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WHAT HAPPENS TO GOLF COURSES WHEN THEY NO LONGER SERVE UP TEE TIMES? MANY OF THESE FAILED PROPERTIES RECEIVE A SECOND LEASE ON LIFE.

p. 44





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FLASH!

Breaking news often comes at inconvenient times for those of us who are still in the business of printing it on dead trees and entrusting it to the Pony Express...er, I mean U.S. Post Office...to deliver to you.

So, predictably, Mark Woodward's surprise resignation as CEO of GCSAA came at just such an inconvenient time – just as we were readying to go to press with this issue. (*Editor's note: The above revelation may have been quite a shock to all nine of you that still don't have the Internet. I'll give you a minute to digest this information. Perhaps you can calm your nerves by taking a stroll outside your cave and watching the brontosaurus graze in the field out front.*)

We posted the Woodward announcement on our website and on Facebook within minutes of getting confirmation of it and, within a couple of minutes of that, the emails and calls started coming in. All of them basically asked one question: Why?

Well, as I sit here a few days later, that question remains unanswered. Perhaps by the time you read this, all will have been revealed and any speculation I could give you now will be equally old news. So, I won't speculate about why, but I will offer some observations.

First, I never heard anyone question Mark's performance or energy in the job. He's a good guy and he was always fair and patient with me, even though he couldn't have liked it when I wrote unflattering things about the association. I am a professional pain in the ass and he put up with it.

Second, the circumstances of his tenure were – in the words of philosopher Thomas Hobbes – “nasty, brutish and short.” His two years at the helm were dominated by the economy crapping out, trade show and advertising revenue shrinking and the resultant need to downsize about a quarter of the staff in Lawrence. It couldn't have been much fun to be forced to be the hatchet man.

Third, I stand by what I wrote when he was hired that there are inherent challenges associated with being a recent president who tries to move into the role of staff executive. There is a vast difference between the elected

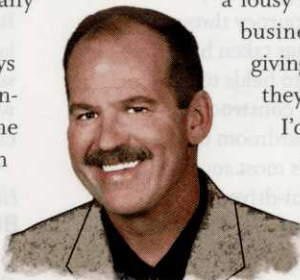
leader and someone who serves at the leadership's pleasure. Going from giving orders to taking them from your former colleagues can be awkward and, perhaps, grating.

So, all we really know is that the board will once again embark on a search for a new CEO – a costly and time-consuming process, by the way – and that we'll have someone new in the job sooner or later. What kind of person should they hire? Who will drive the process within the board? What will the political ramifications be inside and outside the walls of headquarters?

Here's my answer: I don't know and I really don't care. When Woodward's resignation was announced, it occurred to me that this was the first “real” news I'd heard from GCSAA in ages. Honestly, they just haven't seemed to have done much of anything new in years. In their defense, they were busy managing through a lousy economy and reshuffling their business to keep the GIS cash cow giving milk. In a sense they did what they're mandated to do. However, I'd argue that extraordinary times create extraordinary challenges that require extraordinary solutions. I'm not trying to be snide here but what has the GCSAA done lately that has been extraordinary?

There was a time when I paid a lot of attention to GCSAA internal politics. The whole PDI thing. Board members losing their positions. The saga of Steve Mona applying for other jobs. Their inability to lure prime candidates before the job eventually went to Woodward. Staff dissension and downsizing. It was a lot of fun for a while, but it's just gotten old.

Frankly, I've come to the conclusion that the GCSAA is increasingly irrelevant to the average superintendent – and therefore to our editorial interests – these days. Yes, they run a fine education program. Yes, the show is an important, albeit smaller, platform for the industry. But does anything else the GCSAA does or says really mean a whole lot to your day-to-day life? **GCI**



Pat Jones
Editorial director and publisher

GOLF COURSE INDUSTRY

Serving the Business of Golf Course Management

Vol. 22 No. 7

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Waiting for things to even out

I read with interest your May 2010 cover story "In Munis We Trust" (page 20). As co-owner of a family-owned, 18-hole public golf course in Western Massachusetts, established by my parents in 1963, I feel more than qualified to weigh in on this subject. We have six municipal golf courses within a 20-mile radius of our area, each in direct competition with us. My dad built our golf course for the average golfer, with a business philosophy of offering a quality product at a fair price. Our customer base is the average player, providing what Dennis Lyon calls "accessible, affordable, quality golf."

Recently, we have seen some of our local municipals receive benefits that go beyond tax breaks. In 2007 we saw the Ledges Golf Course in South Hadley receive a nearly \$250,000 "Urban Parks" grant from the state to build its new clubhouse. Several years ago, Franconia Golf Course in Springfield received a \$1 million state grant and a matching bond from the city to install an irrigation system. These are just some of the most egregious examples of

what we have to compete against. It sure would be nice to have access to some of these free gifts out here in the private sector.

Mr. Lyon sure was right when he said there are no level playing fields when it comes to competition between golf courses. However,

out here in Western Massachusetts we're still waiting for things to even out.

Mark T. Perez
East Mountain Country Club
Westfield, Mass.

Your point

In your article "In Munis We Trust" (May 2010, page 20) you missed a couple of points.

- Muni prices are not break-even prices in most cases; the tax payers foot the bills and have no idea how much they are.
- Muni courses pay no real estate taxes. True.
- Muni courses pay no payroll taxes. True, who does?
- Muni courses pay no insurance. True, who does?
- Muni courses don't pay labor. True, who does?
- Muni courses take away tax base and add to the taxes of private business. True.
- Muni courses can buy equipment at government contract prices. True.

The point here is that muni courses charge way below what the product is worth and they are driving private business out of business. There may not be a level playing field, however that does not mean that government inefficiency, cronyism, corruption, etc., should be running us out of business.

Brian Christman
Christman's Windham House
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An easy target

I have a comment about Charlie Birney's Pro/Con article ("A Cautionary Tale," May 2010, page 28). I've been around golf long before the boom that brought so many business owners looking for a quick buck. The result: owners who knew little about golf wanted the municipalities – who were there for many years and who provide recreation for the less fortunate who want to play – to go away. It was all about not wanting competition. The question became: "Why is government in golf?" And the answer: "Because the private sector will only do it if it makes money."

Parks & Recreation departments are not revenue producers – they are tax supported. The essence of this is to provide recreation for the masses. Ice arenas, tennis courts and playgrounds are not being built by the private sector for similar reasons. Are some municipal courses losing money? Yes. Many are not making it because too many courses were built around them. In the Minneapolis/St. Paul area there were more than 110 courses added to

the metropolitan area since 1970 (2003 Clasp Report by the NGF). Think about capacity and dividing the pie. Who is the easy target to go away? No one addresses who built all this oversupply.

Next, we have the courses built for land sale with walk-away realtors. They could care less about the cost of golf or how to run a facility. But the older courses are left with increased green fees that hurt everyone. It helped destroy the game we all loved. Now we reap what was sown by strictly profit motivations. There is a place for government run course where private enterprise cannot afford to provide for the amenity, especially in urban centers.

John Valliere
General manager
Braemar Golf Course
Edina, Minn.

Hearing the message

Just read Pat Jones' April 2010 column ("Huh?" pg 58) – good stuff. I too suffer from hearing loss, and the older I get the worse it

is for me to "get a grip on my problem." I've been a "rocker" for as long as I can remember. As a Golf Course Superintendent I stress the importance of hearing protection. I've been a "super" for more than 20 years. I'm 44-years-old and I can hear an owl from a half mile away but I cannot hear my assistant talking to me from the end of the lunch room table.

I too witnessed Pete Townshend and The Who – damn those lymie bastards... (Pat's line). I tell all my young guys once your hearing is gone, it's gone. Now when I use a chainsaw or even weedwack I have hearing protection on. The young guys are following my lead.

"We" cannot stress the importance enough. As always I'll continue to read my Golf Course Industry magazine from back to front.

Tom Niebling
Columbia Golf & Country Club
Germantown, N.Y.

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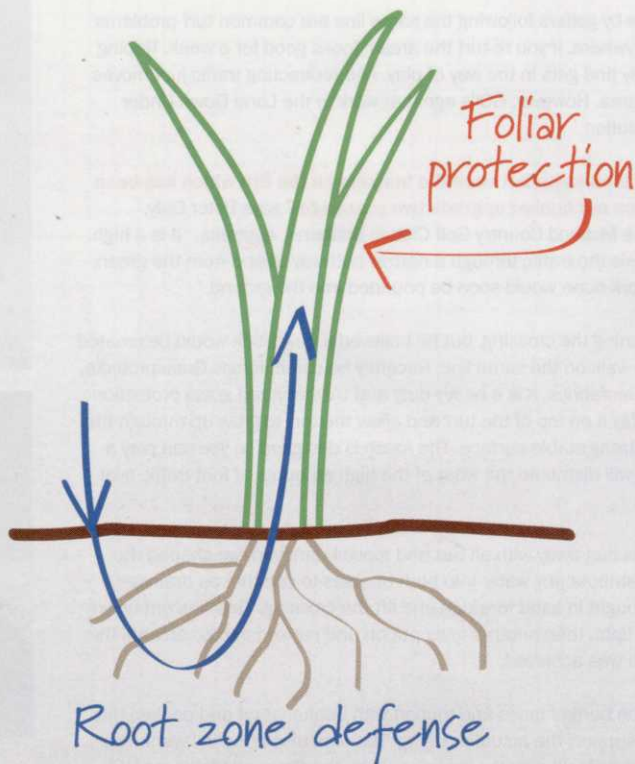
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A path to follow

Wear areas made by golfers following the same line are common turf problems for supers everywhere. If you re-turf the area it looks good for a week. Roping off the area looks ugly and gets in the way of play. And redirecting traffic just moves the wear to another area. However, GCI's agent at work in the Land Down Under reports a possible solution.

"We have one area, a crossing between the bunkers on the 8th which has been a major problem since our bunker upgrade two years ago," says Peter Daly, superintendent at The McLeod Country Golf Club in Brisbane, Australia. "It is a high traffic area that funnels the traffic through a narrow pathway to and from the green. Consequently, any work done would soon be pounded into the ground."

Daly considered widening the crossing, but he believed a new track would be created as everyone tends to walk on the same line. Recently he came across Grassprotecta, a new product from Geofabrics. It is a heavy-duty and UV-stabilized grass protection mesh. The idea is to lay it on top of the turf and allow the turf to grow up through the mat creating a very strong stable surface. The mesh is designed so you can play a golf shot off it, and it will distribute the wear of the high amounts of foot traffic over the whole of the grid.

"The original path was dug away with all turf and topsoil removed, we shaped the sub soil surface to distribute any water into both bunkers to use that as drainage," he says. "We then brought in sand to widen and lift the crossing. This was put down in layers and packed tight, then another layer put on and packed and so on until the right height and width was achieved.

"We then repacked the bunker faces and topped with bunker sand and packed this as well, thus helping support the actual crossing. This was also done in layers. The area was watered and turf laid over the crossing. Then the Grassprotecta was laid out, cut to shape and then pegged down. We let the turf take root and grow through the grid."

Well, five weeks later and the area is back in use. Daly is amazed at how well the matting distributes the wear. And once the turf grew through it was impossible to lift the matting. Most importantly, the golfers are happy and Daly even had some play a shot off it with no problems.

"Overall, I think this is a great solution to some of our areas," he adds. "It will be interesting to see this long term and also how it goes through winter as the couch is already slowing down its growth rate. But as a solution to traffic wear problems, the cost wasn't too high and it was easy to put down and get back in play very quickly."



Grassprotecta, a heavy-duty grass protection mesh, lays on top of turf and allows it to grow up through the mat to create a strong, stable surface.



JULY 2010

SMART IRRIGATION

S4

DEEP ACCESS

Providing users with more detailed data, Toro's recently released Lynx irrigation control system has begun to make waves.

S10

SENSING MOISTURE

As legislative pressure to limit water usage increases, soil moisture sensing systems are becoming the go-to tools for smart water practices.

S18

ALL WET

Correcting the problem of hydrophobic soils, superintendents utilize wetting agents to lower irrigation costs.

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WATER, WATER EVERYWHERE

Back in mid-April I attended the 2010 Intelligent Use of Water Summit in Washington D.C. that explored some of the key water conservation issues facing the green industry.

Not surprising, this Rain Bird-sponsored event drew a packed house with countless other green industry members attending the conference online



Mike Zawacki

and tweeting questions to the conversation. As I sat in the crowd I waited patiently for the anvil of perception and opinion to come hammering down on the golf course industry. Like with many eco-issues, people easily paint a large, red target on the

back of this industry. And when it comes to topics like water use, the average Joe sees well manicured fairways and neat greens at their local public links or country club and they point a collective finger in disgust.

Instead, I was pleasantly surprised to hear that one of the main strains on available water resources is intense population growth within and around many U.S. metropolitan areas. And contrary to popular belief, the smart, systematic irrigation of a golf course cannot hold a candle to the amount of water used – and wasted – by the average suburbanite flushing, watering and washing during the course of a typical day.

In fact, the actions taken by many golf courses – such as converting “green” areas into “natural” native habitats and adopting progressive irrigation practices – were cited as examples of commendable smart water usage. And in many cases, the experts made the case that, through the adoption of state-of-the-art irrigation technology, it’s actually possible to save water through smart irrigation.

Now, in light of the unprecedented rainfall and flooding many of you in the South and Midwest are still recovering and drying out from, water conservation may not be top of mind in your collective communities. Mark my words, though, this is a short-lived luxury.

As cyclical as turf pests, periods of extreme rainfall will eventually give way to periods of parched earth.

And as such, you can almost hear your neighbor’s collective gripe of, “As my front lawn browns, so goes the 9th green.”

I know, this sounds like preaching to the choir, but remember, there’s nothing finer than the sound of a well-rehearsed and finely tuned choir.

You can do a lot to better educate your facility’s members and your community by extolling the advanced irrigation technology your facility has invested in. Inform them that you’re pumping your irrigation water from one of your facilities retention ponds, and not the nearby water main. Explain to naysayers that yes, your course maintains healthy, green turf, but you are able to achieve this through smart watering practices that actually utilize less water than the typical backyard hose and oscillating sprinkler. Okay, maybe that’s a little bit of a stretch, but you see my point.

As modern course caretakers you have to be equal parts turf nerd and PR agent. And if you’re not already, then you need to get out there and start interacting and educating those who are the quickest to wave that finger of disapproval at your industry when the rain fails to fall.

“And contrary to popular belief, the smart, systematic irrigation of a golf course cannot hold a candle to the amount of water used – and wasted – by the average suburbanite flushing, watering and washing during the course of a typical day.”

Lastly, GCI presents our annual Smart Irrigation supplement, which highlights some of the water-use issues the industry faces. This year we’ve focused much of this special supplement’s editorial on soil moisture and how this impacts a superintendent’s ability to keep greens, well, green. Make sure you check it out.

And if you have a story about how you’ve innovated irrigation practices at your facility, then we want to hear about it. Drop us a line at gci@gie.net. SI

DEEP ACCESS

Providing users with more detailed data, Toro's recently released Lynx irrigation control system has begun to make waves. By John Torsiello



It may be a bit too early to label it as a game-changer, but Toro's Lynx Control System has been making waves in the golf course turf management industry since its formal launch early this year.

After spending more than two years in development and a year in testing, Toro's Lynx Control System sets new levels for ease-of-use and integration, says John Fuller, the company's senior product manager. "Simply put, customers will be able to do more and spend less time and effort using it," he says.

Perhaps a bit biased, Fuller doesn't hold back judgment when he says, "It's a game changer for us and the industry."

So what sets Lynx apart? It differs from other systems in several key areas.

According to Toro, the system's software is presented in a "flat" display, where all of the information needed is available to the user for a given operation without having to open and close additional windows, thus reducing the amount of time the user spends going between screens, thus improving efficiency.

The control of the system is based on a "hierarchy" that is organized along the same lines as a golf course. Areas (greens, tees, fairways) followed by holes (1 through 28), followed by the individual sprinklers.

This is not necessarily a new concept, Fuller says, but the way the hierarchy is presented to the user, with the ability to view the system at any of the three levels (area, hole, sprinkler) by clicking on a plus/minus box (similar to Windows Explorer), gives a superintendent a level of control

Lynx's software is presented in a "flat" display, where information is available to the user for a given operation without having to open and close additional windows.

and ease of access that they've not had before, Fuller says.

Lynx also allows a superintendent to control a facility's irrigation system by either minutes of runtime or application amount, and shows the corresponding values.

For instance, if a superintendent enters a runtime in minutes, the system will calculate and display the corresponding inches of application. If he enters an application amount in inches, it calculates and displays the corresponding minutes of runtime. "Users can decide to run their systems by either minutes or inches, for each individual area of the golf course," Fuller says. "But in either case, they get to see the corresponding minutes/inches, and this helps in understanding just how much water is being used in each area."

Superintendents can create and edit their own digital map and employ it in controlling their irrigation system.

"Digital maps have tended to be more static in the past but the golf course changes over time – the addition of a sprinkler head, moving a tee box, modifying a bunker," Fuller says. "Now the map can change as the course changes."

In addition, Lynx reports scheduled activity and actual activity results to the end user. "When they are setting up their irrigation for the upcoming night, superintendents have a clear picture of how much water was put out the previous night and how much water was put out manually during the previous 24 hours, regardless of whether the manual activity was initiated at the computer, on the handheld radio, or at the satellite's faceplate," Fuller adds. "It all gets captured and reported to users, allowing them to make more informed decisions about the upcoming night's irrigation needs."

Lynx calculates and executes sta-

tion runtimes to the second rather than rounding to the whole minute, with the turf getting precisely the amount of water it needs.

