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A NINE-HOLE RURAL TENNESSEE COURSE
BUILT DURING THE RECESSION MIGHT BE
THIS DECADE'S MOST TRANSCENDENT
GOLF FACILITY. A LOOK INTO THE WAYS
OF SWEETENS COVE.

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LAIID-BACK AND LOVING IT

Did you see the 42-year-old strutting into a clubhouse wearing shades, a backward hat and collarless shirt?

On a Sunday morning. At an upscale private club. During a major championship.

Bravo to the cameras for catching Tiger Woods' entrance before the final round of the 100th PGA Championship. OK. The cameras caught everything he did that Sunday, including recovery shots from the Ozarks.

Two days after watching the final round, I visited Sweetens Cove, the rural Tennessee course featured in this month's cover story to meet with architect/owner/operator Rob Collins and superintendent Brent Roberson. I expected to find no link between Tiger's PGA Championship appearance and Sweetens Cove, yet on my drive from South Pittsburg to Nashville for the GCBA Summer Meeting, I became captivated by the welcoming vibe exhibited throughout the imaginative nine-hole course. "If we were anymore laid-back, we'd be dead," says Collins, who wore a T-shirt with a course logo and shorts to our meeting.

I also didn't expect to find a link between Tiger's appearance and the GCBA gathering until noticing "business casual" listed as the suggested attire for all events, including the annual dinner and auction supporting the GCBA Foundation and Sticks for Kids. Executive director Justin Apel reiterated the message during the educational sessions.

To me, a 38-year-old wannabe millennial, business casual means a golf shirt and khakis. If we're outside and it's toasty, I'll wear shorts, unless the task involves walking through thick native areas. I operate best when comfortable. I purchased a blazer a few months after landing at GCI in 2014, but it hasn't left the closet since I unpacked following GIS 2015. I would rather risk one stranger calling me unprofessional – which has never happened in my presence – then become another writer/editor

wearing an awful blazer or a snooty golf dude.

Yes, despite persistent efforts to become more inclusive, golf hasn't fully ditched the ROWG label. Why? Some organizations and clubs feature lists of rules, which include throwback dress codes, longer than Ron Chernow's 1,104-page Ulysses S. Grant biography. Think about the last industry gathering you attended.

Did you really need that suit to feel and act professional while attending educational sessions and visiting tradeshow booths occupied by peers?

Call me Pro Shop Guy, but wearing a golf shirt with the club or company logo exudes professionalism and pride, and promotes inclusiveness. A club logo is a form of marketing. Logos, especially creative ones,

spark conversation about a golf facility. What you wear can help you tell a positive story about where you work. Wearing a blazer or suit doesn't offer the same opportunity.

The PGA of America, once viewed as a stuffy organization by outsiders, sent two high-ranking officials, then-CEO Pete Bevacqua and chief championship officer Kerry Haigh, to a PGA Championship news conference in lo-ged shirts. The duo handled themselves brilliantly. For those wondering, Haigh dispersed enormous praise on Bellerive's Carlos Arraya and team. Arraya handled himself perfectly in numerous media interviews during the tournament. His attire? Golf shirts and hats with the Bellerive logo.

Before donating your suit or blazer to charity, it's important to concede a few events still require formal attire: job interviews, committee meetings in elegant rooms, tradition-laced banquets, weddings with a bill footed by a baby boomer and funerals (except mine). But as talented Gen X-ers and millennials ascend to corporate management positions, the formality in our lives and appearances will shrink.

Loosening up a bit will make the golf industry even more lovely. **GCI**



Guy Cipriano
Senior Editor

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John Rom of Wilbur-Ellis in Denver, CO, practices "solution selling," by tailoring fertilizer blends to each of his customer's needs. He recommends Koch Turf & Ornamental enhanced efficiency fertilizers because they help superintendents meet budgets and grow high-quality turf that performs all season.

Find out how John Rom gets unmatched support from Koch so he can better serve his superintendent clients at **KochTurf.com/GolfSolutions.**



THE SCIENCE OF SPRIGGING



There are many ways to cultivate championship-level turf, but one of the most cost effective and efficient methods is through the process of sprigging. Sprigging involves removal of stolons from plants grown for vegetative propagation of specific turfgrass cultivars. Sprigging also presents a number of challenges. First and foremost, new growth is dependent upon the weather conditions in the zone they are being planted. "Quality of sunlight and potential for rainfall are critical factors to a good grow in," says Dr. Kathie Kalmowitz, Technical Specialist at BASF. "Sunlight is the single most limiting factor—without it, you won't have photosynthesis and the plant will not produce carbon for growth."

New growth is also dependent on the quality of the greens or fairway preparation for the sprigs to be installed, all part of the level of care invested by those in charge of the process. To ensure sprigging success, it helps to have an effective, broad-spectrum fungicide on your side that provides the ultimate protection and plant health for your turf.

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**Mike Cagiano, Superintendent
Warrior Golf Club
China Grove, North Carolina**

"The course had a major event scheduled for early August and Hole 8 needed repair. We started the sprigging process after Memorial Day by removing the dead plant material, laying in sand and prepping the soil. By late June we were ready to start. The sprigs were sprayed with Lexicon seven days before planting and then again 12 days after they were in the ground. Despite the intense summer heat and record rainfall, the sprigs grew healthy and strong in just six weeks, just in time for our event. I swear by Lexicon. Hands down it's the most reliable fungicide and its performance was phenomenal."

I swear by Lexicon.

Hands down it's the most reliable fungicide.

- Mike Cagiano

**Eric Dixon, Superintendent
Chi Chi Rodriguez Golf Club
Clearwater, Florida**

"Our course is a unique property featuring an 18-hole golf course, a 12-acre driving range, a practice facility, and a county school. On top of the challenges those present, Florida summers bring heavy precipitation that can be detrimental to establishing new greens. To fight that, we applied Lexicon twice prior to harvest. The sprigs never went fully off color and began to grow after only a couple days. This gave a head start on the entire process due to the jump-start from Lexicon, making the green less susceptible to issues such as algae and washing out during heavy rain events. We applied Lexicon twice during the grow-in process and it helped speed up recovery time from the aerification process. With results like these, BASF products are always in rotation at our facilities."



GATEWAY TO TRICKY TURFGRASS MANAGEMENT

St. Louis superintendents enduring a season of wacky weather extremes. *By Guy Cipriano*

PART OF TIM BURCH'S teenage years involved driving a pickup truck around Glen Echo Country Club with a hose in the back. Drive. Park. Pull. Water. Move to the next green.

Anything to keep grass alive in the wicked St. Louis growing environment.

"They didn't have utility vehicles in those days," says Burch, the current superintendent at St. Louis Country Club. "Now I laugh and say, 'Man, if I saw one of my guys drive a full-sized pickup truck around the golf course ... that would be crazy nowadays.'"

Experience – and a sense of humor – has kept Burch in the tricky business of growing and maintaining grass in St. Louis. Some summers, Burch says, are tougher than others. But few compare to what Burch and others recently endured. "The length



St. Louis Country Club superintendent Tim Burch

of it has been really unique," he says.

The thermometer indicated summer conditions arrived when temperatures exceeded 90 degrees in May. The warmest May on record followed the second coldest April on record. Temperatures remained toasty through mid-August when Bellerive Country Club hosted the 100th PGA Championship.

The perils of throttling from winter to summer conditions were evident below the surface of the region's bentgrass greens. A sudden rise in temperatures led to slow turf recovery following spring aerification. The slow recovery on St. Louis Country Club's renowned C.B. Macdonald-designed greens convinced Burch to make an emergency May visit to see Dr. Lee Miller at

the University of Missouri Turfgrass Research Center. The 250-mile roundtrip drive from St. Louis to Columbia yielded a surprising discovery: Pythium was present in a sample. "I looked at (Miller) and said, 'It's May. We had winter two weeks ago. We can't have Pythium,' Burch says. "He said, 'That's what you got.'"

By mid-August, Burch had sent five samples to Miller. He says he "usually" ships one sample per year to the Missouri lab. St. Louis Country Club also supports 25 acres of bentgrass fairways with spots requiring hand watering.

