively through the GCSAA – need to stand up and say, "look at us." We should be shoulder-to-shoulder and aligned most closely with the PGA of America, the organization that along with us is most important to moving the game forward: Golf pros teach the game while we give the game somewhere to be played.

I'm getting tired of saying it's our own fault for not being included. If we – again, both individually and through our organization – don't fight for a position of importance in the golf hierarchy, then we are just being stupid. We bring a unique set of qualities to that "table," including an understanding of science (agronomy, meteorology and biology at least), economics and human resources, plus numerous other disciplines unrepresented by the other organizations.

We should be at that table.

But we're not included because we don't promote ourselves and our organization, and we don't take the initiative to show how we help grow the game. Again, who else is better positioned to bring out the best of golf than the people most responsible for its fields of play?

As individuals and a group, we need to do more to grow the game and make it better. The other organizations are discussing programs and initiatives designed to drive golfers to our courses; at the very least, we must be ready for these new and re-committed golfers and create the best possible experience

for them. We need to ask ourselves how we can make a new golfer's overall experience a positive one and encourage them to come back again and again.

Most of us are happy to fly under the radar, do our jobs, and not be seen or heard. But if we are going to assume our rightful place at the table, we can't just think about turf. We have to commit to making someone else's day better each and every day.

Here are a few "jobs" we should take on every day:

- Make the course a welcoming, non-intimidating environment;
- Be more visible. Interact with players and members. How hard is it to welcome a golfer and shake someone's hand? Relying on social media is not enough: Make real, live, personal connections;

- Encourage current golfers to enjoy the game more, while looking for ways to attract new golfers, especially women, seniors and juniors;

- As the most knowledgeable person on property, use that advantage to become the "go to" staff member when golfers have questions. Welcome, rather than hide from, this responsibility, and use the interaction with golfers to educate and excite them;

- Tell the story of your golf course. Be able to tell golfers what to expect, what to look for, subtle nuances and hazards, and how to play them. But don't get too technical: Keep it simple and related to their games; and

- Gauge the conditions, weather and types of players to set up the course appropriately. The vast majority of people playing golf aren't really that good, so give them a break and let them have fun.

As superintendents, we also should be at the forefront of encouraging initiatives that support the game. Dozens of such programs are

(MORAGHAN continues on page 65)

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THE RIGHT STUFF

GCI's Bruce Williams provides a step-by-step guide for hiring, whether you're looking for a candidate, or to be one.

By Bruce Williams

The process of conducting a job search should be of equal importance to those looking for a qualified golf course superintendent and also to those looking for new opportunities and career advancement. Considering the average tenure of a golf course superintendent is over eight years, it is crucial a proper search be done when a vacancy exists at a golf facility. Here are

the steps that should be taken.

THOROUGH ANALYSIS

Vacancies exist for a variety of reasons. The golf course superintendent position may be open because of retirement, poor performance, mutual agreement, termination or even death. No matter what the reason for the vacancy, it is important the golf facility take a deep look into the position before worrying about how to fill it. Some of the preliminary

questions are:

- Why is the superintendent gone?
- Did that individual have the proper resources to get the job done?
- Do we have written standards and why or why were they not achieved?
- Have we offered compensation that is in line with our job description and goals for the superintendent?
- Do we have comparable data relating to budget, man-