A "pump profile" allows a superintendent to limit the amount of irrigation that takes place on an hourly basis, based on the amount of electricity that the pump station will consume. This allows him to avoid penalty charges for consuming excess electricity during peak hours.

The system is tightly integrated with the company's Turf Guard soil monitoring system, which allows the sensors to report when an area needs water and when it doesn't. "It's all about better information, better decisions, and more efficient watering," Fuller says.

Cost for a Lynx system is in keeping with typical purchase prices for golf irrigation control systems, according to the company, and varies based on the size of the system and field hardware selected.

There is sure to be some reaction to the new Toro irrigation control system from other high-end tech control companies. Fuller quipped, "Our competition is nervous. They were hovering around our booth at the Golf Industry Show."

Rob Tanaka, superintendent at Oak Creek Golf Club in Irvine, Calif., which has been a Lynx testing site since last November, has been happy with the new system. Lynx's system architecture is different than what the company offered superintendents in the past and it includes a number of technical improvements.

Tanaka believes Lynx allows for significant integration, adaptability and simplicity, which he says are key improvements in irrigation control. "As superintendents, we want to have a system that is easy to operate but also something that we can dig deeper into for information when we need it," he says. "This is

Tony Gustaitis
- CGCS -

Anthony Gustaitis



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An ongoing battle

A superintendent in New Mexico experiments with wetting agents to combat localized dry spots

For Steve Campbell, wetting agents aren't a miracle product; they're just another gun in the arsenal of turfgrass management.

"If you know how to use them and what they're supposed to do, they work," says Campbell, director of agronomy at Las Campanas, a 36-hole facility that sits on 5,000 acres of high desert in Santa Fe, N.M. "If you don't know what they do, you won't get good results. There's no 'follow A, B, C and D,' and you'll be successful. Find out what your problems are and figure out how to fix them. If wetting agents work for me, I believe they'll work for everyone if they apply them to their individual needs and situations. Each golf course is different. You don't treat them all the same."

Campbell manages 100 employees and runs the golf course, landscape, public works and revegetation divisions at Las Campanas, a Lyle Anderson development. Budgets are confidential, but Campbell's is more than \$1 million.

Campbell, who's been at Las Campanas for 12 years, is a big believer of wetting agents and has used them his entire career. He injects wetting agents into the irrigation system, using $\frac{1}{16}$ to $\frac{1}{4}$ of an ounce per thousand square feet of turf per day.

Las Campanas receives just 12 inches of rainfall a year, so water is king.

"I need to make water wetter to conserve and use every drop," Campbell says. "Wetting agents break the surface tension of the water droplet and force it to go into the soil."

Under water conservation mandates, the most water Campbell can use per golf course per day is 600,000 gallons, even though he says he can use less than that during less stressful months of the year. Determining how much water he uses is a complicated system, he says. He checks water use every morning via a computerized monitoring system and reports

it monthly. Other parties, namely municipalities, can check his water use daily if desired.

The water is high in salts and bicarbonates, which makes it difficult for Campbell to flush the soil. He can flush salts down into the soil profile with the annual 12 inches of rainfall and the wetting agents he uses.

The bentgrass Campbell grows isn't native to the area. He says there has been ongoing talk about changing the turf, but the native grasses (buffalograss, for example) would never be used because they wouldn't survive if cut at turf heights.

"I have bentgrass on greens, tees and fairways," he says. "The temperature will go down to zero degrees Fahrenheit in the winter, and if I don't have snow cover, I irrigate the turf once a week because the plant will freeze dry if I don't because of the high winds and very low humidity. The crown needs to stay wet or it desiccates. We're at 7,000-foot elevation. The Rocky Mountains begin here in Santa Fe."

To treat localized dry spots, Campbell uses eight ounces of wetting agent per thousand square feet every two weeks. No matter how uniform a green is, there will be inconsistencies and localized dry spots, which is compounded with salts, he says.

Campbell says he has tried every wetting agent on the market and started using them in Philadelphia where it was hot and humid with an entirely different set of weather, soil and agronomic conditions.

"Surfside is the best wetting agent I've used," he says. "I use it exclusively."

Campbell uses wetting agents throughout the year and is always looking for a deal. He

buys the 55-gallon drums even though the shipping is expensive.

"I spend a minimum of \$12,000 on wetting agents a year," he says. "There has been no year where I spent less than \$10,000 on wetting agents. The drier the year, sometimes as little as four inches of rainfall a year, the more I need to supplement my irrigation."

Campbell acknowledges there's an uncertainty about wetting agents in the industry, but he says a superintendent has to know his soils, drainage, irrigation and turf problem areas.

"You need to spend the time to experiment," he says. "One size doesn't fit all. What I used in Philly is different than what I use out here. It's no different than any other business. Attention to detail is the key, and versatility is key to success.

You need to make adjustments. You don't just dump a wetting agent in the tank and go."

When Campbell sees a water-related problem, he applies a wetting agent, which alleviates the problem but doesn't eliminate it.

"It will be different for me every year," he says. "It's frustrating, but just because it worked last year, doesn't mean it will work exactly the same way this year. It's an ongoing thing."

Superintendents will always deal with localized dry spots and wetting-agent use, Campbell says.

"Every superintendent should have a wetting agent as part of his arsenal," he says. "They've been around a while, but they must be doing something for someone because they've last a long time. That's somewhat of a testimonial." GCI



STEVE CAMPBELL
CGCS

SMART IRRIGATION



Davis

a well thought out system that allows a great efficiency of use and reduces the amount of time we need to spend on running our irrigation. We can look at the different facets of the system – weather conditions, course mapping – and make changes very quickly if we need to. Simply put, it's very user friendly.”

Training staff to either manage or merely understand how the new system works has been easy, Tanaka says.

Lynx should create efficiencies in Tanaka's water management program, which he adds will translate into cost savings for his course in the long run.

Old Chatham Golf Club in Durham, N.C. has been another test site for Lynx. Head golf course superintendent Brian Powell says his experience with the system so far has been positive. His facility has been a test site for the system since last winter. From his experience using the system, he describes it as easy to use, intuitive and flexible.

“It is a time saving, powerful tool that can be expandable when needed,” he says. “I'm a second generation golf course superintendent and I have not seen anything that has the strength and easy-to-use features that Lynx has.”

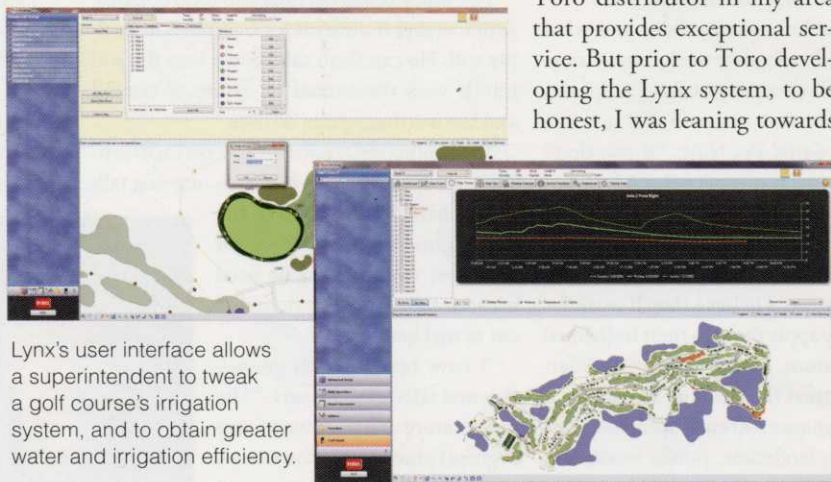
Powell says Lynx's user interface almost invites a superintendent to want to explore ways to tweak a golf course's irrigation system, and to obtain greater water and irrigation efficiency by targeting specific areas of the facility.

“One of the greatest benefits is that you can create programs in a fraction of the time it takes other systems to create,” Powell says. “It's

very powerful in that regard. I honestly don't see any disadvantages at this point. We are setting up ours to use permanently.”

Asked whether he would recommend course superintendents and general managers consider investing in a Lynx system, Powell says, “Absolutely. As a matter of fact, I have already done just that.”

When Darren Davis, director of golf operations at Olde Florida Golf Club in Naples, Fla., and his staff were planning for renovations on the course's existing irrigation sys-



Lynx's user interface allows a superintendent to tweak a golf course's irrigation system, and to obtain greater water and irrigation efficiency.

tem they went to work, doing their homework on finding what they felt was the best irrigation control system on the market. They became sold on Lynx after close examination and analysis.

“This summer, 18 years after the original installation, we embarked on a significant irrigation renovation and upgrade to the course,” Davis says. “In 1992, I made the decision to install a Rain Bird hydraulically actuated system at Olde Florida. At the time we used the Maxi control system, which we eventually upgraded with the Cirrus software system. In 1992, a significant factor in my choice to go with a Rain Bird system was my familiarity and preference for the Rain Bird software. I was comfortable that both the Rain Bird and

Toro products would perform, but Rain Bird was selected because I felt the control software was significantly less complex. It is extremely easy to learn and operate.”

Despite being quite pleased with the overall operation of the Rain Bird system, Davis decided to make a switch.

“With the development of the Lynx software, Toro has designed a product that I am extremely comfortable will provide the ease of use of my Rain Bird system,” he says. “I am fortunate to have an excellent

Toro distributor in my area that provides exceptional service. But prior to Toro developing the Lynx system, to be honest, I was leaning towards

renovating the golf course with Toro irrigation heads and utilizing the Rain Bird control system. However, the Lynx software made the decision to go with a complete Toro system an easy one.”

He adds, “Some of my peers that have been using existing Toro software and have seen the Lynx software have told me that the new (Lynx) system allows them to do all of the things that they were able to do with their previous Toro systems, but with more ease. For me, having been a Rain Bird user for so many years, the Lynx system will provide a very smooth transition to the Toro system for myself and my staff.” ❏

John Torsiello is a freelance writer based in Torrington, Conn.

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SENSING MOISTURE

As legislative pressure to limit water usage increases, soil moisture sensing systems are becoming the go-to tools for smart water practices. By John Torsiello

When you are living on the edge you'd better know just how close you are to that edge.

It is estimated that more than 15,000 golf courses in the United States demand about 2.7 million gallons of water a day. Faced with increasingly stringent water usage regulations, superintendents are looking for ways to fine tune their irrigation systems to squeeze every last drop out of daily water budgets. Those superintendents that don't face rigid water-usage guidelines nonetheless know water is a precious and costly commodity that they are wise to conserve.

A small number of golf courses in the U.S., by some estimates around 100, have installed soil moisture

sensing devices, basically small electronic probes that are placed into the soil in various locations around a course that provide valuable end-user data to help determine when and when not to water turfgrass. Several companies in the marketplace sell subterranean wireless sensors that monitor moisture, temperature and salinity in the soil and feed data back to a software network a superintendent can access remotely via a laptop, a handheld device or a desktop computer.

Of course, there are many traditional computerized irrigation systems available



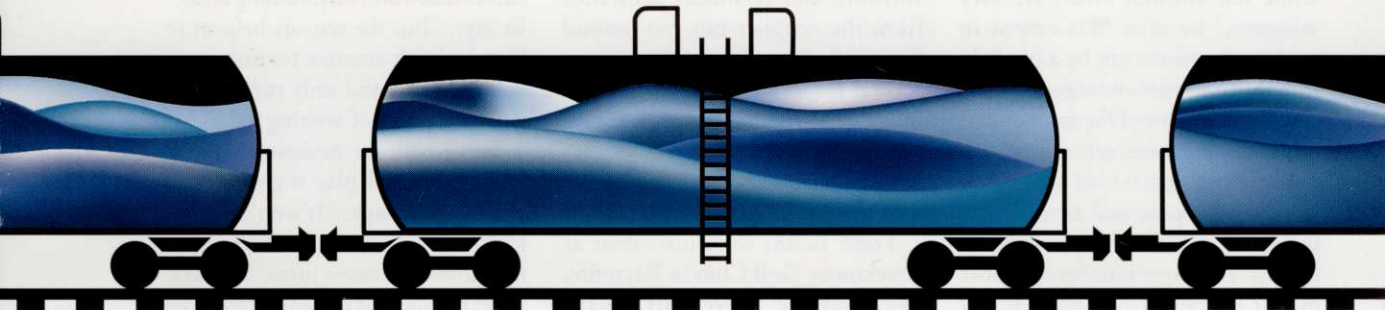
Bladen

to superintendents. Some are used to control pumps and traditional multi-head zone systems, and others are capable of controlling each irrigation head individually. Superintendents monitor various areas of the course for signs of drought and make adjustments to the heads in areas that may be too dry or too wet. However, it requires quite a bit of time to visually scout the course and then make adjustments.

Most courses will use sensors in the long term, says Bruce Williams, director of business development (West) for Valley Crest Golf Course Maintenance headquartered in Calabasas, Calif. "Water is a precious resource and any tools that better help us manage it and provide healthier and more playable turf will be critical to the future of the game," he says. "I have no doubt that one can better manage water and provide more consistent playing conditions with moisture sensors."

Lee Bladen, superintendent at Old Palm Golf Club in Palm Beach Gardens, Fla., has UGMO on three

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greens, two tees, and one fairway and is getting ready to expand to a couple more greens.

"I look at it as another tool," he says. "Being cognizant of what moisture it takes to grow quality grass changes how the super waters and manages his turf." UGMO charges Bladen a fee to monitor the moisture through their technology and internet. "The readouts from the sensors, while not without error, are very accurate," he says. "Placement in strategic locations can be a big help in water/moisture management."

Accuracy is one of the most crucial elements of a moisture sensing systems. Therefore it is vital to properly install and use, as well as maintain, the sensor's "stems" for maximum benefit. The larger number of probes placed in the earth – generally at between 5 inches and 5 feet in depth – the more comprehensive the pic-

ture becomes for the superintendent. However, placing a large number of probes in the ground is labor intensive and impacts a system's return on investment. In addition, regular inspections, maintenance, as well as the occasional replacement are required to keep the system running smoothly.

A system that includes 18 wireless sensors, three routers and gateways, software and technical assistance from the supplier can run around \$12,000. But if a facility saves several hundred thousand gallons of water or more a year as a result, the savings versus investment and upkeep is quite impressive and quickly noted.

Todd Bohn, superintendent at Creekmoor Golf Club in Raymore, Mo., has the Toro Turf Guard system set up on three greens and it allows him to see what is going

on below the surface. It reports to him when a green reaches a certain moisture level and whether he needs to add water to keep it from wilt-



Bohn

ing. "Water costs for me aren't a huge thing because I have a 118-acre lake that catches all the runoff from a sub-division and surrounding areas," he says. "But the sensors help us to be a little bit smarter on our water consumption and only use it as we need it instead of wasting it."

Bohn believes moisture sensing equipment will play a greater role in the near future. "It won't be that long before we are all under water regulations of some form," he says. "This equipment is a way I can show my watering practices aren't wasteful, and I can track the temperature

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and moisture levels in my greens at the same time.”

Superintendents should make sure their sensors communicate and are free of obstacles – such as trees, houses or mounding – that could inhibit information transmission. Most manufacturers have equipment that, for an added cost, will troubleshoot these problems, Bohn adds.

Michael Swing, CGCS, Visalia Country Club, Visalia, Calif., has a few reservations, such as: How long will the sensors last; how much sensitivity is lost over time; what is the cost of replacement and the labor cost of replacement; how does deep tine aeration affect the sensors; what are the difficulties in troubleshooting failures; will adding sensors add to potential rebates from state and utility companies?

“Most if not all of these questions will be answered by golf courses that

are currently using these devices over a period of time,” he says. “To rely on promotional material is a big risk because much of the information is largely overstated and of no value. Even with a proven product, you still deal with different soil profiles, exposures, traffic patterns, elevation changes, to name a few. Sensors are tools, much like our on-site weather station.”

Cost is a factor as well as placement as it relates to cultural practices, such as aeration. “Some operations will be able to integrate this type of system very easily,” Bladen says. “Others will simply gather the data and still use the old soil probe and seasonal watering cycles they have used for years. This is not a one-size-fits-all



Swing

technology and I have several concerns about removing too much of the human element away from the cultivation of quality golf turf.”

Scott Sewell, CGCS, Emerald Bay Golf Course in Destin, Fla., anticipates purchasing sensors in the near future. “I manage two golf courses that are three miles apart and it would be a great tool on days when I just can’t see everything on both courses,” Sewell says.

“I want to irrigate only when I have to and the sensors would be very instrumental in helping me do that,” he adds. “My courses are on reclaimed water, but it is not unlimited in amount, so I need to use it wisely. Knowing moisture levels throughout the course would help me save water and energy.” SI

John Torsiello is a freelance writer based in Torrington, Conn.

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IRRIGATION ISSUES

A SALTY OPTION



Erik Christiansen

Erik Christiansen is a licensed irrigator and president of EC Design Group, an irrigation consulting and water management firm based in West Des Moines, Iowa. A board member for the American Society of Irrigation Consultants, Christiansen can be contacted at erik@ecdesigngroup.com.

For those of you who remember the '80s and early '90s, the first thing a golf course design firm would ask a prospective client was simply, "Do you have the enough land and financial capability to build a golf course?" Today the first question is the above and, "Do you have the quantity and quality of water needed to support a golf course?"

Water certainly has become the most important factor in, not only building new courses, but sustaining existing ones. There are hundreds of courses around the U.S. that 30-plus years ago had an abundance of water – whether that source was groundwater, rivers or lakes – or in some cases potable water, which in some regions has become a public relations challenge.

What happened to all the water? Statistics state the same water that was on the earth billions of years ago still exists today and covers most of the earth. However, only 3 percent is fresh water, and most of that is in the form of ice. Today, less than 1 percent of all water is readily accessible for human use, and less than 0.007 percent is available and suitable for drinking.