The scientific side of maintaining bentgrass in the Transition Zone must be balanced with the human side. In short, getting a crew through the summer can be a bigger chal-

INDUSTRY **buzz**

Foley United announced that **Paul Rauker** joined the company as its new President and Chief Executive Officer. Rauker succeeds **Brad Kautzer**, who accepted a position as CEO/President of **Banner Engineering Corp.**

GCI publisher **Pat Jones** will serve as the keynote speaker for the fourth annual **Deep South Turf Expo** Nov. 27–28 in Biloxi, Miss. Jones will explore in his address **why turf is critical to American life today and why it will be even more important in the future.**

Boca Lago (Fla.) Country Club is nearing completion of a **\$9 million golf course renovation.** The 27-hole facility has been reconfigured under the direction of **Jan Bel Jan Golf Course Design** and golf course superintendent **George Redshaw.** Work includes redesigning greens, repositioning bunkering in the fairways and around the green complexes, reshaping and rearranging teeing grounds, adding a new irrigation system, improving fairway drainage, and installing new grasses on tees, fairways and greens. The project is expected to be completed in November.

lenge than keeping turf alive and playable.

"If people say it doesn't wear on you, they're not being honest," Bellerive director of grounds and agronomy **Carlos Arraya** says. "It wears on them. Like everything that's difficult, you grow from it." Arraya calls this season's weather swings and challenges "unprecedented" and heaped giant praise on his crew throughout the PGA Championship. "I'm happy the guys have been able to adjust," he adds. "They have never wavered and they have never fatigued from a mental perspective. It's the just the physical wear and tear. There's only so much sunblock you can put on."

The PGA Championship ended Sunday, Aug. 12, three days before the Aug. 15 date St. Louis superintendents once viewed as a weather reprieve. Glen Echo Country Club superintendent **Joe Wachter**, like **Burch**, is a St. Louis lifer and knows mid-August might be too early to decelerate.

"A lot of guys used to look at Aug. 15, but now it's Sept. 1 or even Sept. 15,"

St. Louis superintendents used fans as a method to ease the stress on bentgrass greens throughout a challenging season.



Wachter says. "We have been really hot and dry in early September and that has really created issues for people."

Considering the recent angst, a soothing stroll in a pickup truck, albeit on paved surfaces might follow whatever date provides solace this year.

"I have come to believe that no matter where you are there is something," **Burch** says. "Guys up north worry about winterkill on their *Poa* greens, Bermudagrass has its own headaches down south and they have water issues out west. This is our something. When we are it in from the middle of June – well, this year it started in May –until late August, it doesn't seem it could be anymore unnerving."

Tartan Talks
No. 26

Art Schaufpeter says he strives to "put the golf in the golfer's hands" on his

design projects. When conducting a Tartan Talks podcast, we try to put the "answers in the architect's hands."

Schaufpeter became the latest guest on the monthly series and he had plenty to discuss, including the opening of TPC Colorado, a project he persevered to complete. "You never know what projects are going to push through," he says.

A site featuring mountain and reservoir views outside Denver, TPC Colorado's roots extend to 2004. The economic slowdown delayed intensifying the project until January 2015. Schaufpeter then learned in March 2015 of the PGA Tour's desire to make the course a TPC facility. The result is a course that stretches to 7,991 yards – but plays 4,100 yards from the forward tees – at 5,000 feet elevation. TPC Colorado also includes more than 35 revetted bunkers, an emerging North American design tactic Schaufpeter describes in the podcast. "They add an element of strategy for better players, add interest and fit in with the setting," he says.

Enter <https://goo.gl/rBnJHB> into your web browser to learn more about Schaufpeter's work and career.



MAJOR LESSONS



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

The season's major championships are done, but not without a great deal of chatter about course setup. And not just about how the courses played, but who should be in charge of conditions and their effect on the competitions.

Trying to test the world's best golfers is hard work, but that doesn't mean what happened at the majors isn't relevant to you and your club, even in a small way. Whether you're getting your course ready for the club championship, a member/guest, annual invitational, or a state or local association event, you need to think about what constitutes fair setup. I suggest starting with these broad parameters:

- Identify the competitors' skills. Make it so the eventual winner has to be at his/her best and hit all the shots. Try to take luck out of it.
- Highlight the design of the golf course, whether classic or modern.
- Address and mitigate weather and other environmental issues (wind, rain, heat, cold, humidity), regardless of the season.
- Prepare agronomic conditions diligently and carefully. You do not want your actions to make or break the event or you.

Those are the broad strokes. Here are some lessons from each of this year's majors.

THE MASTERS

Since this event is contested over the same course every year, the players know the yardages, the conditions and the course. They are familiar with the playing surfaces and can alter strategy accordingly.

If you hold an invitational every year, chances are your members and many of their guests are familiar with the conditions. That continuity is one reason people return year after year, so you do not want to deviate too far from what's worked in the past.

The way to change things, as they do at Augusta National, is by varying hole locations day to day and the order in which they appear. For the competitive rounds, locate the best, not the hardest locations on each hole that highlight the design, challenge players' abilities, maintain pace of play, and maintain a balance of front/back, left/right (if the design allows). Vary those locations to keep things fun and challenging for the players.

At the Masters, everyone knows where the Saturday and Sunday hole locations are going to be. It's part of the fun. Can your players handle the pressure of familiarity?

If there are practice rounds, keep things straightforward and put holes in the center of greens. Don't waste good locations on these rounds when players are familiarizing themselves with the course.

U.S. OPEN

The U.S. Open is a good model for your club championship in that you are trying to identify, not embarrass, the best players at your club. As the superintendent, you can and should have a lot of impact on how that happens.

You know the limitations of your course based on design, agronomics, the environment and, of course, previous experience. You want to challenge members beyond the normal golf course setup, but unlike the last few U.S. Opens, and especially this year at Shinnecock Hills, you don't want to push the envelope past the point of no return where the course is lost.

Every course is different, as are the playing abilities of its members. That said, there are a few key factors in balancing course and challenge:

- Firmness and green speed. Pick a speed appropriate for the time of year, green design and skill of the competitors. Get close to, but do not exceed, maximum speed: You can always make it a little faster, but once you've gone too far it's hard to dial back without dramatically affecting conditions of play.
- Height of primary rough. You're not holding the U.S. Open and your players are not pros. Rough longer than 3 inches (OBTW golf ball diameter 1.68 inches) is going to aggravate most of the field, will make it harder to return the course for normal play and will affect pace of play.
- Teeing grounds. Club championship or not, do not play every hole from the tips. Adjust hole lengths for diversity. Play some par fours long, others short; consider a reachable par five; put a different club in players' hands for each of the par threes. This is how you identify the best players.

(continues on page 46)