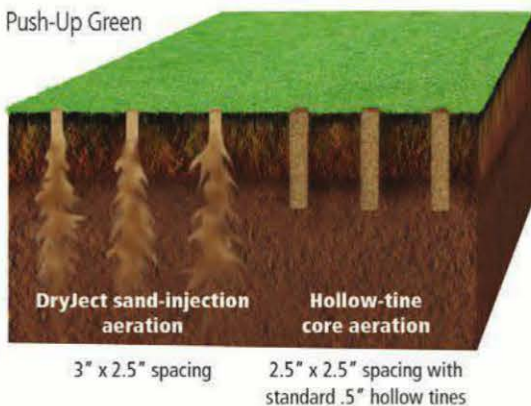
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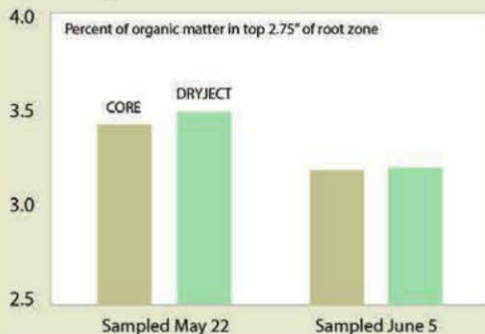
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- No significant difference in organic matter control between DryJect and core aeration
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Organic Matter Content in Sand Green



Organic Matter (report quote)

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power and overall operating budgets?

While there are more questions that can be asked, these are internal items and should be done the moment the position is vacant. Once you have that information, it's easier to structure the qualifications and needs/skills you establish as a prerequisite for hiring someone.

SOLO OR SEARCH FIRM

When a vacancy exists, a golf facility has the option of doing the search themselves or hiring a search firm. Some golf facilities have the proper structure to conduct their own search. However, when you fill a key position, like golf course superintendent, once every 8-20 years, it is highly likely the process is not something most organizations are familiar with. As good as many HR departments are, they would be hard pressed to know the appropriate skills desired in a new golf course superintendent.

General managers and directors of golf often elect to take on the hiring process. Normally the golf course operation is the department they are least familiar with. There is a lot more to it than keeping the grass green. As golf and golf courses have evolved, so has the job of the golf course superintendent. Communication and business acumen are just a few of the skills required today to be successful.

One of the options golf facilities have is to contact a local superintendent and ask him or her for a list of names. That may be the easiest and cheapest way to start a list. As we all know, you get what you pay for. This is really not a search, but a list of friends and acquaintances who might be a good fit.

Some facilities choose to advertise through a couple of the job referral sites or GCSAA chapters. While this is much better than having a list of friends and acquaintances, it is still not a thorough search. A good job will have over 200 resumes submitted. Most GMs and directors of golf do not have the time to devote to vetting as many as 200 candidates.

While the choice is up to the club, it should be noted that the major decision of who will manage your golf course for the next 8-20 years should not be taken lightly. Search firms do not select your next golf



CHECKLIST

While there are variations of the items on a checklist, here is a good idea of the proper steps in the hiring procedure.

- Meet internally to decide the steps you will take to fill the position
- Decide if you will do the search yourself or with outside help
- Be sure you do a thorough job of identifying the best search firms
- Either internally or with your search firm establish what you are looking for in your next golf course superintendent
- Match your desired skills with the appropriate compensation
- Analyze your budget, manpower and equipment
- Establish a realistic timeline
- Consider which vehicles you will use to advertise the job vacancy
- Establish a deadline for accepting applications
- Develop a plan for moving from 200 applicants down to a manageable 20 or less
- From that group of 20 decide on 4-6 with the best qualifications and arrange preliminary interviews
- Have a script of the best questions to ask that will bring out the best understanding of a candidate and his management style and plan of action
- When considering the hire of a key management position, it is worth the money spent to bring finalists in to see your property and operations
- To keep the timeline on track be sure that decision makers can be available for interviews and ultimate decision making as to the best person to hire
- Good candidates will require some negotiation to join your facility, so be prepared for that

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course superintendent, but they do put a considerable amount of time in to take golf facilities through the process of narrowing down the candidates to highly qualified individuals who are a good match for what they desire.

THE PROCESS

Any job vacancy should have an updated job description. That job description and the skills necessary for success will become the cornerstones for the range of compensation and budget required to get the job done. All too often I hear golf facilities saying “we want someone who can take our golf course to the next level.” Un-

less you know where you are, it is pretty difficult to chart out where you are going. This goes back to the previous comments about being realistic in not just hiring a qualified golf course superintendent but making a commitment to having the right resources to improve the golf course.