In the 20th Century the world's population tripled, but the use of water grew by a multiple of six. It's been said that we could run out of usable water before we run out of oil (my friends in West Texas might argue against that, but I digress). Therefore, we have to act responsibly when using this resource and use it wisely.

Today, governing agencies in many states are restricting water use from the very sources that we generally depend on. Throw in a drought situation, and these sources can be severely limited by those governing them. The first uses typically restricted are light industries, like car washes, but then parks and golf courses enter the fray.

We are certainly in a time when it is important to find alternative water sources to sustain golf for the future. Just a few years ago, effluent water was free; municipalities and water treatment facilities just needed to find a home for this source. Now this water is becoming a tight commodity and in many places can be quite pricey (if accessible). I guess someone discovered a profit center . . .

So what are our options? The only remaining option is to turn to water no one else wants – like brackish water found in wells in certain parts of the country and salt water from the ocean itself. Breakthroughs

in new salt-tolerant turfgrasses for warm season areas, such as Seashore Paspalum (*Paspalum vaginatum*), are enabling us to use water sources that we wouldn't even have considered 10 years ago. It should be noted that these grasses may not be the end all, but they give courses another vital option not previously available.

Because this is more about irrigation, I will leave the soil chemistry to agronomists and concentrate on information about water resource options. Let's start with the worst case scenario – using sea water.

Typical sea water has a salt content of 34,560 ppm. Obviously no turfgrass can handle straight sea water. So what are our options? The first is to blend sea water with fresh water, and you should definitely consult the previously mentioned agronomists to determine if this is practical.

Willie Slingerland with ITT Flowtronex states... "Another option is reverse osmosis, also known as RO. In many coastal areas today, like the Caribbean and desert areas in Egypt, have turned to RO. The greatest positive of RO is that virtually most any quality of water can be turned into an usable drinking and irrigation source. However, this type of treatment comes at a very healthy cost."

Slingerland went on to say that: "Using reverse osmosis involves the initial equipment purchasing cost required to pull from the source, pre-filtration, the RO unit(s) and the cost of the pump system for distribution through the irrigation system. Then, there is the disposal of reject material, operating cost for electricity and maintenance, which can run into the hundreds-of-thousands-of-dollars per year."

"In addition to production and maintenance costs, there are other factors to consider. RO water is very pure; the RO process removes all minerals and metals from the water. When this pure water source comes into contact with metals in pumps, station piping and irrigation fittings, it wants to pull these metals back into the treated water, causing corrosion in an irrigation system. Your pump station also can be exposed to salinity in the air, which can add cost to the typical station."

Reverse osmosis could be a viable solution, but do your homework first and consider all of the costs and side effects attached to the process. Whatever your situation, tap into experts to find a solution that best fits your budget needs, resources and site conditions. ■

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ALL WET

Brittany Schmigel

Correcting the problem of hydrophobic soils, superintendents utilize wetting agents to lower irrigation costs.

While their costs, products and application methods vary, many superintendents agree wetting agents greatly improve hydrophobic soil conditions. And it doesn't hurt that the agents help save water, either. They've become widely popular throughout the industry as supers realize their numerous benefits. GCI interviewed four superintendents who shared which products improve greens, cut costs and help the environment.

Brian Anderson, CGCS, Nema-colin Woodlands Resort in Farmington, Pa., realized he needed wetting agents during an extremely dry season. "No matter how much we would water, we couldn't get it through," he says. "One of my distributors had recommended trying them (wetting agents) and we noticed a difference immediately."

Anderson uses Aquatrols' Revolution (every 30 days on sand-based greens), Primer (every 30 days on

tee boxes and approaches) and injectable Dispatch (every irrigation cycle). "I always say they make water, wetter. That's kind of the way that I see it," says Anderson, who on an annual basis spends \$17,000 on wetting agents for 36 holes and two practice facilities.

Not only do the products improve the course, but the Dispatch cuts down on Anderson's work, too. "Our savings is man power, No. 1," he says. "You can set the

Wetting agents helps move water throughout the soil profile, so golfers can play quicker – even during wet periods.



timer on the pump and as you're watering, put it (Dispatch) out."

Dispatch has worked so well Anderson now utilizes it seven months out of the year. "A lot of people like to use it only during the summer months, but the benefits (when using throughout the year) are two-fold: It gets you through the dryer periods; and it gets you through the wetter periods," he says. "When you have a rainy season, a lot of guys don't like to turn the water on. But I think there's a lot of validity in utilizing Dispatch in April through October. Even if the turf might not be dry, we find that it allows us to open up the cart traffic quicker after a rain event, than if we weren't using it." He says wetting agents helps move water throughout the profile and evacuates it, so golfers can play quicker – even during wet periods.

While others may use wetting agents only during certain seasons, Anderson's unique approach isn't incorrect. Andy Moore, director of marketing and business development for Aquatrols, says water repellency is becoming recognized as a regular, every day problem and is no longer considered an "it shows up now and then" exception.

"People are realizing varying levels of water repellency exist, that's the norm of life. So it makes sense to manage it on an ongoing basis," he says. "Whether it's wall-to-wall or spot treatments, more and more superintendents are using them for water conservation and management. They can see the results and see that they're also water management tools as well." There's often a 30 to 50 percent reduction in irrigation when using wetting agents, especially

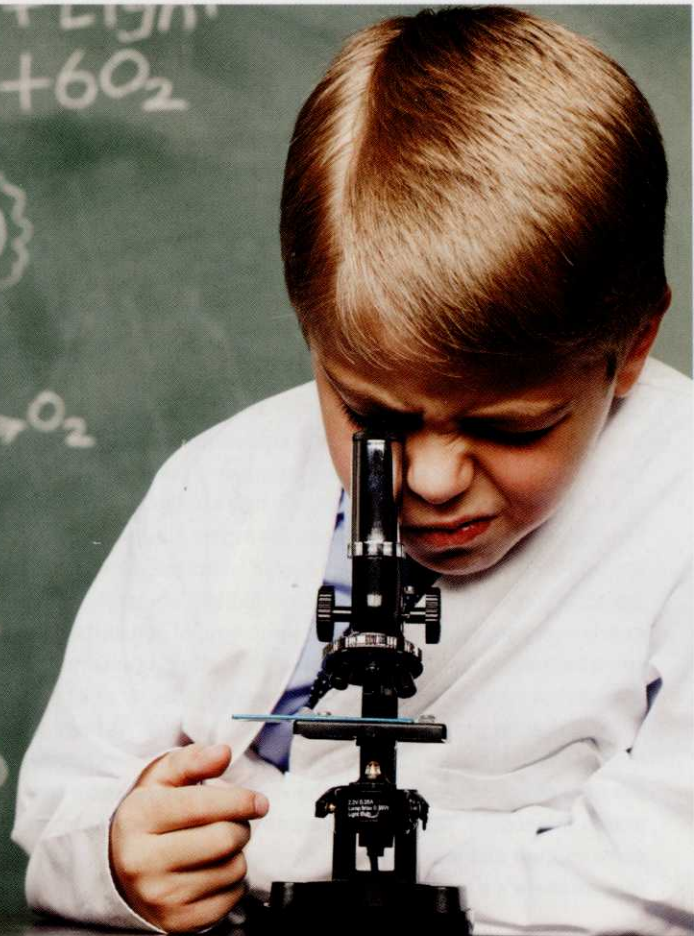


Which turf sample had a wetting agent? Here's a hint, it's not the one on the left.

injection treatments. "It translates back to the cost of water and energy, it adds up," Moore says.

Wetting agents allow Tony Grasso, superintendent at Metropolis Country Club, White Plains, N.Y., to water less. "I save water by not having to syringe during the day," he says. "When I can turn the sprinkler on for seven minutes instead of 10 minutes, that's a 30 percent savings."

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EXPERT.



SMART IRRIGATION

Grasso treats his fairways, greens and tees from May through October with an injection and treats localized dry spots with pellets. "It's the best way to go," he says. "It's expensive, yes, but in the long run it's not any more expensive than anything else we do." While he declined to specify a brand, Grasso spends \$3,000 per year on wetting agents.

"A good golfer doesn't want to play on a wet turf and there's a fine line between wet turf and healthy turf – so that's what we try to achieve. It's a great tool," says Grasso, who has been a superintendent for 30 years and has had considerable experience using wetting agents. "A lot of different ones have come and gone, but there are a lot of great products on the market. Some are more expensive than others, some work better than others. You got to find which one is best for you," he says. And it seems like he's found what works best for him. "I don't get any puddling or squishiness when I ride around in the morning – that's a plus for golfers," he says. "You want the water where



More superintendents are using wetting agents for water conservation and management.

the roots can use them, not on the top – and you're always trying to get a dry cut, so you're trying to get the water off the surface as best you can. We were also trying to get the insecticides down into the soil... The more we used them (wetting agents), the more uses we found for them."

Moore agrees. "When it comes to really treating the golf course wall-to-wall, the best way is through injection with the irrigation system – this is where fertigation comes into play," he says. "In that way, they're able to treat the entire golf course affordably and enhance water penetration and distribution, with virtually no labor. And that's where you see significant savings on water and energy."

Jim VanHerwynen, CGCS, South Hills Golf and Country Club in Fond du Lac, Wis., began utilizing John Deere's LescoFlo and Aquatrol's injectable Dispatch and Revolution when water would not penetrate his course's heavy clay soil. "We have native push-up greens and the rest of the property is clay soil, so it's either too wet or too dry, that's why we went to wetting agents to balance it out." VanHerwynen uses Revolution (once a month, from April through September) on greens, collars and approaches. He uses injectable Dispatch wall-to-wall (in the spring and fall) and LescoFlo (once a year, in June) on fairways, intermediate roughs, tees, green mounds and driving range tees.

"When the soil got dry, you almost had to saturate it before you could

Soil becomes hydrophobic because of a variety of naturally occurring processes, says Andy Moore, director of marketing and business development for Aquatrol. Plants exude compounds out of their roots and microbes excrete waste products as they chew up organic matter in the soil. These substances, called organic acids, coat the soil with a waxy material. "These compounds can become very water-repellent and can cause these problems," he says. "You get this coating on soil particles that block where water would naturally attach, so that's specifically what the soil wetting agents are addressing. They come in and treat that coating and allow it (the soil) to become wettable." Moore, whose father began Aquatrol in 1955, says it wasn't until the mid-70's that turf managers began to embrace soil wetting agents. "It took time to get people to believe," he says, adding now nearly every superintendent uses some type of soil surfactant. And as superintendents use them, they realize wetting agents not only improve the soil but reap other benefits and savings, too. "A lot of people are using a regular program on their greens," he says. "A huge area of money savings, water savings and environmental stewardship is through the idea of injection – treating the vast majority of water that gets put on the course. That's a big step toward reducing water and energy consumption and market research shows that only 30 percent are doing this, so there's a lot of room for improvement."

get any moisture to move down. We always struggled to maintain a uniform moisture level," says VanHerwynen, who spends about \$10,000 per year on wetting agents. "It was not uncommon in July or August to have two guys out, about six hours every day on a regular basis, hand watering tees, collars and greens. I don't know the percentages, but I know we definitely water less. It's extremely rare when we hand water our greens or collars now."

VanHerwynen has developed his own tricks to improve the use of his products. "I always spray LescoFlo in the rain. I know it sounds absurd. It's not the most pleasant experience, but it works the best if you spray it while it's raining and if you can get 3/10 inch or more of rain afterward. That's ideal, because then it doesn't have a chance to stick to the leaf blades at all, it gets through

the thatch layer and into the soil. We've seen the best results by doing it that way."

VanHerwynen has his own methods, too. "When we fill our irrigation system in the spring, we inject Dispatch while we're filling and so when we test our irrigation system – that's our first application of Dispatch," he says. "It appeared that when we started doing it (the Dispatch application) right away in the spring, it really helped. Our heavy clay doesn't drain well and we struggle with getting the equipment on the course without leaving tracks and a mess, so it improved that. In the fall, we blow out the irrigation system to winterize it and we put down two applications of Dispatch, back-to-back. It prevents standing water in the winter, before the ground is frozen."

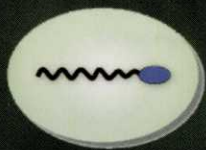
Brett Fleck, assistant superintendent at French Lick Resort, in

French Lick, Ind., was also having problems with heavy clay soils, so he began using Aquatrols' Revolution (on greens and back grass) and injectable Dispatch (wall-to-wall).

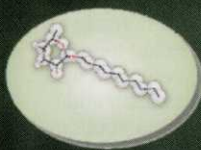
"Revolution we do monthly and Dispatch we use on a 12-oz.-per-acre rate, weekly," says Fleck, who uses wetting agents because of his course's clay soil. "We have a lot of hills and dollies. It helps water stay on the hill a lot better and the valleys don't stay as wet, so that helps. The Dispatch helps move the water through the soil better and we have some 90-year-old soil-based greens, so the Revolution maintains them and keeps the water where the course needs it." Fleck spends about \$8,000 a year on wetting agents and says his course has seen an improvement. **SI**

Brittany Schmigel is a contributing editor at GCI.

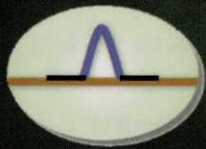
55 years of experience does.



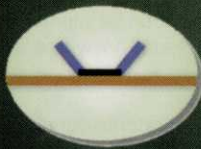
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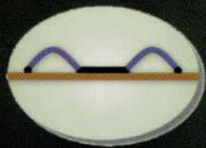
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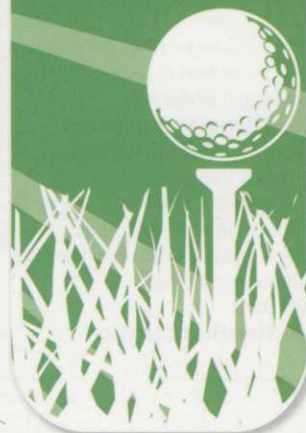


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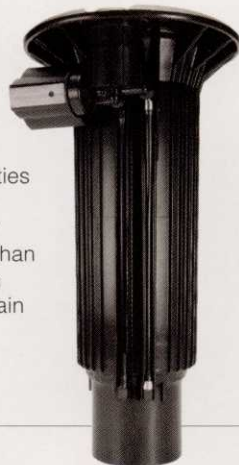


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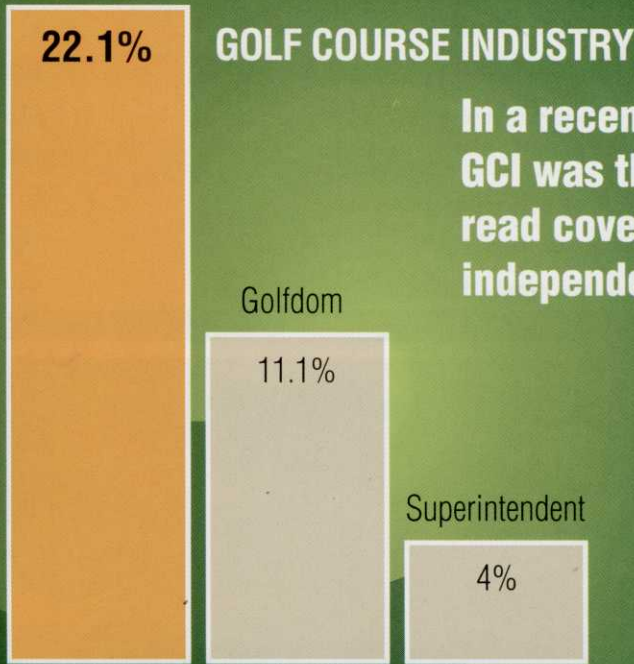


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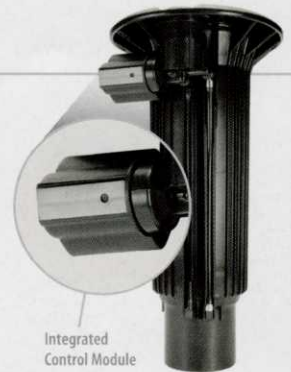


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GOLF

ROLL CALL

Pinehurst Resort, Village of Pinehurst, N.C., announced that **Kevin Robinson** has been named superintendent of Pinehurst No. 2.

Forsgate Country Club, Monroe Township, N.J., announced the addition of **Scott Barnaby** as head golf professional, and Mark Mazzola and Bobby Gage as golf professionals.

George W. "Buster" Bryan, a founder of both The Dunes Golf and Beach Club and Caravelle Hotel, and past PGA of America President **Gary Schaal** of Murrells Inlet were inducted into the Myrtle Beach Golf Hall of Fame.

Chris Spencer has joined E-Z-GO as vice president, engineering.

Greg Nathan has been promoted to senior vice president, membership, of the National Golf Foundation.

UPDATE



Bad news from the world of South Carolina politics. The Creek Golf Club superintendent Weldon Davis lost his bid to run for a state rep seat in the June Republican primary. Opponent Eddie Tallon, a retired state law enforcement division agent, received about 80 percent of the vote.

GCI's Pat Jones threw the spotlight on Davis' march to the state capital in the May issue ("Run, Weldon, Run, page 66). At the time, Davis told Jones he had concerns that his opponent would outspend him in the days leading up to the primary, but he would not fight fire with fire. "I'm not taking money from lobbyists," he told Jones. "It's been offered, but I said, 'No thank you, sir.' When big money gets into small political races, they're going to want something sooner or later. That's what I'm running against, so why would I do it just to get elected."

Undeterred by his recent defeat, Davis says he plans to stay involved in politics.



CHECK THIS OUT!

Looking to jumpstart attendance at your next tournament?

Then you're going to want to check this out.