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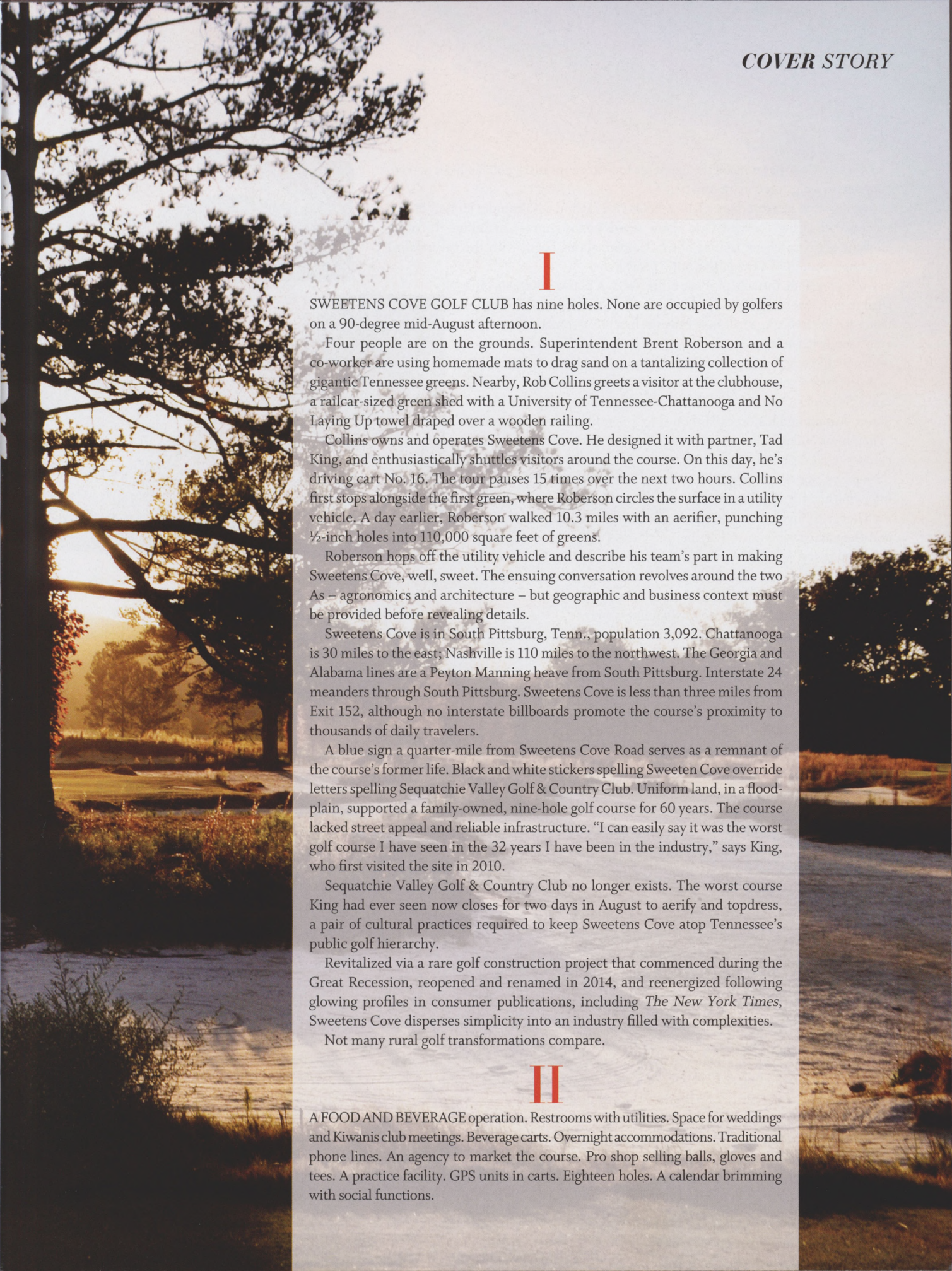
SWEET & SIMPLE

A nine-hole rural Tennessee course built during the recession might be this decade's most transcendent golf facility. A look into the ways of Sweetens Cove.



WRITTEN BY GUY CIPRIANO

Opened in 2014, Sweetens Cove Golf Club has strayed from industry norms to attract a devout customer base and social media following.



I SWEETENS COVE GOLF CLUB has nine holes. None are occupied by golfers on a 90-degree mid-August afternoon.

Four people are on the grounds. Superintendent Brent Roberson and a co-worker are using homemade mats to drag sand on a tantalizing collection of gigantic Tennessee greens. Nearby, Rob Collins greets a visitor at the clubhouse, a railcar-sized green shed with a University of Tennessee-Chattanooga and No Laying Up towel draped over a wooden railing.

Collins owns and operates Sweetens Cove. He designed it with partner, Tad King, and enthusiastically shuttles visitors around the course. On this day, he's driving cart No. 16. The tour pauses 15 times over the next two hours. Collins first stops alongside the first green, where Roberson circles the surface in a utility vehicle. A day earlier, Roberson walked 10.3 miles with an aerifier, punching ½-inch holes into 110,000 square feet of greens.

Roberson hops off the utility vehicle and describe his team's part in making Sweetens Cove, well, sweet. The ensuing conversation revolves around the two As – agronomics and architecture – but geographic and business context must be provided before revealing details.

Sweetens Cove is in South Pittsburg, Tenn., population 3,092. Chattanooga is 30 miles to the east; Nashville is 110 miles to the northwest. The Georgia and Alabama lines are a Peyton Manning heave from South Pittsburg. Interstate 24 meanders through South Pittsburg. Sweetens Cove is less than three miles from Exit 152, although no interstate billboards promote the course's proximity to thousands of daily travelers.

A blue sign a quarter-mile from Sweetens Cove Road serves as a remnant of the course's former life. Black and white stickers spelling Sweeten Cove override letters spelling Sequatchie Valley Golf & Country Club. Uniform land, in a floodplain, supported a family-owned, nine-hole golf course for 60 years. The course lacked street appeal and reliable infrastructure. "I can easily say it was the worst golf course I have seen in the 32 years I have been in the industry," says King, who first visited the site in 2010.

Sequatchie Valley Golf & Country Club no longer exists. The worst course King had ever seen now closes for two days in August to aerify and topdress, a pair of cultural practices required to keep Sweetens Cove atop Tennessee's public golf hierarchy.

Revitalized via a rare golf construction project that commenced during the Great Recession, reopened and renamed in 2014, and reenergized following glowing profiles in consumer publications, including *The New York Times*, Sweetens Cove disperses simplicity into an industry filled with complexities.

Not many rural golf transformations compare.

II A FOOD AND BEVERAGE operation. Restrooms with utilities. Space for weddings and Kiwanis club meetings. Beverage carts. Overnight accommodations. Traditional phone lines. An agency to market the course. Pro shop selling balls, gloves and tees. A practice facility. GPS units in carts. Eighteen holes. A calendar brimming with social functions.

COVER STORY

Sweetens Cove has none of the elements industry suits insist golf facilities need to compete in a cluttered marketplace.

Juggling two smartphones, Collins fields five calls in a 45-minute stretch on the recent topdressing Tuesday. One phone serves as the course's mainline; the other allows Collins to check the tee sheet. Conversations begin with the seven-word greeting: "Sweetens Cove Golf Club. This is Rob."

Golf represents the sole purpose of the calls. A port-a-potty joins the shed to give Sweetens Cove a pair of primitive structures. The maintenance facility is offsite, a half-mile from the first tee. If somebody wants to grab a sandwich or six-pack, they must visit downtown South Pittsburg or return to the conglomeration of chain restaurants and hotels off Exit 152.

A celebrated golf course is Sweetens Cove's lone amenity. *Golfweek* ranks Sweetens Cove the 50th best modern golf course in the United States. Author and historian Anthony Pioppi profiles Sweetens Cove in "The Finest Nines," a book examining North America's best nine-hole courses. Golf enthusiasts and architecture aficionados regularly praise Sweetens Cove on social media, helping the course develop a devout following among the 45-and-under crowd.

"There's a huge disconnect between the quality of the golf course and the catastrophe on top of the hill," says Collins, glancing at the shed and port-a-potty above the first tee. "It's funny because we can't afford to do anything else. Strangely, that has become a strength of ours. People realize that's part of the deal. There are no comfort stations, there's no guy shining your shoes. We don't have that stuff, but we do have a golf course that no other public golf course in the state can offer."

Roberson, a veteran of the South Florida private club world, nods in agreement. "There's nobody giving you a cool towel here," he says. "I wish I had one of those." Roberson then wipes sweat from his brow. Preserving nine highly regarded holes is grueling work.

Almost every course on every top-100 list has at least one maintenance employee per hole. Roberson maintains a 72-acre site with a crew of five. The golf course must be right, because Sweetens Cove has no alternative revenue-generating tactic.

III

THE MAINTENANCE STAFF has quintupled since Sweetens Cove opened with a media preview in October 2014. Reaching opening day was anything but sweet and simple.

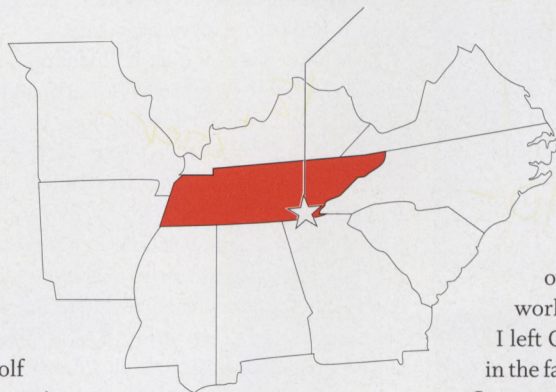
The Thomas family, owners of Sequatchie Concrete Services and the previous golf course, hired King Collins Golf Design in 2011 to design a new course. The family left the golf business by 2013, placing Collins and King in a peril because the course had been grassed in 2012. Confident Sweetens Cove was special, Collins negotiated with investors, including Ari Techner of former custom club manufacturer Scratch Golf, to secure a long-term lease on the property in spring 2014.