With as many as 200 resumes, it is a bit of a logistical and communication nightmare dealing with a job search. Good search firms are geared up for this and have systems in place to let job seekers know their application has been received. These firms also have an accurate timeline for filling the position that is adhered to. If

a golf facility does not have the time to do their search professionally, then the applicant pool will reflect that.

JOB APPLICANT IN THE PROCESS

While we have covered the hiring process in terms of the facility, it is time to offer some advice to people applying for the job. The first rule is to be sure the job you are applying for is truly open. Unfortunately, there are some facilities that still look for a new hire without making the change at their club. There is nothing more embarrassing than applying for a job that has not been vacated. Just because a facility tells you the position is vacated, you still

should contact the outgoing superintendent as a professional courtesy. There is great value in learning the ups and downs from your potential predecessor, as well.

RESUME READY

Be sure your resume is ready to apply for a job. Cover letters and resumes should also be customized to meet the skills and qualifications required for applicants. It is highly likely if your resume does not match at least 90 percent of the skills desired, you will not get the interview. For people interested in a job change, it would be prudent to see what qualifications are required today for the

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majority of jobs. If you are short in the requirements, then that should give you a heads up as to what you need to do to fill the gap. Understand that job posts will use the words “preferred” or “required.” If you have strengths in some areas over others, be sure to promote those areas.

In the application process, it is my experience that the people who apply early set the bar for the skills and experience that other applicants must meet or exceed. Why wouldn't a person want to be in the position of “Leader in the Clubhouse?” Once a vacant position is posted, it is best to get your application in within

a week even if the application deadline is a month out.

BE PREPARED

Be ready for opportunities when they arise. Do your homework on what the current skill set is for jobs you desire. Be sure to have continual education and be up to date with the latest in management, leadership, business, communication, etc. along with a sound foundation for golf course management. The better you are prepared, the better chance you have of applying and accepting that next opportunity.

YOUR CHOICE

Now that the complexity of

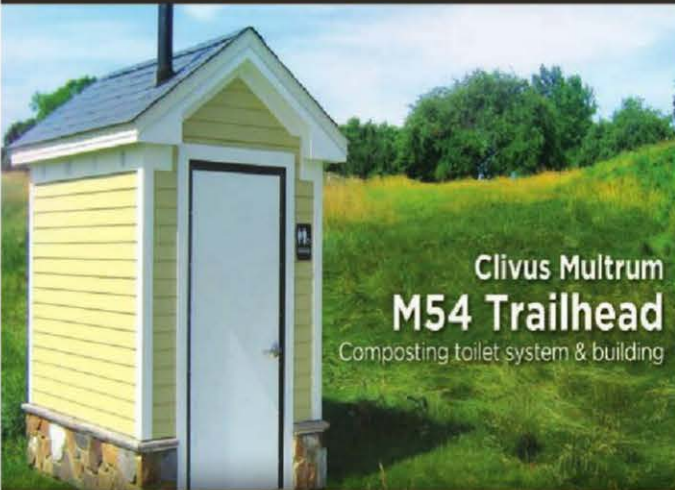
doing a professional job search has been addressed, it becomes pretty obvious that finding and hiring the next person to manage your golf course is not an easy task. Facilities that choose to do their own search have many challenges. The future condition of your golf course will have a direct correlation to how successful you were in attracting the right applicants. Remember that a good search firm will not only accept applicants, but they will likely seek out gainfully employed people that do fit the mold the facility is looking for. Convincing them to make a move is just part of the value a search firm can bring to the process.

While fees may vary for professional search firms, it is likely the cost to do a search is no more than the money already budgeted for the vacant position. It is best to look at the cost of a search as an investment rather than an expense. It is the investment in the direction of your golf course.


After all, finding the right person to take a golf course to the next level might be the most important decision the owners/leaders of a golf course facility make. Ultimately, it is your choice how you choose to go about it.

Bruce Williams is GCI's senior contributing editor.