I received this promo piece in the mail the other day encouraging me to purchase VIP ticket packages to attend the Bridgestone Invitational (Aug. 3-8) at Firestone Country Club, which is a chip shot to the south of GCI's global headquarters.

What struck me as super cool was that this flier was *personalized*. Sneak a peek at how they integrated yours truly throughout the marketing message. My name even appears on the sample scorecard. And now check this out, what was really neat was it looked like a personalized Web address for me to register and purchase my tickets.

So what's the take-away tip? It doesn't take a lot to get noticed. In fact, a little personalization could go a really long way in getting your next event noticed. — **MZ**

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It's those most important to Gie Media to VIP tickets to the Bridgestone Invitational in August and golf this fall. Firestone Clubhouse and Championship Club Ticket packages with Preferred Parking start under \$500 and include an opportunity to play Firestone Country Club for only \$48 a person.

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CONSUMER RESEARCH

A glimpse of how golfers' behavior affects the business of golf facility maintenance and management.



Tracking golf rainwear and windwear buyers

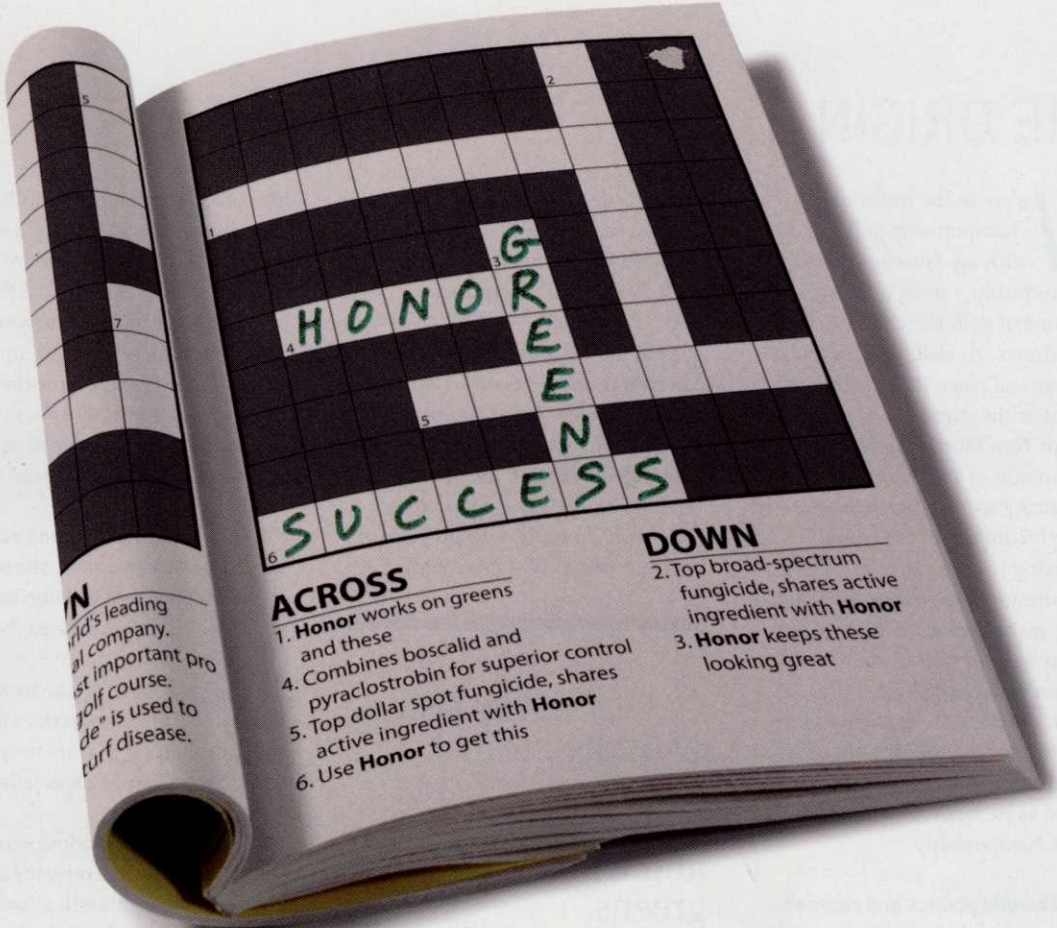
Customer profiles are important tools to drive revenue at any golf course facility. The National Golf Foundation released its "Golf Consumer Buying Profiles" last June based on a survey of 2,400 adult core golfers. The research was conducted in November 2008. Core golfers play eight or more rounds per year. Data is based on individuals who bought at least one of the following items in the past 12 months at any type of store.

GOLF WINDWEAR

- While golfers who maintain a handicap represent 37 percent of core golfers, they purchase nearly three quarters (73 percent) of all golf windwear.
- Golfers 18-29 spend 29 percent of all dollars spent on windwear. Likewise, golfers in this age group were 66 percent more likely to purchase windwear in the last year than total core golfers.
- 28 percent of golfers with an average score of less than 80 bought windwear in the last year.
- In contrast, 8 percent of golfers who report an average score of 100 or greater purchased windwear in the last year.
- Private club members were 33 percent more likely to purchase windwear in the last year than total core golfers.

GOLF RAINWEAR

- While golfers 60+ represent 27 percent of core golfers, they purchase nearly a quarter (24 percent) of all golf rainwear sold.
- Likewise, golfers who visit golf websites at least once a week represent 26 percent of core golfers, they purchase nearly two thirds (66 percent) of all golf rainwear.
- Golfers who play public courses spend 86 percent of all dollars spent on rainwear.
- Half of golfers who maintain an average score of 80-89 bought rainwear in the past year.
- Golfers with a total household income of \$50,000 were 23 percent more likely to have purchased rainwear in the past year than total core golfers. **GC**



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Tim Moraghan is principal of Aspire Golf Consulting in Long Valley, N.J. He can be reached at tmoraghan@aspire-golf.com or on Twitter @timmoraghan.

THE ORIGINAL HOME OF FIRM AND FAST

We are in the midst of championship golf season with my favorite – The Open Championship – to be contested at the home of golf, the Old Course at St. Andrews. To visit, walk and play this mystical place is a must for any student of the game.

From Tom Morris Senior to the current director of greenkeeping, Gordon Moir, many special people have cared for the birthplace of the game. Gordon is entering his 20th year working at St. Andrews, beginning in 1991 as the course manager for the Eden Course and has been in overall charge of all seven courses including the Old Course since 2000, managing more than 100 staff. Between bites of his lunchtime sandwich I caught up with Gordon as he readied for his fifth Open Championship.

Q With world politics and courses being open to the public, are there any special needs and requirements that are unusual to The Open?

A We try to keep things as normal as possible, but as you would understand, security issues are always at the forefront. With 50,000 spectators arriving daily, the security screening is intense. This year The Royal and Ancient (R&A), who run the tournament, have employed the x-ray devices used at the major European airports to see through and detect any non-conforming devices. Mobile phones, PDA's, computers and the like will be removed from guests as they arrive and returned when they leave. Past Champions Day (Wednesday), will be busy as it is still an official practice day, therefore cameras will be allowed. It is a small field and 30,000 spectators are all trying to watch in a limited space. The Old Course is difficult for fans because golf is only viewable from

outside edges because the holes run parallel and there are double greens. We have accommodated spectators with 22,000 grandstand seats.

Q For the U.S. Open the host golf course superintendent usually receives thousands of requests from people wishing to volunteer. Does this hold true for you and The Open?

A It does and it is tough to turn people down, but we do not use any volunteers. We have a staff of

“Our speed goal is 10.5 feet. Any faster, with the normal wind blowing, and balls begin to move and will roll off the greens.”

— Gordon Moir, director of green keeping, St. Andrews

around 100 who work hard for us all year long and working on The Open at the Old Course is their reward. This crew performs the various chores needed for daily preparation and management of the championship. I have five past employees coming to volunteer – that's all.

Q How much influence and guidance do R&A have with you, your staff and the course?

A Peter Dawson, R&A chief executive, is involved with every aspect of the Open Championship. He will spend an inordinate amount of time on the course walking and reviewing the notes made from the previous event's de-briefing. Grant Moir (no relation) is the golf course set-up man who works with Gordon McKie,

my course manager on the Old, for on-course preparation and set up. The turfgrass work is reviewed by Richard Windows of the Sports Turf Research Institute for additional turfgrass support. The annual Dunhill Cup serves as a barometer to monitor the players' abilities and how they affect the golf course. Between the five of us, we should get most things correct!

Q With the putting greens so vital to the golf course what should those of us watching on television look for?

A There are several items that make our greens special:

- They will be firm due to wind, climate and rolling practices that will make it tough for players to spin and stop their golf balls, especially out of the rough grass;
- We will closely monitor any irrigation so the firmness remains stable for all 18 surfaces. This will allow players to bounce, run and roll the ball to the hole rather than fly into a soft surface;
- With a slower green speed due to anticipated winds The R&A will be able to choose a more challenging hole location, bringing rough and bunkers more into play. Watch our par three, 11th hole during The Open; and
- The wind, if it blows 15 to 20 mph, will place a premium on shot accuracy and force players to think more.

Q Any words of advice for those who have an event?

A For us preparation is the key. We are lucky to have The Dunhill Cup as a practice run. Even with the extra tournament activity we still execute our “dummy run” prior to the championship to be 100 percent on cue. We must be organized with our maintenance so there is no criticism of the golf course and do the best we can in our preparations. After that it is up to the player. **GCI**



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EDITOR'S NOTE:

A TALE OF TWO COURSES

The times have not been particularly kind to the golf course industry.

Whether a casualty of excessive development or a result of the recent economic downturn, you don't have to drive very far before you happen upon a fallow course, its fairways and greens overgrown and its once lily-white bunkers breeding grounds for weeds.

But this dire outcome doesn't always have to be the end result. While investigating what happens to failed golf courses when they no longer serve up tee times we were surprised to learn that many of these abandoned properties receive a second lease on life. And contrary to popular belief, many aren't destined to become the foundations for new housing developments, but rather they're resurrected as viable golf courses and continue to serve their communities as parks and nature preserves.

If you know of other examples, please forward them to us at gci@gie.net. We'd like to share them with you in upcoming issues of the magazine and online.

Mike Zawacki, editor

A COMMUNITY ASSET

Unable to meet the demands of running a nine-hole course, the Grant family, with their local government, converted their facility into a community park. *By John Torsiello*



A 100-foot steel bridge still spans a creek at the former Veronica Valley Golf Course in Leelanau, Mich. Today, the facility serves as a community park.

For 14 years, Veronica Valley Golf Course in Leelanau, Mich., was a fairway of dreams for William and Diane Grant and their extended family.

Dedicated to William Grant's late grandmother, Veronica Schaub-Peplinski, a woman who liked to make dreams come true, the course – a true mom-and-pop operation – opened in 1991 and for nearly a decade and a half delighted visitors with its challenge and whimsy.

"We purchased the property with help from grandma and grew strawberries on it for several seasons," Diane Grant says. "When the bottom dropped out of the market we started to wonder what else we could do with the land. We looked into creating a camp-

ground, but there were already two popular campgrounds in the area. One day, one of the guys from the conservation service told us the property would make a beautiful golf course. A couple of hours later Bill was out in the field and a guy went by with golf clubs in the back of his car. That was another hint and we thought, 'let's build a golf course.'"

Which the couple began to do with some trepidation in 1989, first clearing the land, and then seeding the course in 1990 and opening the nine-hole, 3,203-yard par-35 layout in the spring of 1991.

Diane Grant admits she and her husband didn't know what a tee was when they set out to create their course. "Really, we had no clue what we were doing. Nobody in the

family was a golfer, but we worked hard and got lots of help from neighbors, friends and family members," she says.

She recalls her children driving four-wheel off-road vehicles with old bed springs attached to the rear to level dirt to create fairways and greens, and neighbors donating trees to plant on the property.

"We worked from five in the morning to dark in-season taking care of the course and running the business," she says. "Our kids would work there eight hours a day. We could never really turn enough rounds to justify hiring a professional for the pro shop and lessons."

But the public responded and the course was hopping April through October. A few celebrities vacationing in the area – located close to Lake Michigan in the upper northwest corner of the lower peninsula of the state – dropped by after hearing of the eclectic and scenic course run by a friendly couple.

"We made it a family golf course," Diane says. "Each year we would put new things out on the course. We had a 100-foot steel bridge going over a creek, covered bridges, carved wooden statues, Snow White and the Seven Dwarves characters, a bear that roared at you when you came around a corner, and Rapunzel's castle. Some people didn't like it because they felt it distracted them. But most enjoyed what we did and the kids loved it."

In 2002, William was diagnosed with Parkinson's Disease and the couple had decisions to make. William could no longer keep up with the dawn-to-dark, 24-7 demands of caring for a golf course. The couple's children had grown up and did not express a desire to follow in their parent's footsteps, although they did spend plenty of time helping manage the layout during its decade-plus of operation.

The Grants reviewed their options during the next two years, getting several offers from developers, although none seemed interested in maintaining the 93-acre parcel as a golf course.

"I think people saw how hard we worked and what we went through to keep the course open and weren't interested in that lifestyle," says Diane Grant. "Some of the people we talked to wanted to change the land to something other than a place where people could come to enjoy themselves, which had always been the intent of buying the land and then managing it."

What occurred next was sweet happenstance, she says.

"We saw a story in the paper about a family



Only faint traces of the former nine-hole course remains today.

that had sold land to create soccer fields and we thought that might be a way to go," she says. "We said to ourselves, 'What if we made the golf course into a park and our kids, grand kids and others could come and enjoy the land. We approached the county (Leelanau) about perhaps selling the course to them for passive recreational use and they got the ball rolling. Turning it into a park was in keeping with grandma's initial desires for the land."

Greg Julian, a Leelanau County parks and recreation commissioner, says the offer by the Grants to sell the land to the county was serendipitous.

"We were looking for land to create a park in the eastern part of the county where the golf course was located. We looked at several pieces of land, but the Grants' parcel was ideal for our purposes. There was a little back and forth and we applied for a grant to help buy the property."

The former golf course, located in Bingham Township, about a 20-minute drive from Traverse City, was eventually sold in 2008 for around \$800,000, with the county obtaining a \$525,000 grant from the Michigan

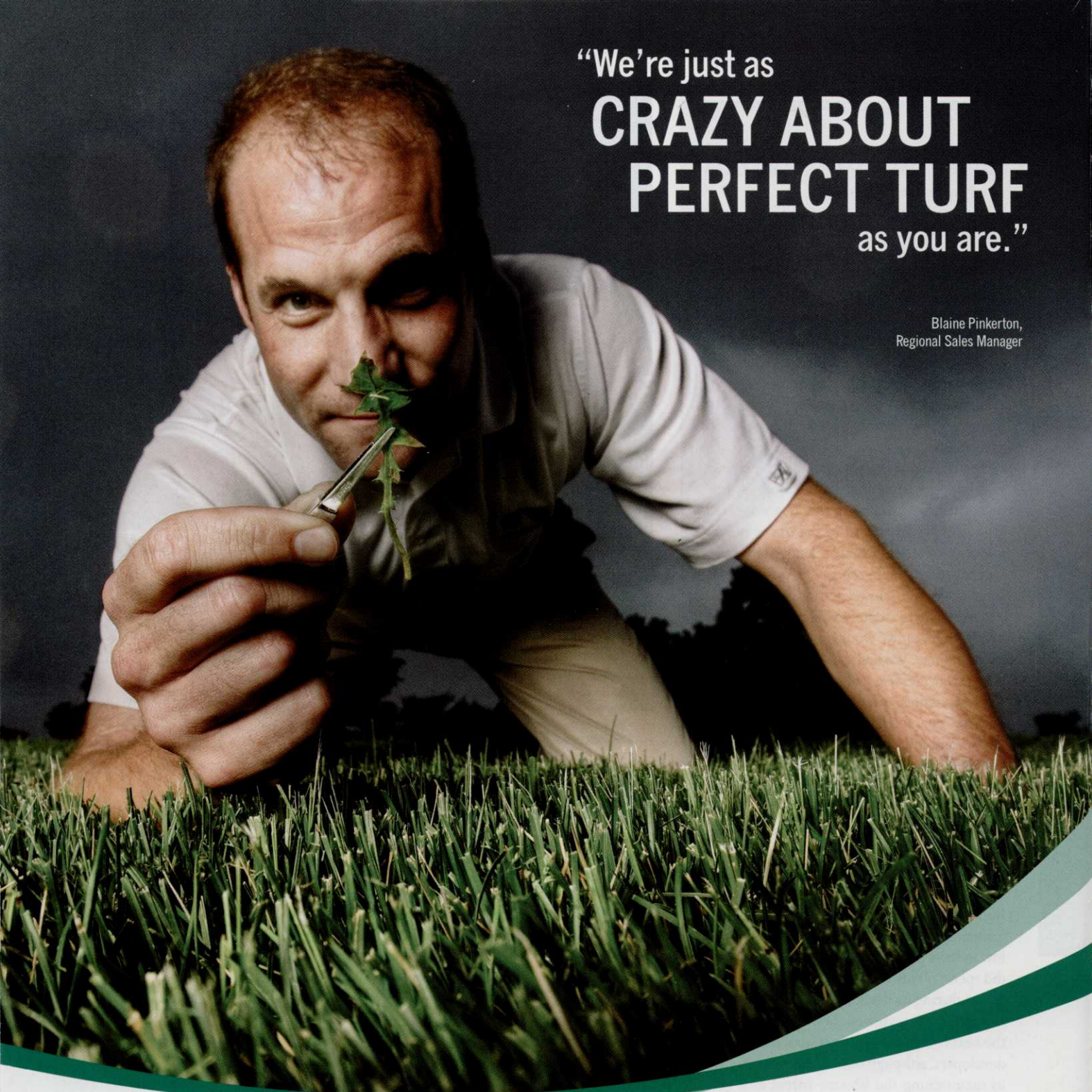
Natural Resources Trust Fund to assist in the purchase. The Grant family stipulated in the purchase agreement that the land must be used for recreational purposes – hiking, picnicking, fishing and hunting and other such pursuits. Local civic organizations, including the Traverse City Rotary, contributed funds toward the purchase.