A sluggish economy left Collins, a Chattanooga resident who previously worked for Gary Player Design, with few options. King left a project in Qatar to help Collins open the course for the late 2014 opening.

"The client pulled the plug on all the resources, let all the labor go and you had \$100,000 worth of grass out there that nobody was maintaining," King says.



SOUTH PITTSBURG



"Rob and I, just as a labor of love, would run irrigation cycles, pull hoses and everything else.

Rob and Ari took it over on a lease and it worked out well for me.

I left Qatar and came down in the fall of 2014 solely to get Sweetens open for our media event. We had burned through all

the budget, but we had to get it launched so we were all working for free."

Collins' group exhausted its financial resources after the opening, which led to then-superintendent Michael Burrows departing a second time for a stable job at an established private club. In addition to working for Collins' group for six months in 2014, the Thomas family employed Burrows as superintendent before they exited the project. King then returned to the Middle East, leaving Collins as the only regular employee as the winter of 2014-15 approach.

Collins maintained the course and operated the business until Patrick Boyd, who was also involved in Scratch Golf, agreed to become general manager. The duo endured a dicey

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winter, which included losing 2,500 square feet on a green because of freezing temperatures and high winds.

Hiring Roberson, a native of nearby Dunlap, Tenn., as superintendent in March 2015 represented a major triumph because of his experience working under respected agronomist John Katterheinrich at The Bear's Club in Jupiter, Fla. Two inches of snow covered Sweetens Cove when Roberson first toured the course with Collins. He saw enough potential in the rolling land – and felt confident enough in Sweetens Cove's financial future – to leave Florida and lead what would become a small crew maintaining a layout built atop a course he played as a teenager.

"I could see parts of the course and it was like, 'Wow, this is really neat,'" Roberson says. "You got on the greens and you could tell there was a lot of movement. It wasn't even the same property. I took a chance, I definitely took a chance. In our industry, it's hard to get from state to state. It's one thing to be working in Jupiter and to get a job in Boca, but to be in Tennessee, 30 to 45 minutes from where I grew up ... I'm fortunate."

IV

THE SIMILARITIES BETWEEN working at a nine-hole course in Tennessee charging \$65 for 18 holes with a cart on weekends (\$55 on weekdays) and a private club in South Florida end with the Bermudagrass playing surfaces.

Besides employing a

“

I could see parts of the course and it was like, 'Wow, this is really neat. You got on the greens and you could tell there was a lot of movement. It wasn't even the same property. I took a chance, I definitely took a chance. In our industry, it's hard to get from state to state. It's one thing to be working in Jupiter and to get a job in Boca, but to be in Tennessee, 30 to 45 minutes from where I grew up ... I'm fortunate.'"

— BRENT ROBBERSON



◀ Brent Roberson, Superintendent

small crew, Roberson has just three mowers to maintain 35 acres of turf: a fairway unit and two triplexes. Hand labor, although sometimes needed, is reduced by using a triplex to mow the nearly three acres of MiniVerde greens and a mechanical rake to smooth the almost seven acres of bunkers/waste areas. All bunkers play as waste hazards, thus allowing golfers to ground clubs. No rakes are placed on the course.

Roberson and his team use the mechanical rake on bottoms two or three times per week. Tasks such as restoring edges after heavy storms – South Pittsburg averages 59 inches of rain per year – and pulling weeds are performed by hand. Collins lauds Roberson and his crew's persistence, but he says Sweetens Cove's bunkers aren't meant to provide the favorable lies golfers find at many private and high-end public courses.

"We definitely take a different approach to bunker maintenance and that fits in with our architectural style," Collins says. "We believe bunkers are hazards, and if you don't have a perfect lie, I don't care. That's your problem. You shouldn't hit it in there."

Roberson, whose team includes loyal mechanic Ron Simpson, admits he was overwhelmed at times in his first year at Sweetens Cove. But experience has taught him the value of prioritizing, which he says becomes more important when leading a small crew.

"This was a big change for me," he says. "Where I was you had a crew of almost 30. I was having trouble keeping people busy, especially in the winter, which was our busiest time in Florida because you had a lot of golf. You did a lot of shop work. It's a lot tougher here. It's never ending."

V

WORKING AT A NINE-HOLE COURSE with meager resources has its perks. Collins knows for Sweetens Cove to succeed he must entrust key employees to efficiently operate their departments. So, Collins says, he gives Roberson and Boyd "a lot of latitude" to make decisions. Having just one layer to report to contrasts what many talented superintendents and general managers experience.

"I don't know what Brent's previous job was like," Collins says. "I know there's a lot of things he wishes were different here, but I would guess one of the things that's better here is that when you work at a big private club, you have a GM, you have a club president, you have some obnoxious members, you have a greens committee and they are on you every single day. Brent doesn't have any of that here. Hopefully the things he likes about working here are a little bit of a tradeoff."

Less oversight often means more job fulfillment in the turf world. "It works better to for a superintendent, in my opinion, whenever you are able to do what you need to do and not answer to six or seven people," Roberson says. "Greens committees have ruined quite a few really good golf course superintendents. With the way this is, I know what needs to be done and I don't have to ask. Unless it's a big financial deal, I'm just going to do it."





▲ Sweetens Cove's clubhouse

VI

CLOSING FOR TWO SUMMER DAYS to aerify and topdress represents a major decision at Sweetens Cove, one that Collins estimates costs the course between \$2,000 and \$3,000 in revenue.

Sweetens Cove aerified once in each of Roberson's first three years at the course. Roberson received an agronomic treat when Collins agreed to a DryJect application earlier this year. The application injected 22 tons of sand into the greens, further promoting the fast and firm surfaces Collins and King envisioned.

Because of the DryJect application, Roberson aerified with a smaller tine in August. Using a ½-inch tine allowed Sweetens Cove to limit golfer disruption. Feeling comfortable about closing the golf course for an important cultural practice represents significant progress in the Sweetens Cove's business evolution.

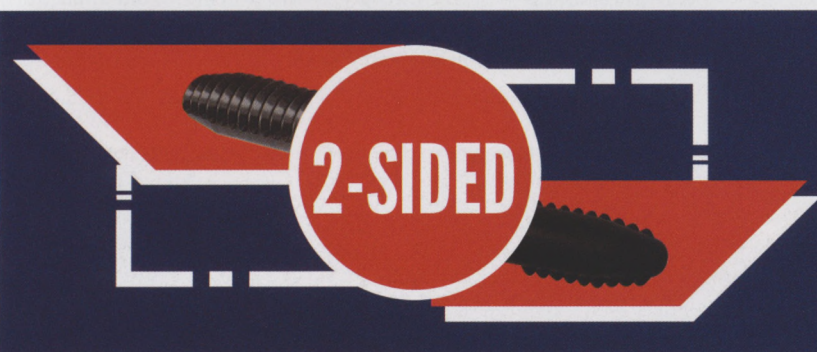
"Last year it was extremely scary to aerify," Collins says. "We weren't doing that well financially and it was hard to stomach closing. This year we are up substantially and because of how quickly the golf course recovered from the DryJect and because we were doing a little bit smaller tine, I felt like we could do the right thing for the golf course and still do the right thing for the business."

VII

A CREEK BORDERS SWEETENS COVE, mountains surround the proper-

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COVER STORY

ty and a dam rests on the other side of Interstate 24. When it rains hard, Collins, Roberson and Boyd get antsy.

The property has one natural foot of fall. Creating an interesting and functioning course involved moving 350,000 cubic yards of dirt, installing more than 10 miles of drainage and capping the ground with 4 inches of sand. The construction effort, which included workers from the concrete company and shapers recruited by Collins and King, created 30 feet of elevation. Numerous materials used in construction, including two varieties of sand, were provided by the concrete

company.