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GOLF COURSE
INDUSTRY

(continued on page 14)

The greens were verticut several directions before the fall and spring seedings.

again in September or October depending on weather conditions and forecasts.” He adds, “No matter what happens, I know that Tim [Miles] and Bob [Foreward] will be right there by my side.”

Miles scoffs at the suggestion that Mackanos’ job could be in jeopardy if the bentgrass experiment does not pan out.

“As a highly trained owner/operator, I feel the risk is worth the potential reward, and if it fails, so be it,” he says.

“George doesn’t have to worry about being fired as I am on board with the idea and not that owner or greens chairman who expects year-round perfection.”

Miles nonetheless expects intense scrutiny from the local superintendent community to continue unabated in the months ahead.

“It’s easy to forget Lake Wales Country Club was a failing entity when GolfVisions took over,” Miles says. “In two years, I have invested over \$500,000 in improvements there. Second-guessers love to sit on the sidelines and be cynical, but I am in the game.”

Steven Trusty is a Council Bluffs, Iowa-based writer and frequent GCI contributor.

also plans to cut back on the water and maintain the greens as dry as possible. He will spray for Pythium and algae on a regular preventive schedule.

As far as how many staff will be required to sustain the bentgrass and perform routine course maintenance, Miles says, “We’ve already heard the negative comments about our total crew of six to eight not being realistic. I believe presumptions like this are one of the reasons so many courses are in trouble. Some superintendents just do not know how to prioritize in today’s challenging golfeconomy and truly do more with less to continue providing top playing conditions.”

INFORMING GOLFERS

Another important key to receiving buy-in to a change is communication to the members and daily fee golfers. “This is where the general manager is so important,” Miles says. “I had already invested over \$500,000 in improvements and that helped. They knew we were taking many steps to improve their experience.”

The staff communicates with members via email, but Foreward says face-to-face conversations are common at Lake Wales. “Our clientele stops and chats before and after play,” he says. “We always have ample opportunities to keep them informed. There is very

little drive by, wave and go to the tee.” Miles adds the timing of the seeding coincided with the typical period the course was previously overseeded with *Poa*.

With the exception of not using a heavy enough seeding rate to begin with and having to add more this spring, everyone seems to be satisfied with the results. It is too early to call the conversion a success.

“We’ve got to see what happens in July and August,” Mackanos says. “If it gets too bad and the greens don’t look good enough in July, I’ll go in with Revolver and get the Bermuda going strong and then come in and overseed with bent

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.



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.

WATER WEEGEE

Adam Bagwell, MPS, CGCS, at the Crane Creek Country Club in Boise, Idaho, has implemented a great system for syringing greens. The Toro 464-01mhs quick coupler key (\$86) has a 3-foot long piece of galvanized pipe attached to the top (recycled). The handle is unscrewed and welded to the pipe about 2½ feet higher so the employee does not have to bend over to insert it into the QC valve. A Toro 477-00 hose swivel (\$58) is attached to the pipe extension with a schedule 40-pipe nipple (\$26–\$35). Attached to the male end of the hose swivel is an Underhill Cannister, where Aquatrols Advantage wetting agent pellets are used when needed. The Otterbine Pond Bubbler Hose is approximately 30 inches long with a 1 inch OD, ½ inch ID. The greens typically have three QC valves, the tee complexes have two or three and three or four per fairway. QC valves are added wherever perennial dry spots occur, including adjacent to the bunkers and roughs. The operating pressure in the field is between 125–140 PSI. The water pressure is ideal to reach across a typical green and everywhere in-between. It took about 30 minutes to assemble. Dylan Wilder from the Eagle Hills Golf Club in Eagle, Idaho, conceived the original idea. The front 9 holes were recently renovated by David Druzisky, ASGCA, and opened for play in mid-May.