About one third of the former course consists of wetlands, while the remainder is mostly open meadows with some wooded areas. A trout stream runs through the property. Because of the pathways and roads that were built for the golf course, the land is quite accessible and somewhat easy to maintain, county officials say.

The county received advice on how best to proceed with the purchase of the land, and resulting establishment of the park, from the Leelanau Nature Conservancy, Julian says.

"They do land purchases for a living and we aren't experts in the field. We did use them as a resource and their input was helpful throughout the process," he says.

The park's upkeep and future develop-
(continued on page 74)



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A new ownership group transformed the remnants of the Rat River Golf Club into Maplewood Golf Club.

OUT OF LIMBO

A new ownership group resurrected the abandoned Rat River Golf Club by transforming fallow land into Maplewood Golf Club.

By David McPherson

You think the rough at your course is long, try hitting it out of two-foot high weeds. Or, better yet, try to sink a three-footer through these bothersome grasses. Had you wandered upon Maplewood Golf Club, just south of Winnipeg, Manitoba, a couple of years ago, that's what you would have encountered. The course was better suited for sheep to graze than for golfers to play. Now, thanks to a new ownership group, the once abandoned course has been resurrected, renamed, and is back to provide those in this rural community a good walk not spoiled.

Early in the 2000s, a soggy spring left the course in limbo. More flooding and bickering between multiple owners closed the course for

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good in 2006. The golf course was formally called Rat River Golf Club after the Red River tributary that meanders through the course; this waterway has always been the cause of perennial flooding – the nemesis of all the previous owners. There are no bunkers on the golf course as it is set up to require less maintenance. It's not an executive course, but it's shorter than most modern tracks at 5,500

from the blue tees and a par 70.

New owner Michael Guertin took over in 2008. He immediately addressed the river issues. All the protective dikes around the river were raised and repaired and incorporated more into the game. The bridges were also restored. Eventually the plan is to seed the dikes with some wild grasses to give them a more uniform and inclusive look on the course.

Three holes were rerouted on the back nine and five greens were completely renovated. Hole No. 11 over the river is now a 300 par 4 from the tips instead of the previous 470 yard monster down a narrow fairway. Several tee decks were also added on each hole, including a few tees on top of the dikes.

Guertin then hired a small crew to come in and start cutting back the grass to get it back into playing shape. Luke Wiebe, who had worked with Guertin in Winnipeg as a salesman for John Deere, was hired as the golf operations manager. With a limited advertising budget, he says one of the biggest struggles has been letting people know the course is reopened.

"We've struggled a little bit to get the old customers back, letting them know that we are open and also getting new customers," Wiebe says. "In Winnipeg, Manitoba, everyone wants deals. We are a price-driven province, so that makes it difficult."

A round at Maplewood costs \$35, and that even includes a cart. "We are the best value in Manitoba," jokes Wiebe.

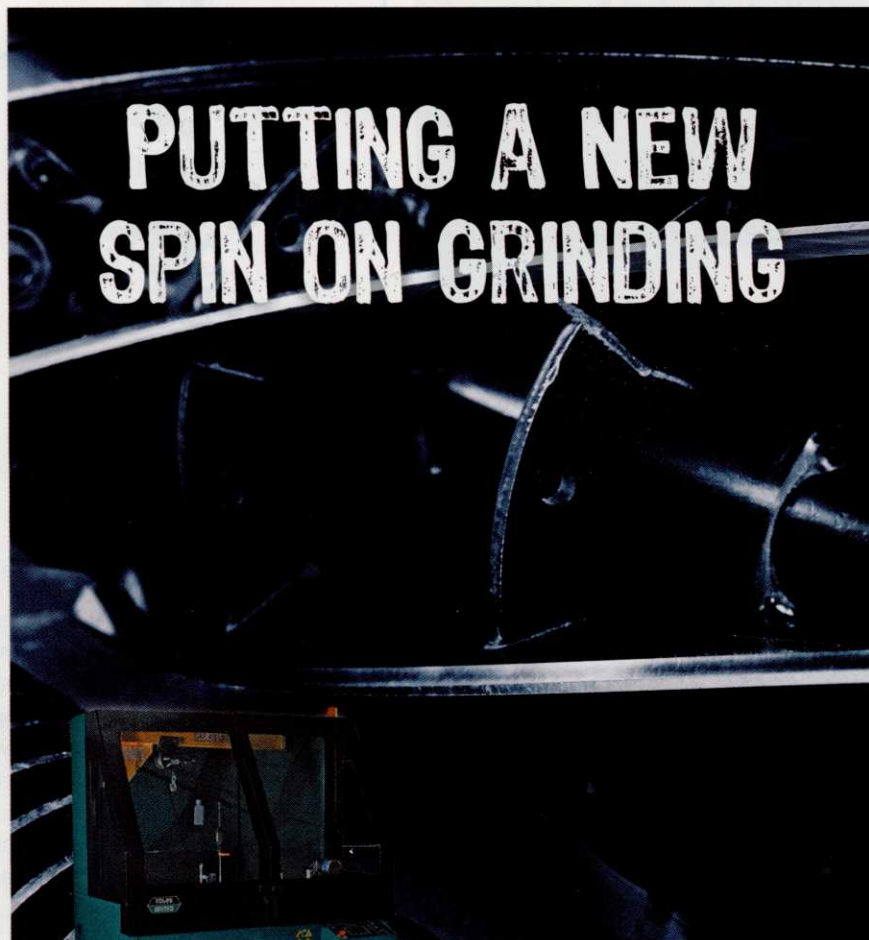
After the initial work in 2008, Superintendent Mike Greenwood was hired in 2009 to finish the job and get the course open in decent playing shape. Greenwood, who has been a greenkeeper for 14 years, came to Maplewood from Della Hunt Golf and Country Club a small private club 90 minutes outside Winnipeg.

"When I arrived, there had been no maintenance, absolutely nothing," says Greenwood. "The greens, tees... everything had been neglected. In 2008, the owner hired a small crew of four to five guys to come in before I came. They came in with large equipment and brush cutters and knocked everything down to four or five inches – that's how far gone it was. Literally, there were common burdocks and two-foot tall weeds on the greens and tees. It looked more like abandoned pasture land than a golf course."

Greenwood and his crew worked quickly to finish off the course renovation in early 2009, so the front nine was opened in mid June. The superintendent says that they basically had to start from scratch.

"All the greens had to be reworked and overseeded," he says. "We were able to salvage some of the turf that was there on a few greens, but the majority were resurfaced and reseeded."

Checking his calculator, Greenwood estimates they overseeded approximately



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100,000 square feet of green space throughout 2009. The greens were overseeded with an aggressive pro bentgrass while all the fairways were seeded with a variety of bluegrass. Maplewood also did an overhaul of its irrigation system.

Mother Nature sure didn't cooperate in 2009. Winnipeegers suffered through a

record-setting eight consecutive months of cooler-than-normal temperatures. Following a brutally cold winter, it was a soggy spring with a flood that was the second-worst in the past 100 years.

"We had major difficulties last season from the weather with tons of rain," Greenwood says. "It was a terrible year to try to grow in

a golf course, which didn't help at all. Some of the greens and fairways – even though we are now completely open – are still only six months old."

Thankfully, after a kinder Mother Nature in the fall of 2009 and spring of 2010, mid-way through this season, all 18 holes are now open, customers are coming out more, and the course is in decent shape. The goal is to get the greens in top-notch shape as soon as possible. "All things considered, I'm relatively happy with the conditioning of the course," adds Greenwood.

Regarding the dikes, there is always ongoing maintenance – patching up weak areas here or there, but most of the flooding problems have been addressed. "The last two years had they not been addressed we would never have been opened," Greenwood says. "If the repair work had not been done, we would be flooding right now. We are happy with how all the dike work has held up and hopefully it continues to do so."

The biggest challenge was to initially get the course back to playable conditions. "Getting everything knocked down to playable height and being able to manage all the weeds was initially the hardest part of getting this course re-established," he explains. "You can imagine the amount of weed seeds that were packed in the soil after being let go for two years. It's been a bit of a struggle to clean it up, keep it clean with the amount of debris that was left lying around and trying to re-establish normal cultural practices that had not been done for years."

Surprisingly there was little disease to battle. Getting the course back to playing shape from a pasture to pristine greens is an ongoing process, but Greenwood is pleased with the progress. There is work to do on the fairways, he says, but most locals are happy to have an 18-hole course back.

"It's been a learning experience for sure," Greenwood concludes. "I came from a 9-hole course in rural Manitoba and moved here not fully expecting the condition of what the course was in. I've learned a lot on my own ... it's difficult to pinpoint any exact situation. When you enter something completely different, every day is different... there are different problems – whether it's an irrigation problem or Mother Nature – you have to take them as they come and hope for the best." **GC**

David McPherson is a freelance writer based in Toronto.



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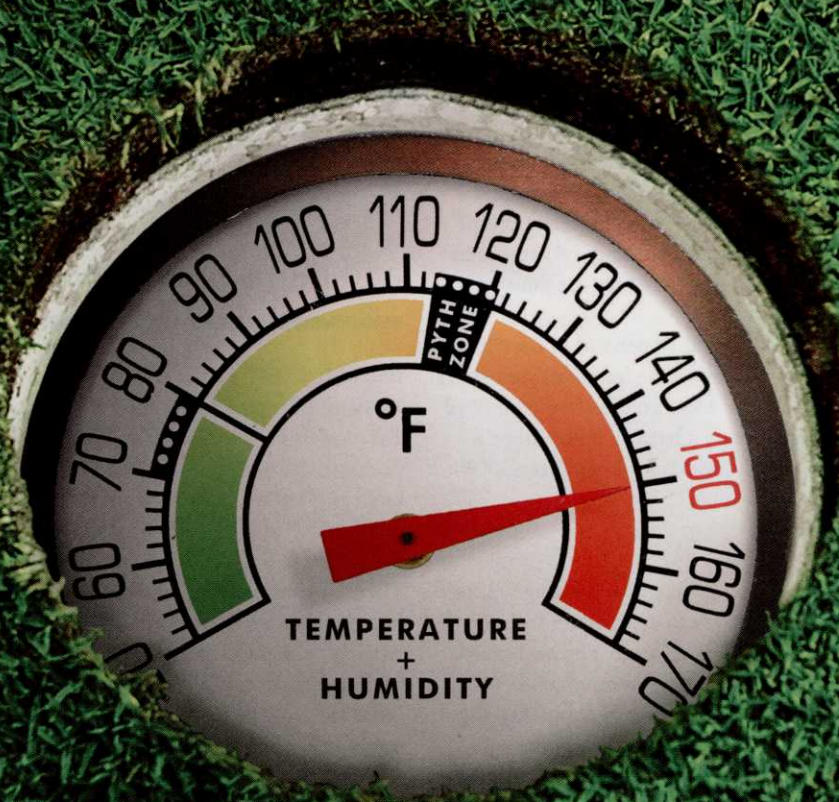
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Jeffrey D. Brauer is a licensed golf course architect and president of GolfScapes, a golf course design firm in Arlington, Texas. Brauer, a past president of the American Society of Golf Course Architects, can be reached at jeff@jeffreydbrauer.com.

SHOT VALUES

“Shot Values” is a maddeningly vague term that I have been trying to define for years. The book “Golf Course Design” (by Geoff Cornish and Robert Muir Graves) says shot values are a “reflection of what the hole demands and the relative reward or punishment it metes out for good and bad shots... Each hole must be designed to balance risk and reward,” and as “related to difficulty and allowable margin for error.”

The practical question when trying to assess, design or redesign an actual golf hole is exactly how “shot values” link risk and reward, margin for error and punishment appropriately. Given the wide variety of golf holes and courses, it’s obvious there is some latitude, but here are my criteria for good shot values.

DOABILITY

Golfers should be able to finish every hole. It’s wrong to demand a shot that is doomed for failure (for example, a 320 yard forced carry), beyond reasonable expectations of accuracy (a postage-stamp green on a long par 4) and even golfer’s comfort levels, like aiming over OB (the famous Road Hole is the rare exception).

We know pros need width about 10 percent of the total shot length (for example, 20 yards wide for a 200 yard shot) and amateurs need 15 percent. Most greens should be sized accordingly. If golfers must carry a hazard, it should be a “doable” distance, whether 270 yards for long hitters or 90 yards from the forward tees.

RISK/REWARD

Few will risk strokes challenging hazards if nothing will be gained, but golfers are more likely to carry water if success gains one and possibly two strokes. On most holes, hazards can be fairly benign, allowing recovery about half the time. Otherwise, golfers will just play safely away from hazards, which is boring. This is the most delicate part of the equation and can vary from the first hole to later holes, when a match may be on the line.

PROMOTE SHOT SHAPING

A good test of golf “requires all the shots” which are created best when conditions including wind direction, ground slope and target angle, all strongly suggest a certain shot, like a fade.

OPTIONS

Holes may strongly suggest shots, like a draw, fade, high or low shot, high spin shot, etc., but there should be decent options and landing zones for those who can’t play that shot to hit at least some part of the fairway or green, even if not all or the best parts.

BAIL OUT ABILITY

Since any shot will be beyond the ability of someone, there should nearly always be an option to play safe somewhere close to the target.

PROPORTIONAL PUNISHMENT

Playing safe should avoid most hazards, and penalties should be greater to players who miss a challenge shot, especially when trying to gain strokes on Par 5 holes, and in general, for shots that miss a shot versus ones that miss by a little.

The practical question when trying to assess, design or redesign an actual golf hole is exactly how “shot values” link **risk and reward**, margin for error and punishment appropriately.

PROMOTE CREATIVITY

Hearing Tour pros recite their rounds as “Driver, 5 iron. Driver, 9 Iron,” sounds boring. The architecture should promote alternate shots to keep golf fun, including bump and run, “bounce it here to get it there” type shots.

BALANCE

There ought to be balanced shot demands on individual holes and throughout the course. Most holes should blend hard, easy and medium difficulty shots. If the tee shot is hard, the approach should generally be easier. And the holes should take turns giving advantage to long hitters, accurate drivers or good chippers throughout the match. “Balanced balance” (as opposed to nine hook holes on the front and nine slice holes on the back) is even better in most cases.

VARIETY

There should be differing challenges and/or margins of error. Some holes should be easier and some harder in different aspects – fairway width/tee shot accuracy, varying greens’ sizes and contours to challenge approach shots, putting difficulty and varying recovery types and difficulty, for example.

These are my definitions of shot values.

Others may vary – and courses can vary from these and still be exceptional exceptions – but I believe most good golf courses fall somewhere in these precepts. **GCI**

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Gary Grigg's journey through the industry has taken him from the potato fields to dozens of golf construction sites to the boardroom of one of the market's most successful superintendent-driven companies...and he hit a few trout streams along the way.

By Pat Jones

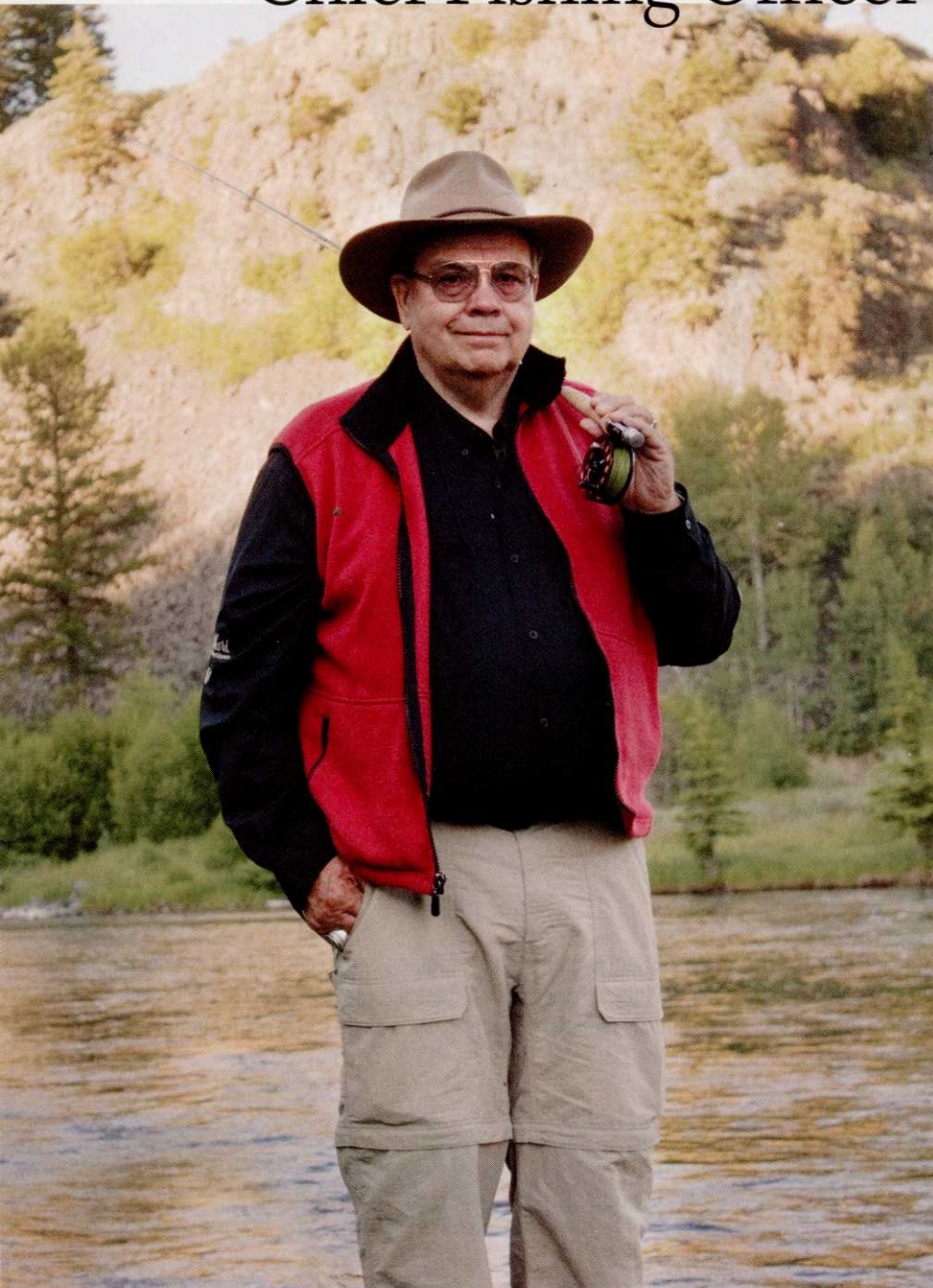
"I'm willing to bet anything that I'm the only golf course superintendent in the world who's had two papers published in the American Potato Journal," says Gary Grigg.