Flipping a floodplain into a fully flood-proof setting, though, is almost impossible. "When you hear the word flood and golf course in a same sentence, it carries all sort of terrible connotations," Collins says. "We don't get a torrent of water that flows through the golf course. Mostly, it comes up and just flows away. It's really a pain in the ass in two ways: it's a pain in the ass operationally because we have to shut down for a few days and it's a pain in the ass for Brent because it's cleanup."

Following a heavy storm this past February, water submerged parts of the course.

High water levels coincided with thawing and Roberson considered using kayaks to reach greens that needed covered. "Luckily, it didn't get to that point," he says. Water and winter will continue to yield uneasy moments, making Sweetens Cove's environment no different than many Transition Zone courses.

VIII

A STEADY DAY at Sweetens Cove ...

Golfers begin arriving at 7 a.m. First group tees off at 7:30 a.m. Morning tee times run until 9:30 a.m., with many customers opting to play 18

holes in a cart. Boyd schedules tee times 15 minutes apart, allowing gaps for potential walk-in play.

Sweetens Cove had 18 carts until adding five more earlier this year. Optimal capacity involves placing no more than 50 golfers on the course at any given time. "I try to keep that flow going and that cycle keeps going all day until the golf course is empty," Boyd says.

Collins initially envisioned the bulk of Sweetens Cove's customers hailing from Chattanooga. Architecture gurus relished their first glimpses at the course, which includes a par 3 with a 20,000-square

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foot green, a driveable par 4 guarded by a sadistic bunker, and modern versions of beloved Golden Age templates such as a “Cape” hole and “Biarritz” and “Redan” greens. But the combination of traditional marketing and architectural praise didn’t produce immediate success in the 550,000-person Chattanooga market.

An engaged following cultivated through an inorganic in-house social media effort slowly developed, expanding the customer radius to a three-hour radius that includes Nashville, Atlanta, Knoxville, Birmingham and Huntsville. Sweetens Cove’s 3,100 Twit-

ter and 3,300 Instagram followers are believed to be the nation’s highest totals for a standalone nine-hole facility. “Twitter and Instagram are our two best friends,” Collins says.

IX

SWEETENS COVE DOESN’T HAVE out-of-bounds stakes, rough, cart paths or a dress code. “Everything is designed to keep it moving, keep it fast, and keep it fun and enjoyable,” Boyd says.

Simple works in many facets of life. Can it work in American golf?

Short-term success at

Sweetens Cove includes expanding the regional customer base. Revenues have grown every year since the course open and, so far, 2018 marks the “best year we have ever had,” Collins says. Building a permanent clubhouse, on-site maintenance facility and perhaps a few cabins are long-range goals.

A survive-the-day mentality still permeates when trying to polish a spacious golf course that blends with idyllic surroundings. “If I could wave a magic wand and get more resources, I would hire three more guys, get another fairway, get another surrounds mower and update some of

the equipment,” Collins says. “Walking a tightrope day after day is tough.”

Sweetens Cove has already received a few doses of magic, surviving a recession, ownership change, financial hardship and ultra-lean beginnings. Sweetens Cove will never magically morph into an 18-hole course because of land constraints and because sometimes nine memorable holes are enough to serve a deeper purpose.

“It’s about as anti-establishment of a golf club or experience that you’re going to find,” Boyd says. “There’s no masquerading about that. We celebrate it for what it is.” GCI

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HARD TIMES



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

In his award-winning description of the Dust Bowl years, author Timothy Egan tells the story of a land without adequate water for crops and the soul-suffocating consequences of extreme drought. "The Worst Hard Time" recreates the 10,000-foot high dust storms that whipped across a delicate dryland ecosystem, choking animals and people eking out an existence most of us cannot imagine.

It's hard to read the author's account of their epic struggle and not relate it to the importance of intentional water management programs for anyone in the golf business today. Water management is one of the great responsibilities for all who draw water from the land, and superintendents are rightfully praised for their careful and attentive water consumption practices. They are diligent and careful users of water – whether from the ground or recycled effluent. Yet, many fear we are not doing enough to safeguard the long-term health of our most valuable assets.

Fortunately, and in contrast to the Dust Bowl years, when charlatans and conmen preyed on fearful farmers, there are now a number of progressive superintendents developing and sharing solutions for the common good. We've highlighted a few of them here, some of which fall into the category of plain old common sense and others that are quite innovative.

COMMON-SENSE SOLUTIONS

Rick Tegtmeier, the superintendent at Des Moines Golf and Country Club, which hosted the 2017 Solheim Cup, often employs the wisdom of experience.

"If there is a rainfall event in our immediate future, we turn off the well (that fills the irrigation lake) in anticipation of filling the lakes with run-off water," he says. "That saves the club money by not pumping the water out of our deep well. All our lakes on property can be drained into one of the lakes that we draw out of. In the event of a water shortage or drought, we have 21 days of water on property to keep our greens and tees alive."

Many superintendents monitor water consumption with technology systems that constantly monitor the efficient performance of irrigation systems. "If a head is not turning or a nozzle is clogged, I can assure you water is being wasted," Tegtmeier says.

INNOVATIVE SOLUTIONS

Tegtmeier is also known for his innovative approach to water management.

"Over the four months of summer, we utilize wetting agents on greens, approaches, tees and fairways. These surfactants make the water wetter and help to evenly distribute moisture throughout the soil profile."

There are many types of surfactants available to turf professionals. "Using the right ones to either retain water

in the profile or penetrate the soil is key," Tegtmeier adds.

Bill Cygan, superintendent at Silver Spring Country Club in Ridgefield, Conn., considers water management a "blend of art and science." Using moisture meters, Cygan and his team seek optimum moisture content for their course to produce firmer and healthier playing surfaces. "Many factors, including season, weather, soil types, microclimates and membership expectations, must be considered," he notes.

Both Tegtmeier and Cygan also carefully monitor evapotranspiration (ET) levels on their courses. Cygan uses deficit irrigation for replacing only the least amount of water lost through ET that is needed to keep the plant healthy.

Tegtmeier says tracking ET helps determine how much to water back that evening. "We also have six TDR meters we utilize throughout the day to see if the soil needs water. Thirty years ago, we used a soil probe or a cup cutter to determine if water was needed. Now, TDR measurements are an essential part of what we do every day."

Wetting agents are also an important part of the superintendent's arsenal. "Wetting agents aren't a replacement for good drainage or an irrigation system," Cygan says. "But they will aid either process, depending on which product is chosen."

We've come a long way from the Dust Bowl years, when wet sheets were hung in windows and doors were taped and stuffed cracks with rags to ward off the elements. But despite their good intentions, homespun remedies didn't work. Poor soil management practices and the lack of water were to blame. The toll was paid by the people who lived to tell the tale.

Fortunately, progressive superintendents have developed common-sense practices and innovative solutions to help ensure that the worst hard time is not repeated on our golf courses. **GCI**