QUICK SPRAYER FILL-UP

Steve Donchez, equipment manager, and Ed Gross, superintendent, at the Northampton Country Club in Easton, Pa., conceived and built this quick sprayer fill-up idea. One 2011 John Deere 200 gallon and either a 1980 or 1999 John Bean 200 gallon sprayer can be filled up simultaneously at 100 GPM. Irrigation water at 120 PSI is regulated down to 80 PSI. The plumbing is 2-inch diameter galvanized pipe, PVC and brass fittings and ball valves reduced down to 1½-inch diameter for the two rubber hoses, with quick disconnects. The water meter, with protective cap, is used to accurately measure partial spray tank mixes. It costs \$300–\$400 for new and recycled parts and it took about eight hours to build. Ron Forse and Jim Nagle recently completed a restoration of this course founded in 1899. **GCI**



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GOLF COURSE INDUSTRY IS A MEMBER OF:

Golf Course Superintendents Association of America

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Golf Course Builders Association of America

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(MORAGHAN continued from page 52)

out there, competing for our time and resources. Here are a few I like.

- Drive, Chip and Putt. This joint initiative of the Masters Tournament [or is it Augusta National?], United States Golf Association and PGA of America puts real equipment into the hands of young golfers and focuses on the core skills of the game.

- The First Green is committed to introducing kids to golf courses as an environmental and learning location. Think science classes on the golf course. What could be more up our alley?

- LPGA-USGA Girls Golf, which introduces the game to girls up to 14 years old, has grown since its inception more than 20 years ago. Some 50,000 girls will go through the program this year.

- WE Golf, a new initiative in the New York Metropolitan area, is designed to introduce young professional women to the game through a series of events emphasizing fun and social/net-

working benefits. They had me at “fun”!

- Get Golf Ready offers adults five lessons for \$99. In its six-year history, Get Golf Ready has attracted 358,000 students, 62 percent of them female. Best of all, after one year in the program, 82 percent of participants stick with the game.

These aren't the only grow-the-game programs out there, but they are ones that are working. We should be getting behind initiatives like these that give the game a healthy future. At the same time, superintendents need to be thinking how else we can promote that future as well as our place in helping to shape it.

The more we do for the game, from the local level on up, the greater our chance of being included with those other organizations that have stepped up to set golf's course. We should be at that table, but we have to prove that we belong – each and every one of us, each and every day. **GCI**

(BRAUER continued from page 16)

in politics and design, everyone being mid-way between happy and angry might be a sign of a well-balanced solution!

THE ARCHITECT HAS MANY MASTERS

Architects have multiple constituents not represented on the committee. The designs we present to the committee for approval actually consider all obligations; contractually to the owner, legally to regulatory bodies, morally to golfers, financially to bookkeepers, practically to superintendents, ethically to neighbors, the community and the environment, and ever mindful of the eventual golf course critics.

SIMPLICITY PAYS

Turning to Einstein again, he once said, “We should make things as simple as they can be, but not simpler.”

All things being equal, the best design is the simplest one. Undue complication, requiring Rube Goldberg engineering to pull

off, is usually a sign of poor concept. Golf course design is not as complicated as golfers think (and as some architects portray)

CONSTRAINTS ARE GOOD

It always seems as if the land next door is better, but designers embrace constraints to form a unique design. Don't lament over your constraints.

IT'S HARD TO EXPLAIN GOOD DESIGN

Most golfers really don't understand plans. If your architect has modern 3D graphic capabilities, by all means, pay more to use it for your own understanding. A picture truly is worth a thousand words in communicating design intent.

Modern technology allows your committee to visualize the design. However, it requires architects to go further in the design process earlier than they're used to. It costs more, but most find it's worth it to use technology. **GCI**

THE WAY IT WORKS



Pat Jones is editorial director and publisher of Golf Course Industry. He can be reached at pjones@gie.net or 216-393-0253.

Believe it or not, my job is not just flying around the country, giving speeches, playing bad golf on great courses and tweeting fun pictures taken with my selfie stick. (Well, okay, that's 98 percent of my job, but play along for a minute and pretend it's not.)