I, for one, am not taking that bet. There are many strange points of entry into this profession, but I'm fairly sure Grigg is unique in transitioning from corporate spud-growing to the pinnacle of turf management.

Grigg is, of course, the vice president, head agronomist, co-owner and main evangelist for Grigg Brothers. For the past 15 years, he's been the public face of the company and the person who's probably done the most to change attitudes about a category of bio-nutritional products that were once largely dismissed as snake oil.

His unlikely journey began in the miniscule town of Vale in eastern Oregon, just across the river from Idaho. His father and uncle had started the first incarnation of Grigg Brothers in the 1930s, selling fresh sweet corn and produce. The little company prospered and the Grigg family relocated to the relative metropolis of Ontario, Ore., where Gary attended high school, played ball and began learning the business of agriculture.

In 1950, the company made a big move into potatoes and changed its name to Oregon Frozen Foods. By 1955, they had grown more and changed the name again, this time to Ore-Ida Foods. You may have heard of it. The family sold the company to the giant H.J. Heinz Corp. in 1964, but the Ore-Ida name remains synonymous with frozen spuds. Oh, and his uncle coined (and wisely trademarked) the name "Tater Tots." Thousands of schoolchildren should thank him each day.



Gary finished high school and, predictably, headed off to study the art and science of spuds – specifically agricultural entomology – at Utah State. He met and married his wife, Coleen, and they embarked on four decades of moving and changing as Gary's career required. Initially he worked for a year for Ore-Ida before enrolling at Michigan State to get his masters in agronomy. A fellow named Dr. Jim Beard ran the graduate agronomy program at MSU in those days and Gary was introduced indirectly to the world of turf.

With master's in hand, he worked for a year for Heinz but his father had become involved in a real estate development in Michigan called Lake Isabella. Despite knowing nothing about day-to-day turf management or construction, Gary was recruited to build the golf course. "I had to have been the first golf course superintendent ever who didn't know anything about golf and had a course to build," recalls Grigg. Fortunately, that's where Bruce Matthews, the noted golf course architect who designed Lake Isabella, came in.

"Bruce told me growing grass couldn't be any harder than growing potatoes...but that wasn't true. It was a steep learning curve." Matthews, who was originally a superintendent by training, introduced Grigg to the local association and encouraged him to join GCSAA. He quickly became involved, was among the earliest certified superintendents and, of course, eventually became president of the national in 1995.

He stayed at Isabella for five years until his father sold his interest there. His self-taught construction experience helped him land at the Lodge of the Four Seasons in Missouri's Ozark Mountains where, with an in-house crew, he built the resort's famed Robert Trent Jones course and got to know the grand old man of course design. Grigg remained friends with Jones the rest of the architect's life and was an honorary pallbearer at RTJ's funeral.

After five years at the Lodge, circumstances changed and Grigg decided to give teaching a try. He spent a year on the Idaho State faculty and loved it, but couldn't make ends meet on a professor's salary. He moved to Tucson to maintain a course there and met another designer, Bob von Hagge, who brought him onto a 27-hole, fast-track project in Albuquerque. That's where Grigg connected with Kindred/Watts construction and began a 9-year period where he oversaw construction of more than 15 courses, including Ventana Canyon in Tucson, the Fazio course at Barton Creek in Austin, Lone Tree in Colorado and the Art

Hills course at Bonita Bay. While working on the Hallbrook Farms Fazio project in Kansas City, he was contacted by a developer who wanted him to build and manage Shadow Glen GC in the area. Kindred/Watts was coming apart thanks to economic woes in Texas, so he signed on at Shadow Glen and built another Golf Digest "Best New" course working with Tom Watson, Tom Weiskopf and Jay Morrish.

Five years later, the course was turned over to Club Corp which made it clear they didn't pay superintendents what Grigg was making, so he hooked up with architect Jim Hardy and his partner Peter Jacobson on several projects before landing at Naples National GC, a great Hurdzan/Fry layout. A few years later, he moved up the street to Royal Poinciana GC to do a 36-hole reconstruction and stayed on to maintain it...his only real non-construction superintendent job. It would be his first and last position in that role.

Just as Grigg settled into life as a regular old golf course superintendent in Florida, his brother Mark approached him to test a prod-

uct that had been developed by a researcher at Utah State (see sidebar). Grigg threw some of the product out and was blown away by the results. It occurred to the brothers Grigg that maybe, just maybe, they could start a business and sell the stuff.

That was in 1995 and today that "stuff" has become a staple of many course maintenance programs as Grigg Brothers grew and prospered just like the company of the same name founded by their father and uncle had a half-century earlier.

Now, as the company celebrates its 15th anniversary, we caught up with Gary to talk about his transition from the profession into the supply side, overcoming the bias against bio products, and what his plans are as he approaches his 70th birthday and the prospect of spending more time fishing for trout than customers.

YOU'VE HAD MULTIPLE ROLES IN THE BUSINESS OVER THE YEARS. WHICH DID YOU LIKE BEST?

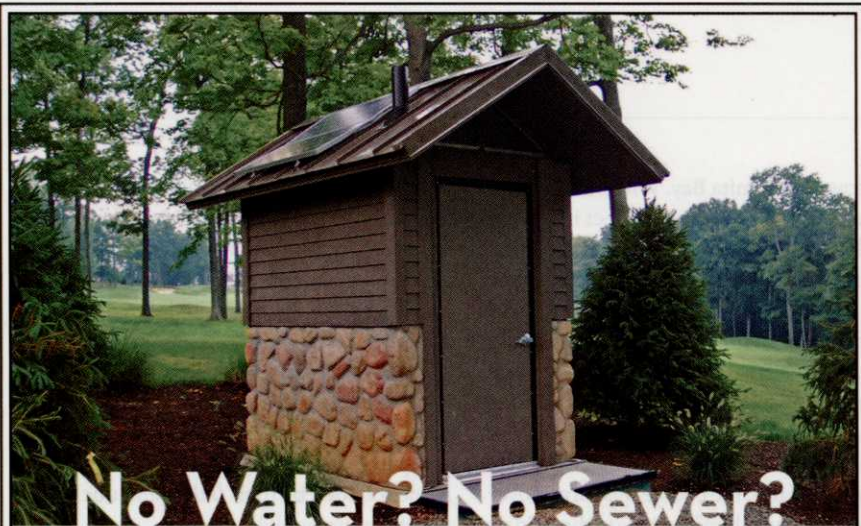
Construction. I built a few dozen courses during my career and I loved it. What I don't

The Tale of the Brothers Grigg

The 15-year-long story of the company built by the Brothers Grigg is a fairy tale in one sense only: It was once considered a fantasy that a company co-founded by a golf course superintendent would become a multi-million-dollar enterprise and a household brand name in the turf market. The genesis of the company dates to the early 1990s when Mark Grigg was selling a line of probiotic foliar products into the ag industry in the West. Among the products was an environmentally friendly liquid nutrient product that was, in 1992, purchased by Toro and relaunched as BioPro. When Toro divested BioPro in 1994, Mark Grigg had lost a line to sell but gained an keen interest in the concept of foliar feeding for plants.

Soon thereafter, Mark met Dr. Gene Miller, a plant biochemist from Utah State University. Miller had developed some interesting foliar technology for farming. Mark was interested in the concept and, almost as an afterthought, shipped some test product to Gary who was a superintendent in Naples, Fla., at the time. "He asked me to test it on turf," Gary recalls. "When he called me later and asked if I thought it had potential for crops, I said 'Screw ag, you outta see what this stuff is doing to my grass!'" They went back to Miller and licensed the product for turf. Thus Gary's Green and the Grigg Brothers company were born. But the company needed investment. In another fairy tale moment, Dean Robinson, Gary's green chairman at Royal Poinciana GC overheard him discussing the need for start-up cash with Mark. Robinson apologized for eavesdropping but said he was intrigued. He then quite literally wrote Grigg a "substantial" personal check to get their fledgling start-up going. Later Bruce Williams, a fellow GCSAA past president and longtime friend, became an investor and board member in the company.

The brothers then took on the biggest challenge facing any new company: distribution. They joined the Independent Turf & Ornamental Distributors Association, went to the group's annual meeting, shook lots of hands and quickly picked up a dozen or so relationships. Within a few years, they'd built a network of more than 60 local distributors who were willing to give the time and attention a "niche" product demands to grow sales. "The key for us has been good distribution and a science-based approach," says Gary. "We spent a lot of money on research... I wanted to show people data and prove how much of our ingredient actually gets into the plant. That's what I would have demanded when I was a superintendent."



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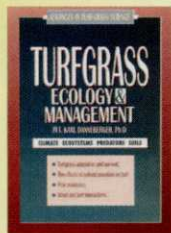


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Q&A

love is when it's done and the members come in and the pro becomes god. Suddenly you don't get a whole lot of credit. That might not be a popular thing to say but I'm retired (as a super) and I don't care.

I've always liked to teach, too. I still do it (at industry conferences and distributor meetings). All those sales meeting I still do are basically teaching. I think that all the talks I've done have helped the whole foliar industry. As Steve Mona always says, a rising tide lifts all boats. And that's fine. I don't care who we help, as long as what I'm saying is science-based.

WHAT ONE THING WOULD YOU HAVE DONE DIFFERENTLY IN YOUR CAREER?

I spent most of my life focused on career. I wish I'd spent more time focused on my family. Johnny Miller said (in a speech at the GIS) that no success in life can substitute for success in the home. I put my kids through hell by moving them around. My daughter went to four different high schools in four years. I regret doing that. I have a lot of respect for guys who take jobs and stay. Having said that, I wouldn't be where I am without moving around.

SO HAVE YOU DIALED BACK YOUR CAREER FOCUS NOW?

Not really (laughs). I'm 69 and still working hard. Coleen keeps asking me what my exit strategy is and I really don't want to answer.

DID YOU EVER THINK GRIGG BROTHERS WOULD BE THE INDUSTRY PLAYER IT IS TODAY?

Absolutely not. We named our first product Gary's Green as a joke. We really didn't think it would go anywhere. It was supposed to be just Mark and I selling it – and to me it was just a way to supplement my retirement income – but then we picked up good distribution and it took off. Mark's the entrepreneur and he may have felt differently, but I liked having a paycheck so it was really hard to quit (the profession) completely, but I did in 2000. I've enjoyed every minute, but I never thought it would be like this.

WHAT ADVICE DO YOU HAVE FOR SUPERINTENDENTS WHO MIGHT THINK ABOUT STARTING THEIR OWN COMPANY?

Go for it. You always hear people say "don't bite off more than you can chew." My father's saying was, "always bite off more you can chew and then figure out how to chew it."

It takes money though. You have to be smart and have capital and investors lined up or get

lucky and find one like we did.

WHY DID YOU NEED INVESTORS? WHAT ABOUT ALL THAT TATER TOT MONEY YOU INHERITED?

There wasn't any to inherit. As the old saying goes, my dad spent half his money on wine and women and wasted the rest on sheer foolishness.

WHO WOULD YOU SAY HAS INFLUENCED YOU MOST OVER THE YEARS?

Bruce Matthews (the late golf course designer) is pretty high on that list. He took me under his wing and taught me a ton about turf and the golf business when I was just starting. He also got me into GCSAA – he literally took me to my first chapter meeting.

Also Harold Kopljar from the Lodge of the Four Seasons. He took a chance on me and basically let me build the Jones course there with a handful of guys for \$1.2 million, which was a lot of money at the time. My GM there, R. Scott Morrison, is a fantastic guy who really taught me a lot about how to do things right. I'd also say architects Bob von Hagge and Andy Banfield. And of course Tony Kindrick and Doug Watts. They gave me a chance to learn just about everything about construction I could learn and they let me work with Jim Hardy, who was an outstanding guy and a great boss.

Last but not least would be Dean Robinson, my green chairman from Royal Poinciana. He was a great friend who personally gave us the money to get the company started.

AREN'T YOU FORGETTING SOMEONE?

Oh man... obviously Coleen. I met her in college in 1962 and we were married in '64. She came from a wonderful family and has just kept me on the straight and narrow forever. Whenever I get mad, she calms me down. She's done that hundreds of times. She was also a great ambassador for GCSAA. The wives don't get enough credit for everything they do to support us. And she also put up with all the moving around.

WHAT'S THE MOST STRIKING THING ABOUT HOW THE PROFESSION HAS CHANGED OVER THE YEARS?

Obviously the biggest change is the technology. It's unbelievable how much information is available from a quick Google search. I don't think people coming into the business today may have all the agronomic background they need, but they can sure log on and learn it. Just

consider computerized irrigation systems and how much of your course you can run from a cell phone now. It's amazing.

But, the downside is that in 1968 I mowed greens at ¼-inch and they were healthy. The leaf is the manufacturing plant for the grass. The plant just doesn't get enough nutrition at today's mowing heights. Pushing for ultra-fast green speed is incredibly detrimental. But, that's what golfers want so we have to deal with it. The members aren't going to change their attitude.

WHAT WAS THE BEST SPEAKING ENGAGEMENT YOU EVER HAD?

In 1992, when I was on the GCSAA board, Steve Cadenelli was president and he assigned me to go to England and speak at their national conference. It was my first foreign speech and first real overseas trip. I had a great time! I flew into London, then took a train, then a bus, then a cab. Later on I figured out I could have flown into Manchester and been right there. But the level of interest and the intensity of the questions and discussion was a real eye-opener. I made a lot of friends and it got me involved in BIGGA and eventually became a master greenkeeper through them.

OF ALL THE COUNTRIES YOU'VE VISITED, WHICH WAS YOUR LEAST FAVORITE?

I did not enjoy the time Bruce Williams and I went to Jakarta, Indonesia for the old Golf Asia show GCSAA tried to launch. Randy Nichols sent us over there and we met with the Indonesian greenkeepers group and visited some courses, but the country was just overrun with people and dirt. The superintendents were impressive and trying to improve, but I wasn't enamored with the country.

WHAT ADVICE DO YOU GIVE TO YOUNG PEOPLE INTERESTED IN THE PROFESSION?

Number one, improve your agronomic skills. They aren't the strongest agronomists these days. Maybe they don't have to be because they can hire someone who is. I think a lot of them might listen too much to company reps – admittedly including mine. The two-year schools are okay, but I'm just not sure they get enough agronomy. The four-year schools do a better job.


I will say that young superintendents tend to be more technologically advanced and better communicators – which is extremely important – but they just don't have the agro-

(continued on page 74)

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By John Torsiello

TARGETING TOPDRESSING

While the jury is still out on its ability to suppress disease, topdressing can contribute to a healthier soil profile.

Developing a sound topdressing protocol, matching it to specific course conditions and needs, and developing a system of monitoring it to insure optimum results can lead to healthier turfgrass. Whether topdressing can influence disease resistance is a matter of debate.

DISEASE SUPPRESSION

Straight sand is the predominant topdressing

material applied today, whereas mixes containing sand, loam and organic matter have been used in the past. Many superintendents have transitioned to a light and frequent approach, topdressing throughout the growing season instead of at increased rates in the spring and fall.

These more recent trends are well suited to managing organic matter accumulation without layering, improving infiltration rates and

increasing surface firmness. An additional benefit just may be disease suppression, says Dr. John C. Inguagiato, assistant professor in residence, turfgrass pathology at the University of Connecticut in Storrs.

“At one time, sand topdressing was believed to wound turfgrasses and enhance diseases like anthracnose,” Inguagiato says. “However, recent research has demonstrated that routine topdressing can reduce anthra-

“Ideally, one wants to topdress with enough material to match the growth of the plant throughout the growing season.” — Bryan Barrington, The Golf Club at Oxford



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cnose.” For example, recent Rutgers University studies evaluated several sand topdressing rates and intervals ranging from none to 4 cubic ft. per 1,000 sq. ft. applied every seven to 42 days throughout the summer to determine their effect on anthracnose severity. These studies showed that various combinations of rate and interval can effectively reduce the disease. The most effective topdressing programs were those where sand was applied at 1 cubic ft. per 1,000 sq. ft. every seven days or 2 cubic ft. per 1,000 sq. ft. every 14 days. Alternatively, 4 cubic ft. per 1000 sq. ft. applied every 21 days was also effective, but it took longer to develop disease resistance.