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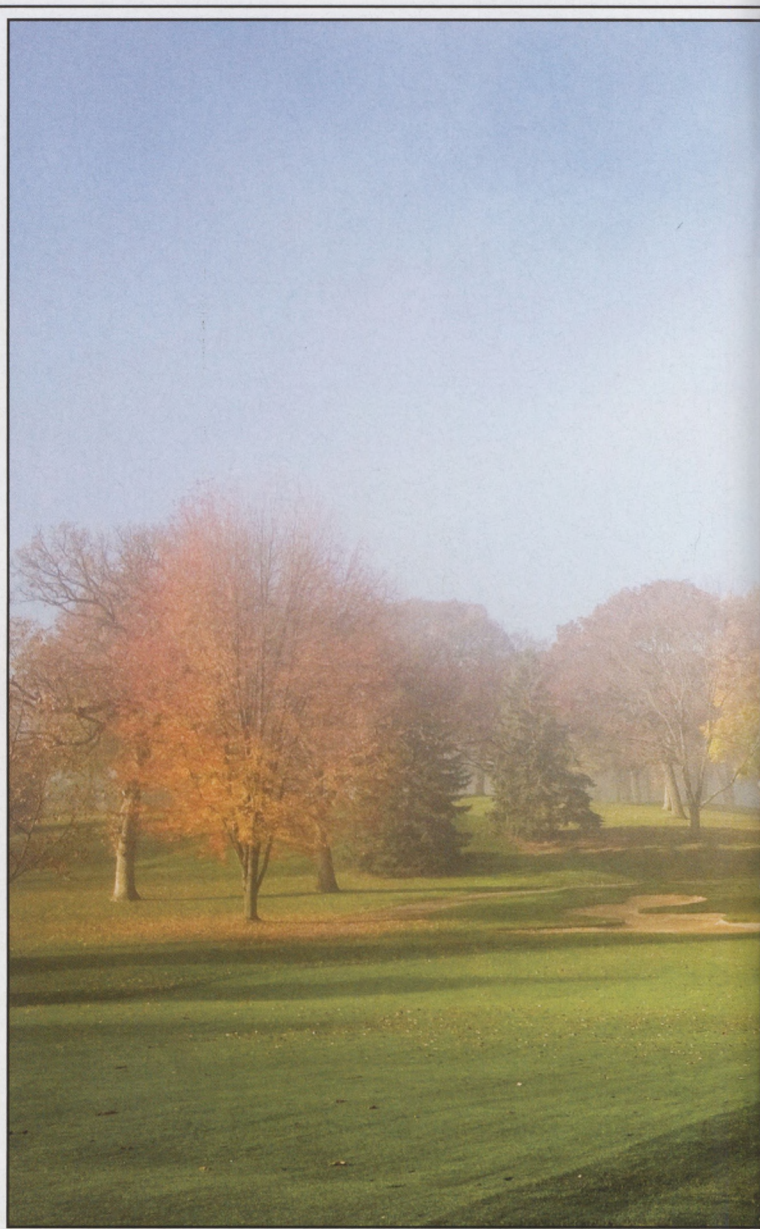
By John Torsiello

This fall, turf managers should avoid a potentially problematic occurrence — inefficient fall fertilization.

Low-nitrogen fertility in the fall has emerged due to heavy emphasis on potassium and the fear of creating turf that is too succulent, says Dr. Raymond Snyder, director of agronomy for Harrell's. "This has resulted in too little nitrogen applied in the fall period," he says, adding the result is "very poor turf conditions emerging in the spring resulting in the need for growing in of large turf areas and/or sod."

To better prepare turf for the next season, Snyder advises superintendents to develop more effective fall fertility programs and to utilize a fertilizer product that contains a component of soluble and controlled-release potassium. "Include more rapidly releasing controlled-release nitrogen with a longer lasting controlled-release nitrogen source," he says.

Superintendents rarely consider photosynthesis, says Aris Gharapetian, director of marketing for Target Specialty Products. "Our plants need sunlight, water and CO₂ to make valuable energy," he says. "This energy will be used to power operations like recovery from summer's stress, root system regeneration and preparation for winter. With day length, soil moisture and solar energy potential all reduced during the fall, it's important for turf managers to adjust nutritional plans."



Secondly, Gharapetian points to nitrogen-driven growth. Nitrogen's ability to drive shoot growth is less in the fall when compared to springtime applications. "In the spring, we're cautious to not over apply nitrogen and drive shoot growth at the expense of roots," he says. "Fall nitrogen reacts in a different manner and affords the opportunity for recovery and carbohydrate production without roots having to pay the price.

Moderation is still key."

Another overlooked issue, Gharapetian says, is potassium's influence on several plant functions. "Plants use potassium to kick start sugar, protein and starch production," he says. "This is mission-critical in the fall as these energies are what plants will depend on for winter survival and spring performance. Also, by helping maintain turgor pressure, potassium dramatically lowers a plant's risk of disease, drought



stress and winter injury.

Likewise, zinc plays a small role in more plant reactions than any other nutrient, Gharapetian says. However, its deficiency is rarely noticeable. Zinc helps to keep plants alive in waterlogged soils and zinc regulates plant temperature. This means the plant's reactions to wild temperature swings are tempered by zinc.

The importance of fall nutrition is often overlooked as nighttime temps are lower,

days are shorter and there's less stress on the plant, Gharapetian says. Turf seems to look better and better as fall proceeds and the tendency is to minimize nutrient inputs. "The fact is, fall is the most critical time of year for proper nutrition," he says. "This sets the stage for how your turf will overwinter and how it will perform the following season."

There are a number of reasons for improper fall fertilization, says Dr. James Murphy,

extension specialist in turf management for Rutgers University. The amount and complexity of issues a superintendent has to manage compete, and sometimes agronomic issues aren't at the top of the list. "Experience with different turf and environmental conditions plays a role in one's understanding of the relative significance of these factors," he says. "Sometimes, we fall into a rut and do the same thing over and over without taking the time to

think critically about the objectives for our actions. But it is important to make the time to review your situation and adjust programs, including fall fertilization, when needed."

Existing turfgrass conditions dictate whether fall fertilization is needed and, if so, how much, Murphy says. "An older turf that is healthy and vigorous requires much less fertilization than a young immature turf," he says. "Therefore, the longer you manage a turf, it is more likely that you will need to adjust fertilization rates down to avoid over-fertilizing."

A sparse, worn-out turf needs more fertilization to help with recovery than a healthy, dense stand of grass, Murphy says. Additionally, the immediate need for recovery in a worn-out turf dictates that more (and perhaps all) of the nitrogen should be in the quick-release form rather than the slow-release form.

"Fall fertilization, especially with nitrogen and phosphate, favors the development of annual bluegrass over other cool-season turfgrasses, including creeping bentgrass, Kentucky bluegrass and tall fescue," he says. "As a result, superintendents who want to discourage annual bluegrass encroachment should consider withholding or at least minimizing fall fertilization."

The timing of fertilization, as well as the nitrogen source(s), control whether fall fertilization results in turf responses primarily during the fall or spring. For example, early fall applications containing greater percentages of quick-release nitrogen (ammoniacal, nitrate, urea forms) result in the turf responding during fall. Con-

versely, applications later in the fall or containing a greater percentage of slow-release (water insoluble and coated forms) nitrogen will shift the turf responses toward early spring.

"It is important to determine which responses are needed (fall or spring) and pick a timing and fertilizer product that provides that," Murphy says. "Turf that needs to grow actively in both fall and spring (for example, annual bluegrass turf) would benefit from both an early fall fertilization with quick-release nitrogen and a late-fall fertilization that includes a larger percentage of slow-release nitrogen."

Fall fertilization needs to

start sooner in more northern (colder) regions. "Late fall fertilization in New Jersey typically occurs during November," Murphy says. "However, November is often too late for a colder region such as northern New England, especially if a turf response is expected this fall."

Nitrogen and phosphate fertilizers should not be applied when the soil's water content is high (wet) or frozen. Both conditions encourage nutrient loss from runoff or leaching. Similarly, nitrogen and phosphate fertilizers should not be applied to dormant turf.

Adequate potassium access for the entire season is too often overlooked in all types of turf,

says Dr. Larry Murphy, owner of Murphy Agro.

"Winter hardiness is tremendously important for cool-season species and should not be overlooked for warm-season species, particularly if there is a chance of occasional freezing," he says. "Many turf grades or mixes simply do not supply sufficient potassium. Loss of stand can frequently be attributed to low available potassium from all sources, soil and fertilizer. Sufficient potassium is critical for sugar synthesis and transport and for retention of water."

Other nutrients are crucial for fall and winter vigor and hardiness. For example, Larry

Murphy says phosphorus is very important at all times but poses a "dilemma" where restrictions have been placed on its use in fertilization.

"Run-off and erosion are the mechanisms of loss, but phosphorus reactions with soil components (fixation) are the big reasons for poor utilization efficiency," he says. Phosphorus availability and uptake should be enhanced if possible by treatment of either dry or liquid phosphorus with a polymer having a high concentration of carboxyl groups that "diminish soil phosphorus fixation reactions."

Joel Simmons, president of EarthWorks, believes biological soil management (BSM),

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Count on one hand

There are five aspects of fall fertilization not to overlook or take for granted, says Dr. Raymond Snyder, director of agronomy for Harrell's.