Occasionally, I have to do real work like pouring over spreadsheets full of data about our advertisers. I'm always trying to analyze changes in the market. Which companies are emerging or declining? Which ones are doing more digital advertising and social media? Who's advertising in other (vastly inferior) magazines and what can I do to reach out to them and bring them safely into the warm bosom of the GCI family?

The landscape of suppliers in the golf business evolves constantly, but one thing never changes: there is a core group of committed companies that underwrites everything we do.

Consider this: By my estimate, about 35 companies account for nearly 75 percent of all the advertising and marketing dollars invested in our industry. That's not just print advertising...it's everything including trade shows, sponsorships, chapter support, donations, events, educational opportunities and more. It runs the gamut from putting up a giant \$350,000 booth at the GIS to paying for "free" sleeves of golf balls at your local association outing.

If not for those three dozen leaders, there would be no free magazines, conferences would shrink down to nothing and registration fees would soar, and your local and national association dues would triple. In short, those stalwart companies provide the financial infrastructure that keeps information and education flowing to you.

As if that's not compelling enough, they also put experts into the field to help you every day. University funding and extension programs are getting killed everywhere and companies are stepping in to hire PhDs and put them back in the field to bring agronomic advice to you. Yes, they do have an obligation to represent their company's products but, in my experience, they spend most of their time just helping supers deal with problems that aren't necessarily related to what they're selling.

Those leaders also bring the vast majority of new products to the market. That means they're the ones doing the fundamental research and development that creates new technologies and new practices. They identify problems for turf managers and they solve them. How cool is that?

(That's not to say that smaller companies don't innovate as well. They do every day. I'm particularly impressed with how many new products have been de-

veloped and marketed by supers and former supers. Our friends Pat Sisk of Green Sweep and Scott May of Turf Screen are great recent examples of that wonderful phenomenon.)

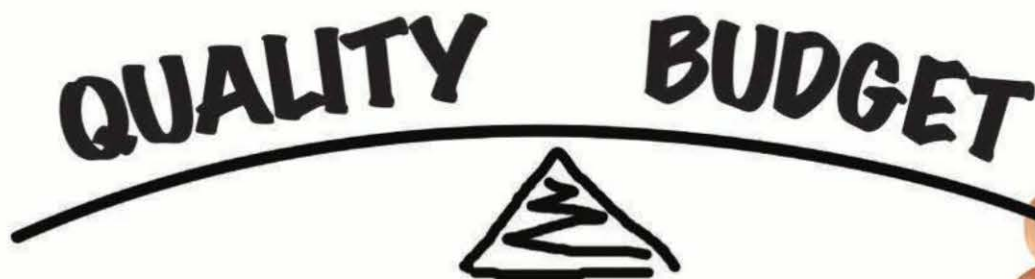
I could use the rest of this column to list those amazing companies who support us and, more importantly, you... but I don't need to. Just look around you and you'll see their logos everywhere in your office, on the pullover you're wearing, on the pocket knife you carry, on the training manual your mechanic uses every day, on a tee sign at your chapter golf tournament, and so on, and so on. They invest in hundreds of ways, big and small.

Many of those companies choose to market with GCI because they're confident you'll read each issue or open our newsletters and you'll see their ad. In that sense, we're simply a delivery system for their key messages. But many of them also choose to invest in our magazine because they like what we say and like how we do things. In short, they support us because they believe in our mission and they feel our passion for this business. I love those folks. They get it.

The question is, do you? Do you really understand the mutual support system that makes our industry work? Do you recognize the value these companies provide beyond just offering products and reward it with your spending? At the very least, do you say "thanks" to them when they visit your facility or you see them at a show?

This is and always will be a relationship-driven industry. The great Willie Pennington of BASF told me years ago that his philosophy is, "Friendship first, business later." I love that.

My philosophy is simple: I support people who support me. My goal is to return the love. Call it karma, call it good business, call it doing the right thing...it's simply, as Willie said, an extension of the friendship we all share in our happy little industry. I'm grateful to be part of it. I hope you are too. **GCI**



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