The diminishing of anthracnose severity due to topdressing has been proposed to be a result of sand accumulating around the base of tillers resulting in a more favorable environment for turf growth and increasing the effective height of cut, Inguagiato explains.

The effect of topdressing on other diseases is not as well understood. Reports on the effect of topdressing on dollar spot have been inconsistent. However, Inguagiato adds, sand topdressing appears to have little effect on dollar spot severity. Further research on the type of material used, rate and application interval are needed to determine the effect of topdressing on dollar spot and other diseases.

Superintendents should be cognizant of several factors when topdressing.

“From topdressing research conducted for anthracnose, it is evident that an accumulation of sand in the canopy is required before disease reductions should be expected,” Inguagiato says. “In the first year of these studies, topdressing enhanced the onset of anthracnose, although as sand

Many superintendents have transitioned to a light, frequent approach, topdressing throughout the growing season instead of at increased rates in the spring and fall.



When beginning a topdressing program it is possible a brief increase of anthracnose may result, researchers say.

continued to be applied disease was eventually reduced. Topdressing rates and intervals which accumulated sand most rapidly were the first to reduce anthracnose compared to non-topdressed turf, and provided the greatest level of suppression.”

Therefore, when beginning a topdressing program it is possible a brief increase of anthracnose may result, Inguagiato says. Although continuing to topdress at rates and intervals sufficient to accumulate sand around the base of tillers and maintain this beneficial layer will reduce anthracnose severity in the long term, he says.

Proper topdressing methods can indeed suppress disease, says Scott Johnson, CGCS at Shadow Glen Golf Club in Olathe, Kan. “Topdressing is one of our many cultural tools that we have to improve putting surfaces and influence growing conditions for the turf,” he says. “If you provide a favorable growing environment, then the grass is hardier and able to withstand some disease pressure. The frequent addition of sand to the putting surface allows sand to migrate down to the crown area of the plant. As the percentage of sand particles increases, it’s reasonable to assume that air porosity would increase. And as air porosity increases, prolonged wet conditions within the canopy can be shortened, which reduces the duration of favorable conditions for disease outbreaks.”

Michael K. Fabrizio, CGCS, director of grounds and golf maintenance at The Daniel Island Club in Charleston, S.C., isn’t certain whether “disease suppression” is the appropriate term, but he says topdressing does create an environment that promotes healthier turf by improving water infiltration and oxygen in the soil. “Having healthier turf will make it less disease susceptible,” he says. “Increasing

YES


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water movement, so turf can dry out faster during rain events, and allowing more oxygen in the root zone should promote healthier roots and turf.”

Turfgrass diseases are, of course, somewhat relative to the area of the country a course is located. Roy McDonald, superintendent at Hobe Sound Golf Club in Hobe Sound, Fla., says although his region’s native soil is very

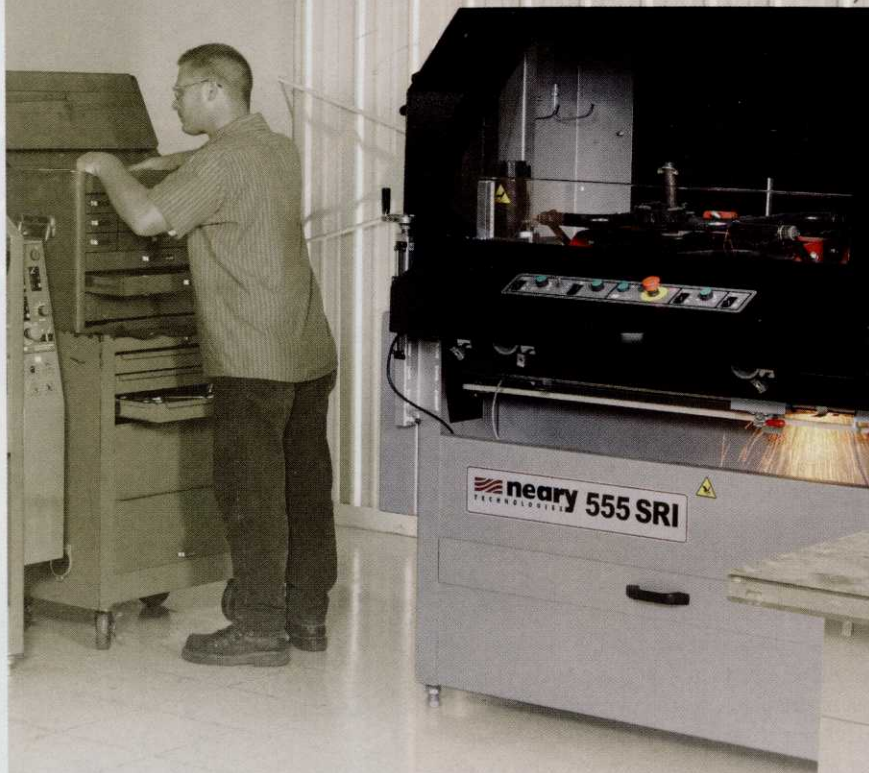
sandy and he has very little disease problems on his greens, he believes proper topdressing methods lead to healthy turfgrass, and healthy turfgrass is more disease resistant.

“I could see a benefit with topdressing if you have poor base soil on your greens,” he says. “The benefit of topdressing when having poor soil would be to ultimately improve your soil profile and cut down on disease. Too



Proper topdressing makes the thatch layer on turfgrass less of a problem by allowing water, fertilizer and chemical infiltration.

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much topdressing can damage reels, which give you poor quality of cut and weakened turf and could lead to disease.”

There are several factors to consider when topdressing, especially if you want to suppress anthracnose, move water off the top of the ground and avoid damage to the turfgrass, says Brad Sparta, superintendent at Ballyowen Golf Club in Hamburg, N.J. “You can bury your crown and kill your plant. There is more of a chance causing damage by over brushing or dragging. And I believe with certain mixes it could lead to increased disease. But with straight sand, I don’t think it could.”

Proper topdressing makes the thatch layer on turfgrass less of a problem by allowing water, fertilizer and chemical infiltration. As a result, it creates a healthier medium for the plant to grow in, a better and truer putting surface and more disease resistant plant, says Bryan Barrington, superintendent and general manager at The Golf Club at Oxford Greens in Oxford, Conn. But over topdressing or infrequent heavy topdressing can result in layering in the mat/thatch layer, he says.

“Ideally, one wants to topdress with enough material to match the growth of the plant throughout the growing season,” he says. “Improper topdressing, such as mentioned above, can lead to ineffective control of protectants and nutrients by ineffective control of thatch, thatch will hold up nutrients and protectants, and the plant becomes susceptible to more disease issues.”

In cases when topdressing is applied too infrequently, or at rates insufficient to keep up with the growth of the turf, thatch will accumulate at a faster rate than sand is being applied. As a result, Inguagiato says many of the benefits of topdressing will not be



achieved. Anthracnose outbreaks believed to be associated with topdressing may in fact be a result of too little sand being applied to effectively modify the canopy.

Additionally, once a topdressing program is initiated it is important to remain consistent to avoid layering in the profile, Inguagiato says. Root-zone layering impedes uniform drainage and can contribute to disorders, such as black layer, and could enhance diseases like pythium root rot.

TECHNIQUES

Superintendents employ various methods of topdressing, usually sticking with techniques that have worked well and produced good results. But they are flexible enough to change on the fly when need be. For example:

- J. Ryan Bentley, superintendent at North Ranch Country Club in Westlake Village, Calif., established a fairway topdressing program six years ago. "The first three years we topdressed at 20 tons per acre, once in the spring and once in the fall," he says. "We have modified that and we now topdress four to six times a year and 10 to 12 tons per acre. The major goals of our topdressing program are to firm the surface for improved maintenance and playability, and to improve the soil physical properties for better turfgrass quality and health."

- Juan Maldonado, superintendent at Glendora Country Club in Glendora, Calif., has for the past eight years blown the sand into aerification holes using push blowers after two passes with a drag mat. Light topdressing is dragged in only once. Blowing the sand in the holes after just two drags has always worked well, he says, adding a coconut fiber mat is very good for either application.

- Fabrizio has been topdressing greens with the standard light and frequent – every two to three weeks – method with a No. 55 grade sand, which is slightly finer than Daniel Island's greens construction. "This light method is necessary because it is difficult to work the sand in with the dense mat on ultra-dwarf Bermuda greens, and to minimize sand pick up at mowing heights of .09 to .115 inches," he says. "In addition, we have been on an aggressive fairway and approach topdressing program for almost seven years with a medium/coarse grade sand to amend our muck/clay/ gumbo soils. This has helped with consistency of nutrient and water requirements, drainage, and earthworm management, which is one of our biggest pest problems."

- Sparta used to lightly topdress every third week, but now he goes every week. "We don't put out much but it keeps your thatch layer diluted and keeps the greens smooth," he says.

- Barrington has switched to kiln-dried straight sand topdressing, which allows him to go out more frequently and lightly topdress with no disturbance to the golfer.

- Brandenburg has changed his methods to coincide with the installation of new ultra-dwarf turf. "Now, I'm topdressing much more frequently with lighter amounts and it is working well," he says. "We try to match topdressing amounts with vertical growth/nitrogen applications, and we throw in Primo applications."

Topdressing programs should be monitored carefully for best disease suppression results, Inguagiato says. "Programs should be monitored regardless of whether your objective is to manage thatch accumulation or suppress diseases, such as anthracnose," he says.

Recommended topdressing rates and intervals are only a starting point from which to develop your own site specific programs. The goal of your topdressing program should be to match sand accumulation with the growth of the turf stand. This can be difficult to do, although examining the surface profile for the presence of sand when changing cups can give you an indication of whether more or less sand is required.

Determining the volume of topdressing applied per area is a more accurate record keeping method, Inguagiato adds. This can be done by making a pass over a known area, collecting the material and measuring it in a container graduated in cubic inches. **GCI**

John Torsiello is a freelance writer based in Torrington, Conn.

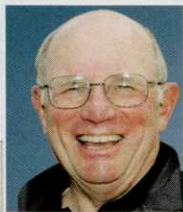
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Monroe Miller is a retired golf course superintendent. He spent 36 years as superintendent at Blackhawk Country Club in Madison, Wis. Miller can be reached at groots@charter.net.

MAKING THE MOST OF IT

Jeff Carlson was in our town last winter for a speaking engagement. He's one of our best golf course superintendents, a pioneer and leader in developing an organic approach to course management. I've heard him speak a number of times and even stopped at his course on Martha's Vineyard during a genealogy trip on the island. He's an interesting guy to listen to. I chatted with him for a while and he told me he appreciated this column as a viewpoint from an older superintendent.

I was flattered! At 64, I am both older and retired, and these two experiences have provided rich subject material for me to muse and write about. And it seems an inevitable result to be tempted to share a couple of lessons learned along the way.

The first, most obvious and most important advice I would offer after a year and a half is to make the most of your time. It applies throughout life but is especially true for retirement years. One reason that quickly comes to the forefront for me is health. A few months after I retired on Dec. 31, 2008, I suffered a detached retina. A surgeon reattached it, but I now live with diminished eyesight. That is compounded by the need for cataract surgery in the near future. Any decrease in eyesight is scary.

Pat Jones wrote about tinnitus in the April issue; I have the same affliction. Many golf course superintendents have skin cancer; count me among them. High blood pressure? I am taking meds for that as well. I still consider myself as "healthy" but I know as you age you are more and more vulnerable to health problems. I guess you sort of wear out. That realization led me to a simple arithmetic calculation. If I live to 84, then I have 20 years left and that translates to only 7,300 days. Making it to the ripe

old age of 90 gives me about 9,500. As fast as time flies, there isn't much time to complete your bucket list, make a contribution for the greater good and repay the debt you owe to your profession.

It is always useful to look around and see people who are making the most out of their retirement years. For example, take Dr. Jim Beard. He and his wife, Harriett, remain a productive team, on our behalf, studying and researching and writing and preserving our heritage. Closer to home I watch emeritus professor Wayne Kussow, still cheerfully contributing to the science important to all of us.

...making the most of the years we have left will be **rewarding and fulfilling** and fun as a result.

So I am trying to follow their example working part-time for the Wisconsin Turfgrass Association, trying to make it a little better and enjoying the feeling of productivity and usefulness at the same time.

It's certainly not like Cheryl and I aren't staying on our goal of travel. Last year we were away from home for 114 days! We were out in the world, visiting and traveling and having a good time together, making the most of each day.

For a while I bemoaned my bad luck at timing retirement. The tenacious recession has sent lots of us newly retired or nearing retirement reeling. In our case, we stayed the course and the plan we have followed for years, refusing to buy high and sell low. Slowly our retirement nest egg crawled enough back to where it was that we rolled everything into one traditional IRA and hopefully secured ourselves for the long haul.

What I celebrated was the good for-

tune that we have been good savers, a lesson well learned from our Depression-era parents. We owned our current home early, own our vehicles, have zero debt and *never* carried any credit card debt. If we couldn't pay for something, we did without until we could. It is safe advice to say that saving money is a big key to a secure retirement. While it makes sense to have some investment in the stock market, the recent past notwithstanding, mostly it has been a big fairy tale over the last decade. If you invested \$100 a decade ago in the stock market, today you would have \$100. You could have put it under your mattress

and done as well.

Problems with social security in the near future, the impact of Greek (and European) debt, unsettled security issues in the Middle East and on the Korean Peninsula, the huge U.S. debt (much of it held by China), diminishing natural resources and a hundred other factors make the future somewhat frightening. Likely there will not be any quick solutions to retirement security, so my recommendation is to save as much as you can as the pay periods come and go. It will also be very helpful to have a well-designed plan as a guide.

There is a lot of truth to the old saying: "It isn't what you make, but what you spend." We continue to follow it and have found making the most of the years we have left will be rewarding and fulfilling and fun as a result. In fact, we are almost ready to leave on our third vacation of the year. Someday I'll tell you all about the Chautauqua Institute. **GCI**

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Alternatives to overseeding

Budget cuts and increased labor costs have made more superintendents wonder whether overseeding is the right choice.

By David McPherson

Overseeding has side effects that become evident when transitioning back to Bermudagrasses. Weak areas may take a few weeks to a couple months to recover.

Traditionally, in the fall, golf courses in warmer climates have overseeded their Bermudagrass (which goes dormant in the winter) with ryegrass. This keeps the course green during the colder winter months. This maintenance practice has its advantages and disadvantages. The obvious benefit is the aesthetics of mowing patterns that appeal to many golfers or club members. Another benefit is playability, as ryegrass provides fluffy turf for additional golf ball support. Unfortunately, these benefits have side effects that become evident the following summer when transitioning back to Bermudagrasses. Depending on weather patterns, weak areas may take a few weeks to a couple of months to properly recover. Overseeding annually also provides plenty of food for nematode survival during the cooler months.

Budget cuts, and the increased labor costs associated with overseeding, have made more and more superintendents wonder whether overseeding is the right choice. When you choose to overseed, you commit to more of everything such as water, fertilizer, labor, hours on the mowers and chemicals.

“Each course is different, but it comes down to the question: can you make an overseed budget that can show a profit?” explains Anthony Williams, director of golf course



and resort grounds at Stone Mountain Golf Club in Stone Mountain, Ga., just outside Atlanta.

"There is no doubt that overseeding looks good during that wet/transition period in March and April, but while golfers may be more complimentary of the aesthetics of the course it does not necessarily translate to more revenue," Williams says.

Williams, who has worked in the Atlanta golf market for 24 years, overseeded consistently throughout the 1990s. Then, one year he chose not to overseed, so the course could complete an irrigation project; the results changed his maintenance practices.

"We saw rounds remain consistent, so we began experimenting with some other strategies," says Williams, who won the 2010 President's Award for Environmental Stewardship by the Golf Course Superintendents Association of America. "The results were simple. We could no longer justify overseeding."

Dr. Leah Brilman, director of research and technical services at the Seed Research of Oregon, says in resort areas such as where Williams works, or in places where there are a lot of snowbirds, the aesthetics of an overseeded golf course and the expectations of the golfers is the critical factor to deciding whether or not to overseed.

"Individual courses have reduced the area

"... while golfers may be more complimentary of the aesthetics of the course it does not necessarily translate to **more revenue.**"

— Anthony Williams, Stone Mountain Golf Club

overseeded with some success, but others find that the expectation, when competing for the winter golf dollar, is to play on green grass," she says. "If you don't have green grass and the guy down the road has green grass, you may lose golf dollars. It's all about revenue."

Greenkeepers need to also weigh what time of year their courses see the most rounds. "Often, agronomists state, you will have a stronger Bermudagrass stand in the summer without winter overseeding, but if only a fraction of your play is during the summer should summer turf strength be the deciding factor?" Brilman says.

Further south, along Florida's Gulf Coast, Allen Brissenden, CGCS, is one superintendent, who like Williams, has seen great results from not overseeding. At Dunedin Golf Club where he is the superintendent, he hasn't overseeded for the past two years.

"The Bermudagrass has got stronger and the ease of weed control definitely shows," he says. "According to my GM, we have not seen any loss in revenue. We have been able

to fill the golf course as long as the weather is good. This past winter was unusually cold, and although grass slowed to a standstill, we were only straw brown for about two weeks."

Before an extreme cold snap, Brissenden paints his greens lightly with Green Lawngr, which he says lasts about two weeks. He also fertilizes more frequently on his tees and fairways to moderate the plant temperatures and stimulate growth.

"Not overseeding does not necessarily reduce your budget," he adds. "In fact, depending on weather patterns, it may end up costing more. But, agronomically, it has been a sound decision and most of my members agree. Temperatures rarely stay cold for long, so the grasses never go into full dormancy."

To counter the effects of not overseeding, Brissenden increases his fertilization rates and uses wetting agents to maintain turf color and acceptable playing conditions.