- Fall fertilization is a great time to prepare the plant for cold temperature stress.
- Turf utilizes nutrients during the fall for building carbohydrates.
- Fall carbohydrate development helps the plant cope with cold temperature extremes and promotes healthy turf conditions the following spring.
- The use of nitrogen versus potassium is often undervalued (fall fertilization is often focused on potassium but proper nitrogen inputs are key to building carbohydrates)
- Controlled-release nitrogen sources should be utilized in the fall.

an approach he's advocated for three decades for all soil types. BSM uses carbon-based fertility, which helps provide long-term feeding opportunities for the soil's microbial populations. Carbon-based fertilizers balance the carbon/nitrogen ratio in the soil and can be blended with or without synthetic fertilizer.

"If I had only had one fertilizer application to make all year it would be a winter or dormant feed application with a carbon-based product," Simmons says.

As the turf's top growth slows down in mid to late fall in many parts of the country, microbial activity under the

turf layer is still very active and a good feeding of the microbial activity can help to break down thatch, flocculate the soil, build water holding capacities, buffer sodium build up, and help to bring a quick and vibrant spring green up, Simmons says.

"If this same application is made without a carbon base, the available carbon in the soil that is used by microbes for all these vital functions is burned up and the soil and the plant can suffer," he says.

By balancing the carbon to nitrogen ratio in the soil, Simmons says nitrogen "rolls through" nitrification more efficiently, allowing super-

intendents to use less fertility with better recovery because microbes are more active, and more fertility is being made available to the plant. "Even in 12-month environments the winter feed can be of great value for the same biological reasons as in cooler parts of the country," Simmons adds. "The only weather conditions to avoid may be applying to frozen soils because of the potential for surface run off."

The message is clear: Do not overlook or undervalue any basic when it comes to feeding your turf this fall. Your reward will be a healthy stand and a beautiful green up come spring. **GCI**

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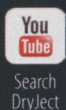
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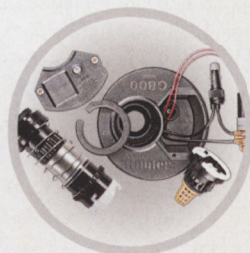
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Brian Vinchesi, the 2015 Irrigation Association Industry Achievement Award winner, is President of Irrigation Consulting, Inc., a golf course irrigation design and consulting firm with offices in Pepperell, Massachusetts and Huntersville, North Carolina that designs golf course irrigation systems throughout the world. He can be reached at bvinchesi@irrigationconsulting.com or 978-433-8972 or followed on twitter @bvinchesi.

Almost all golf courses have an irrigation system. Sometimes we forget that a golf course irrigation system is a mechanical system that happens to be buried in the ground. The ground is a harsh, dirty, wet environment with various critters crawling around or digging in it, various other items driving or walking on it and equipment poking at it. Is there any wonder that, at times, it doesn't work?

Even with this corrosive environment, we still lose patience with the course's irrigation system when it malfunctions. Think of burying your refrigerator, furnace, or air conditioner in the ground and relying on it to work day after day without problems.

An irrigation system is going to cause a golf course superintendent more heartache over time than when they are new, if the installation was good. Problems are certainly minimized by good mechanical design, great installation and the right products – but not necessarily in that order.

You can have the design you want, but if it is improperly installed, it's not going to operate without issues. For example, you can buy a gate valve that will last 25 years or an inexpensive one that breaks or leaks

“On large irrigation systems, it is good to have an irrigation technician. They can certainly be kept busy doing preventive maintenance on the irrigation system when they are not reacting to a leak here or a malfunctioning sprinkler there.”

the first time you use it. Or, you can invest in grounding up front or fix the system every time you get a lightning strike. Although good design, products and installation help it still comes down to onsite maintenance.

Not unlike other mechanical systems in your house, most golf course irrigation maintenance is reactive not proactive. As such, you may not have the parts in stock, nor may the distributor.

The labor needed may not be available immediately for repairs or, in some cases, you may not have the dollars needed readily obtainable if it is something major. Certainly, one part of proactive irrigation maintenance is to have the parts you need on site.

These days suppliers keep very small inventories, so you cannot assume that they will have the necessary part or parts if you do not. It is important to keep an inventory of the parts that are commonly giving you issues whether it be solenoids,

drives, gate valves or repair couplings. On large golf course irrigation systems, it is good to have a dedicated irrigation technician. They can certainly be kept busy doing preventive maintenance on the irrigation system when they are not reacting to a leak here or a malfunctioning sprinkler there.

The other thing about reactive maintenance is that you are always in a hurry to fix something as the timing is never good and the turf doesn't have the patience to wait before it starts to deteriorate. Because you are in a hurry, rarely does another worker on your team take the time to determine what caused the issue.

Consider the possible culprits: Was it something driving over it? Was it surge pressure, was it a bad splice? Was it poor grounding? Was it a previously incorrect repair or a bad installation?

If you do not know the cause, it will be difficult to execute a repair that will last. Try and diagnose the cause and make a proper repair that keeps it from happening again.

An irrigation system is going to require a great deal of maintenance over time. The type of repairs needed can vary on a day-to-day basis or on older systems might be the same issues day after day. There is nothing you can do about many of the problems because they are inherent in the systems installation, design or products, and as anyone who has been in this business longer than a month knows, it is also all weather dependent.

We have no control over the weather and irrigation systems hate lightning, extended dry periods and intensive rain events. As someone once said: “Patience is a virtue,” and I will add, “... especially when the irrigation system is malfunctioning.” GCI

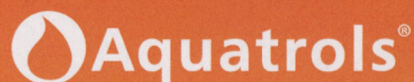
FASHIONABLY

Late

Most turfgrass managers stop using soil surfactants in early autumn when the summer stress period is over. However, a late season application of **REVOLUTION** or **DISPATCH** just before you blow out your irrigation system can provide many important turf benefits before the ground freezes in winter and after the ground thaws in early spring.

BENEFITS INCLUDE:

- **Late Autumn:** Ensure maximum penetration of any rainfall or snowmelts that occur and improve soil moisture levels before the ground freezes.
- **Winter:** Prevent crown hydration injury by ensuring free water drains off of the surface during snowmelts.
- **Spring:** When the rootzone thaws in early spring, Revolution or Dispatch will still be present in the soil, improving soil moisture levels and maximizing photosynthesis and root growth.



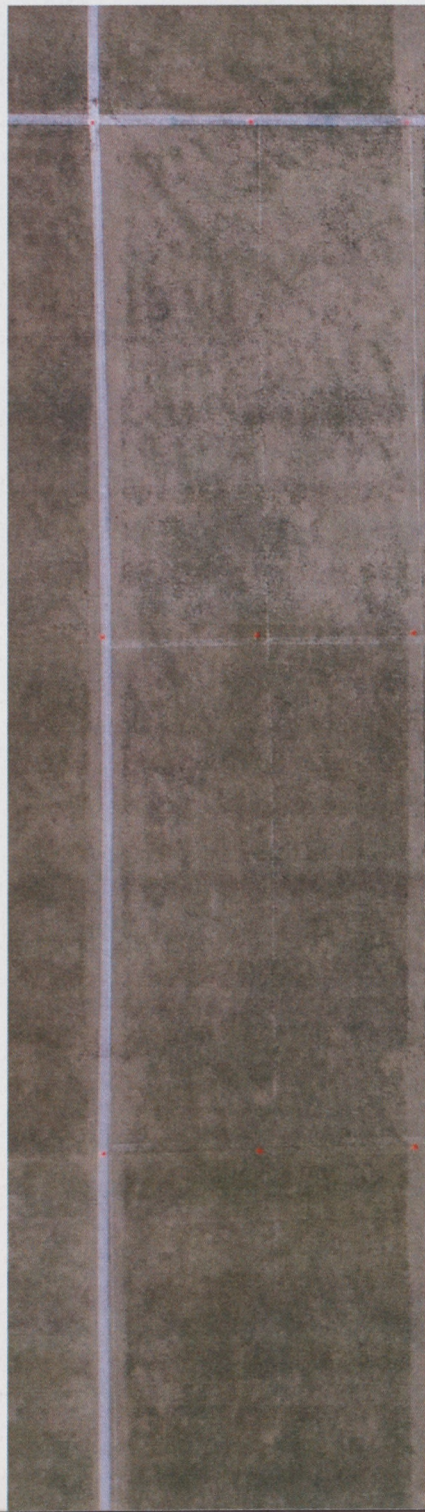
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TURF'S

COVER

BIG



7 TIPS TO GETTING THE MOST OUT OF A WINTER TURF COVER PROGRAM.

BY Kurt Kleinham

UP

As the summer begins to wind down, superintendents start working on their plans to protect turf from the oncoming threat of winter injury. For some, those plans include turf covers. While they can be very effective at providing additional insulation for turf and protect it from direct low-temperature injury, getting the most out of turf covers can be an art form that requires the right timing and proper preparation.