What if you still plan to overseed? Are there alternatives you can try that may be better for the environment and cost less? Brilman and



her team at the Seed Research of Oregon are always looking into new seed varieties and studying the past to understand what still might work today. They've been looking at using other seed species in an overseeding mix such as chewing fescue.

"I looked back at old literature by Dr. James Beard, the guru in turf, who found in its seedling state that bentgrass didn't get its

roots deep enough into the thatch, which made it easier to transition than a ryegrass," Brillman says. "We have a grad student looking at water requirements when you are first seeding grass species. A lot of the ones we know are more drought tolerant when they are seedlings. People need to look at these options. We assume certain things that we have not verified through research, but we



Williams: "Each course is different, but it comes down to the question: can you make an overseed budget that can show a profit?"

can't just ignore what was done 20 to 30 years ago because sometimes you get some new clues from it."

Brilman adds greenkeepers shouldn't take an all-or-nothing approach. There are alternatives if you get creative. If you are cutting back, change the seeding rate or maybe just overseed the landing zones. "This gives you the best of both worlds," she says. "Try turning your course into a target golf experience by overseeding and greening it up only where golfers typically land. I know other superintendents who have overseeded just the rough and not the fairways."

Out on the west coast, Jim Alwine, superintendent at Stockton Golf & Country Club in California – the home to PGA Tour player and former U.S. Amateur champion Ricky Barnes – says they didn't overseed last year. The biggest reason was cost. He figures they saved \$35,000 by not overseeding – which included the cost of seed, the reduced need of fertilization and the associated labor costs.

Stockton G&CC also booked more tournaments during a time when the course was normally closed for overseeding – bringing in extra revenue. The other big reason Alwine chose not to overseed was members were upset over the course being closed during the fall – a prime playing time. And, with an older membership, having six weeks of cart path-only golf would restrict them from playing even when the course was open. When Alwine arrived at Stockton, he thought they needed to oversee just to have something to play on since most of their course is below sea level, with levies surrounding it.

"I proposed we didn't overseed for the health of the golf course," he says. "Bermudagrass is stronger and we don't get much play

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in the winter, so we are going to get softer whether there is ryegrass out there or not. So, I said, 'Why take away the best time of the year to golf for the time that sees the least play?' Financially, it made."

Alwine also let the *Poa* come into his fairways, so there was still turf to play on in the winter months, rather than making members play on mud. When the heat comes around in the spring the *Poa* fades quicker than the ryegrass traditionally did. "It worked out well," he says. "It was spotty in areas, but all in all, members told me they couldn't tell that I didn't overseed."

Leaving the last word to Williams, he says these days it's all about the bottom line. "I remember a time when overseeding was considered the cost of doing business. Those days are over. We evaluate this issue each year and balance the return on investment with the golfers' true expectation." **GCI**

David McPherson is a freelance writer based in Toronto.

The argument for and against NOT overseeding

Advantages of not overseeding:

- Savings on cost of seed/labor/energy
- No spring transition – can sustain a stronger strand of warm season grasses
- Water conservation (i.e. less water is used to establish and maintain ryegrass)
- Uninterrupted fall play – play can continue as normal
- Ease of weed control – better control of all types of weeds
- Nematode control – environmental factors that control nematodes are temperatures and food; overseeding produces lots of roots for nematodes to feed on
- No continuous mowing – crew members can work on aesthetics or projects
- No unsightly tracking of ryegrass

Advantages of overseeding:

- Aesthetics – No lush green color or mowing patterns
- Wear – Some areas will get thin from cart traffic, reducing playability
- Marketability – Players prefer green

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Dellwood Hills Golf Club found removing as little turf and soil as possible from bunker edges works best.

A person wearing khaki pants and a blue shirt is using a reciprocating edger on a golf bunker edge. The edger has a long silver handle and a red motor housing. The person is standing on a green lawn, and the edger is positioned to create a clean edge between the bunker and the surrounding grass.

Bunker maintenance

For the team at Dellwood Hills Golf Club, a good bunker starts with a crisp edge. By Eric Peterson

Rakes in the bunker. Rakes out of the bunker. No lip. Two-inch lip. Four-inch lip. Firm sand. Fluffy sand. Smooth sand. Sand with ridges. One can argue the intricacies of whether bunkers should be treated more like a hazard or a playing surface. And we all know maintenance practices vary throughout the world and from facility to facility, but there is little doubt that the appearance and playability of bunkers is a critical part of the maintenance of the majority of American golf courses.

Dellwood Hills Golf Club is a 40-year-old, private 18-hole club located 20 minutes northeast of the Twin Cities. The club is a full-service country club but has been a players' club historically. The course has a rating

of 74.2 and a slope of 141 with water and out-of-bounds coming into play on 15 of the 18 holes. Although we only have 36 bunkers and the character of the club is more of a native, natural look, the membership values a sharp-looking bunker.

Our process for keeping our bunkers looking good starts with creating a crisp edge. What we have found works best for Dellwood Hills Golf Club is to remove as little turf and soil from around the edge of the bunker as possible. A Red Max reciprocating edger and a skilled employee are the first two key necessities. The edger is held with the blades running vertical, removing enough to create a clean edge. The edger makes a quick horizontal undercut around the entire area that

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We increase our mowing frequency as soil temperature and soil moisture increase. It takes three guys about four to five hours every other week, which is a couple hours longer than raking bunkers alone.

was trimmed and cleanup starts. The spoils and loose soil are picked up using rakes and a grain shovel.

While cleanup is taking place someone is making sand depth checks throughout the bunker with a flat-edged shovel. We use a bunker rake with a blade attachment on the front to begin pushing and pulling sand throughout the bunker. We try to place 2 to 3 inches of sand on the faces of the bunker as to avoid fried egg lies. The bottoms of the

lip is left around the bunker. The area the mechanical rake does not get – for example, along the edge – is leveled and blended into the interior of the bunker.

Once you have your bunkers looking good how do you maintain them throughout the season? One of my former assistants put into place a system that has worked very well for us. We were having a problem with wear patterns showing up in our greens surrounds from mowing with a large area rotary and

“Our process for keeping our bunkers looking good starts with creating a **crisp edge.**”

bunkers generally have 4 to 6 inches of sand. We use landscape rakes to help place and level the sand the bunker rake pushes.

Once the sand is in place we use the bunker rake to completely smooth the surface. Our bunkers do not have liners in them so any stones that surface are removed at this time. The landscape rakes are exchanged for bunker rakes and we check to make sure a 2-inch

needed to come up with a better alternative. We started to use hand rotaries with a basket and weedwhips once a week or once every other depending on the weather. We increase our frequency of mowing as soil temperatures and soil moisture increase. On average, it takes three guys about four to five hours every other week, which is a couple hours longer than raking bunkers alone.

The hand rotaries mow two laps around each bunker. They mow all the rough height turf between the bunker and the intermediate cut of rough. A weedwhip is used to get the small strip of grass that is left along the edge of the bunker. After this, the weedwhip is run inside the bunker along the vertical edge, in a similar fashion as the edger. Any remaining Kentucky bluegrass runners or weeds are pulled by hand. The clippings that make their way into the bunker are blown out and the bunker is mechanically raked and the edges are raked by hand.

Whether your course views bunkers as a true hazard or as another playing surface, to me, it is crucial to establish a standard of maintenance with your players that they will accept and can work within your budget. This process has allowed us to edge once a year, requires a small amount of upkeep and our members are very happy with their appearance. **GCI**

Eric Peterson is the superintendent at Dellwood Hills Golf Club in Dellwood, Minn.

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conomic knowledge that used to be taught. They also need to be able to work with a wide, wide range of people from club board members to laborers. You have to learn that. Finally, the need to learn how to motivate employees and delegate. You're not going to get it done by yourself.

TELL US ABOUT YOUR PASSION FOR FISHING.

I love fly fishing. I love being out in front of the boat looking for tarpon. I was on the Henry's Fork (near his home in Idaho) yesterday trying to match the hatch and watch for rising fish. You're hunting and spotting. I love it. It gets your mind off everything. You can't do it and think about anything else. My absolute favorite is casting flies for bonefish in the Marls of Abaco (in the Bahamas). I spend six or eight days a year down there and it's fantastic.

We do make it part of our business. I love to bring customers and distributors up here to fish. Bruce Williams actually gave me a new title because of that. I'm now the CFO: Chief Fishing Officer.

WHAT'S THE FUTURE HOLD FOR YOU PERSONALLY AND PROFESSIONALLY?

That's my problem. Like I said earlier, I don't want to have an exit strategy. We've had some offers for the company but none that really felt right yet. Coleen keeps bugging me to make up my mind and be home more. That's why we moved back to Idaho. She came to me a few years ago when we were in Florida and, very politely asked to go home to Idaho. After everything I'd dragged her through – she just wanted to go home and I couldn't say no. But I love it here. The fishing and the skiing are

fantastic. We live at 6,000 feet and it can snow 12 months a year. As Coleen says, we have two seasons up here... ten months of good skiing and two months of mushy skiing.

FINAL THOUGHTS?

I don't know what the future holds but I really wouldn't change anything about where I am right now. I don't feel 69. I honestly feel a lot younger. I may keep getting older...but I refuse to grow up. **GCI**

About This Story

As publisher (sales guy) and editorial director (content guy) for this magazine, I debated with myself mightily about whether it was appropriate to feature Gary Grigg in our interview series. Up until now, we'd restricted these to superintendents, architects, builders and the odd Tour player or association executive. We studiously avoided doing "executive profiles" with CEOs from big advertisers because we didn't want to look like...well...whores.

But, after much schizophrenic debate with myself, I came to the conclusion that it was worth breaking new territory because Gary is not your average corporate type. After all, in addition to co-founding Grigg Brothers, he's built or helped build dozens of courses, maintained a bunch, earned both a CGCS and an MG from BIGGA, served as president of GCSAA, spoken at a zillion turf conferences, received numerous awards and generally led an interesting and fruitful life.

Yes, Grigg Brothers does advertise in GCI and other publications and, yes, we covet those advertising dollars mightily. But, not mightily enough to run an article spotlighting an industry company without a damned good reason. In this case, Gary's long career both on and off the course tipped the scales in favor of doing it.

So, that's my rationale for breaking tradition and featuring someone from the corporate world in our Q&A series. And besides, everyone already thinks I'm a whore anyway. **PJ**

COVER STORY (continued from page 45)

ment will be paid with county funds, and the property is managed under the auspices of the Leelanau County Parks and Recreation Department. The department has a maintenance staff that mans Veronica Valley and two other parks, Julian says.

Hunting and fishing at the park (the property's ponds are stocked with fish and a popular children's fishing derby is held each year) comes under the direction of the Michigan Department of Natural Resources.

"There are several benefits to adding this area to the county's park/open space inventory," says Leelanau County Administrator, Eric Cline. "It provides a new passive, natural area that is open to the public and a permanent protection from development of this site, which hosts a fairly diverse natural environment. It also provides a County-owned public facility in the east-central portion of the County, as opposed to the other two County-owned parks that are oriented closer to the southwest portion of the County. The park also provides more of a 'natural area'

focus, as opposed to our other parks, which are more active recreation and 'neighborhood' parks-oriented."

There are no plans to expand activities or facilities at the park. A trailer that served as a pro shop, a deck, and some of the statues and farm-oriented folk art were removed because of potential liability issues.

The benefits to the county are to preserve a central piece of property for public use and to develop a year-round park for a variety of pastimes – fishing, skiing, bird watching, hiking, says Mary Tonneberger, chairman of the Leelanau County Board of Commissioners. "As a former user of the golf course, I can attest to the fact that this piece of property will be well used by residents and visitors of all ages."

While the metamorphosis of the golf course into a park was received favorably by most residents, the transition wasn't met with universal acclaim. "People loved coming to play golf at the course and we got to know so many of them through the years," Grant

says. "We had five leagues that played here and golfers got to know our whole family. We couldn't wait to open up for the season each spring. People didn't want to see the course close."

Grant and her husband, who now operate a stump-removal business, wax nostalgic over their former golf course. "Bill was very particular about maintaining the course and we made so many friends during the 14 years we ran it," she says. "One daughter got married there and a son had his reception at the course. It was a special time in our lives. Our kids learned hard work and how to deal with people. Bill sneaks down there on his power cart once in awhile and the kids go fishing in the ponds. It's nice to see people there and enjoying the land."

Grandma Schaub-Peplinski would be happy to see her property still bringing smiles to young and old alike. **GCI**

John Torsiello is a freelance writer based in Torrington, Conn.



Travels With Terry

Globetrotting consulting agronomist Terry Buchen visits many golf courses annually with his digital camera in hand. He will share 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.

GOLFERS OBLIGATIONS

Samuel Clayton, general manager, and Hung Ji, golf course manager, at Discovery Bay Golf Club in Hong Kong, were frustrated with the large amount of ball marks on the greens and unrepaired fairway divots. Clayton decided to place large signs adjacent to the reception area and the main travel routes members take through the clubhouse in route to the course. At first, Clayton was worried the signs' harsh wording – a product of his native-Australian characteristic of being too straight forward – would offend, so he toned it down a bit. Regardless, the signs have been quite effective. Many members commented on the signs and said the idea was a great initiative. "Some members obviously have taken offense to the suggestion that they should be repairing pitch marks, which sadly the club will never win the battle with that attitude," Clayton says. "We have seen some improvement, however, it is more of a point that the club cannot be criticized for not trying." The cost for each roll-up stand in Hong Kong is about \$300. **GCI**



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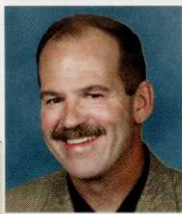
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Pat Jones is editorial director and publisher of Golf Course Industry. He can be reached at pjones@gie.net or 330-523-5384.

FOR THE RECORD

A quarter of a century ago, when I started my first real job in this business as a cub reporter for GCSAA, one of my very first assigned tasks was to review, sort through and organize about a kazillion photos and slides that were carefully stored in cardboard boxes, brown paper bags and various other receptacles around the old association headquarters in Lawrence. It was like sorting through a vast haystack made up entirely of needles and my job was to carefully examine each needle, catalog it and store it lovingly in the correct location so it could easily be used at a moment's notice.

To my knowledge, that job has never been completed. I sure as hell managed to avoid it. I wouldn't be surprised if there's a 20-year-old summer intern sitting in Lawrence right now figuring out how to not accomplish that same task.

So it was déjà vu a few months ago when, upon starting another real job here at GCI, I ambitiously decided to update all of my contacts, subscriptions and memberships in various stuff. This seemed like a simple, practical thing to do until I began to figure out how many different magazines, newsletters, associations and business acquaintances I have. I'm one of those idiots who still has about five old-school Rolodexes (and countless shoeboxes) filled with business cards that need to be scanned and put into my Outlook contacts. I figure I'll be finished with the task in roughly 2017.

But, I plowed ahead to at least get back on the list for important magazines and chapter publications. So, the very first call I made was to my friend Dr. Kimberly Erusha at the USGA Green Section. (Note that I do not describe Kim as an "old" friend. I still remember when she was a grad student at the University of Nebraska.

Kim will be forever young to me.) I asked her to put me back on the list for the Green Section Record, the one publication I really wanted to receive.

The Record is, of course, the venerable cornerstone of golf agronomy information. If The New York Times is the "Old Gray Lady" the Record is the "Old Green Gentleman."

It has been through various incarnations, but the roots of the Record go back to 1921 – just a year after the Green Section was founded – when the USGA started publishing The Bulletin to begin to disseminate agronomic information to the greenkeepers

doc from Kentucky, who is this year's Green Section Award winner. Then I opened it up and started happily leafing through the usual awesome articles. That's when the magazine fell open to one of those cardboard inserts. I glanced down and saw that it read: "A Change in Direction."

Uh oh, I thought. Those are never good words. I read on to discover that this would be the last printed issue of the venerable Record.

A bummer, but not a surprise in the least. At a time when many advertising-based, for-profit print publications are giving up the ghost, it's probably

The Record is, of course, the **venerable cornerstone of golf agronomy** information. If The New York Times is the 'Old Gray Lady' the Record is the 'Old Green Gentleman.'

of the day. That predates the formation of the GCSAA by five years and makes it by far the oldest information source in our happy little business. The current version of the Record was introduced nearly 50 years ago.

Since then, its editors have included legends like Marvin Ferguson, Al Radko, Bill Bengeyfield and – since 1990 – Jim Snow. I doubt there's been a USGA agronomist or leading scientist who didn't contribute over the years. No advertising, no overt agenda, no fluff – just useful information largely gathered and reported by men and women who visited hundreds of courses a year.

So, getting back on the mailing list for the Record was my top priority when I contacted Kim a few months ago. I was delighted to receive my copy in the mail a few weeks ago. I noted with pleasure that the cover featured Dan Potter, the great bug

more shocking that the Record was still arriving through the U.S. mail in the 10th year of the 21st century. I'll take a wild guess and say that producing, printing and mailing the Record cost easily a couple hundred-thousand dollars per year plus staff time. Frankly, that's money that could be used to support other programs and people at a time when USGA's budget is already being trimmed substantially.

The good news is that the Green Section had already launched a wonderful weekly e-newsletter that they believe will accomplish the same goals as the old Record and reach a wider audience because, notably, it's free. Like a copy? Then sign up for it at <http://gsportal.usga.org>.

So, as I mourn the loss of the Old Green Gentleman, I salute the folks in Far Hills for replacing it with a younger, hipper version that's available to all. **GCI**



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But that's nothing compared to the reward of winning the confidence of so many courses, whose trust has transformed this revolutionary technology into a routine choice the world over. Have a spot open in your fleet? Try one on your course. See what all the buzz is about. **Consider us part of your crew.**

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