Here are a few tips to make sure that this winter, your course is covered.

START OFF RIGHT

If the timing is right, a turf cover can work incredibly well in climatic zones where winter desiccation is a problem, says Dr. Nick Christians, professor in the department of horticulture at Iowa State University.

"Desiccation is one of the biggest problems in the drier parts of the Midwest, and for that a turf cover can work miracles," he says. "I've seen turf under a cover that is just way ahead in the spring when it comes out, so they definitely have a positive impact."

But choosing the right time to put down turf covers can be difficult, especially since putting them out is labor-intensive and means closing, he says.

There's no solid rule as to when turf covers should go out, either in soil temperatures or time of year, but superintendents need to wait until the turf has at least started to go dormant, he says. In the Midwest, that could look like mid-November or early December,

Calculated use of turf covers is a proven tactic to keep turfgrass cultivars healthy throughout win-

depending on the weather. As the weather starts to shift and after the last mowing of the season, get started on putting out your turf covers, Christians says.

TALK IT OUT

Communication is key when working around players in most aspects of turf maintenance, and turf covers are no different. Closing the course to handle turf covers is never going to be popular with members.

"They've got to communicate very well with the golfers or membership if they're in a private club," Christians says. "Tell them what you're doing and why you're doing it, because they're not going to like it. You put a cover on, and the weather gets nice, and they'll want to golf."

Talk about the process and what kind of labor and cost goes into keeping turf safe from winter injury going into spring. Transparency in maintenance projects can go a long way in smoothing over membership struggles, especially if it means faster green-up when the weather improves.

PICK THE RIGHT COVER

There are different types of turf covers, and each can be used for different effects with overwintering turf, says Dr. Paul Koch, turfgrass diagnostic lab director at the department of plant pathology at the University of Wisconsin-Madison.

An impermeable cover isn't going to allow any gas exchange between the plant and atmosphere, trapping certain gases just like a long duration ice cover, he says. But if a superintendent is looking for protection against winter crown hydration injury, it's probably the right choice.

"If you have an impermeable-type cover, you're going to need to go in and vent to provide some gas exchange artificially by blowers or putting in some PVC pipe," he says. "Especially in the spring, it can promote growth of the plant before you necessarily want the plant to really grow."

The temperature under the tarp heats up quickly as outside temperatures rise in the sunlight, and turf could be greening up in February or early March, he says.

Pulling the cover off after the turf begins to grow in earnest, it

"could be not very acclimated to the winter conditions, and you can have some stress or freezing injury that can occur on those plants," he says. "You can't just put the cover down and forget about it."

If a superintendent is looking more for a faster green-up in the spring, a permeable cover might be a better choice, he adds. There's less concern around the prevention of gas exchange with a permeable cover.

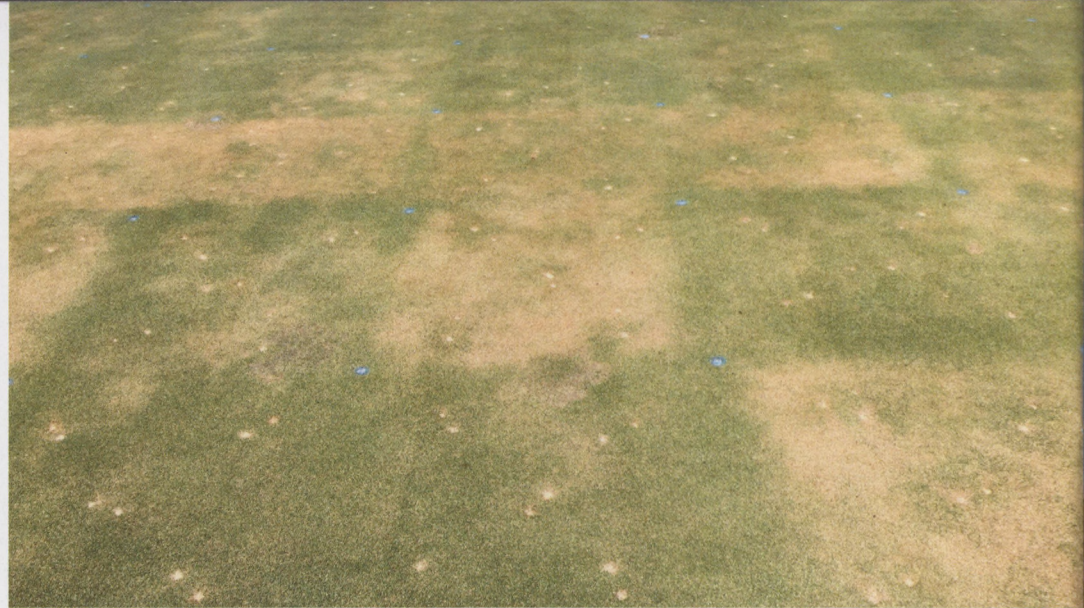
CHILL OUT

The common recommendation from USGA and many turf experts is that if night temperatures are expected to be below 25 degrees or lower, turf covers should be deployed. But turf studies show that's not necessarily the case, says Dr. Mike Richardson, professor in the department of horticulture at the University of Arkansas.

"If that's your threshold, in some areas of the country, you could be covering about 15 to 20 times a year, and that's a lot," he says.

Richardson's research, focused on reducing the threshold target to see how many coverings can be saved during the season, showed that superintendents can often wait for a slightly lower temperature without a significant increase in injury, he says. The research ran plots that were covered at 25, 22, 18 and 15 degrees as the target low temperatures.

"What we found out when we did this trial three years in a row, that we really had minimal differences between covering them at 25 degrees and covering at 15 degrees," he says. "A couple times we saw a little bit more injury at 15 degrees, but we never saw



A wetting agent application before deploying turf covers can help keep greens hydrated in the winter.

death and destruction like we did with our uncovered plots, where we basically had not one single blade of grass still alive.

Richardson gives a strong caveat that the research doesn't describe a one-size-fits-all situation. If a superintendent has the resources and the member pressures to deliver high-performance turf very quickly after the season warms up, "I would err on the side of being conservative," he says.

For a course running a skeleton crew, he would probably start by pushing the target temperature down to about 20 to start, before proceeding on to 15.

"It would save you a lot in terms of the labor cost as well as the lost revenue by moving that number down," he says. "We've done some cost analysis on that, and in some scenarios, it could save from about \$15,000 to \$20,000 just in labor costs, depending on the location and the year, without sacrificing any loss in the turf."

BREAK THE MOLD

Research has shown that working with a snow mold can increase susceptibility to and severity of snow mold, says Koch. This is especially true of impermeable turf covers, where snow mold pressure can

as much as double. "Just make sure you have a good strong snow mold program under those covers," he says.

An effective snow mold control should include at least two but most likely three different active ingredients from different chemical classes, he says.

WET IT DOWN

Another area of research for Richardson shows that when covers are off, it's critical to keep the greens hydrated. If a superintendent is in an area where the irrigation is charged and useable through the winter, "I always tell superintendents, if the covers are not on them, water them," he says. Just keep as much moisture as you can in that system."

Wetting agents can also be used to keep water moving in the soil profile, even during the winter with dormant greens. Research results have been inconsistent, but there have been a number of occasions where wetting agents have also enhanced survival, he says.

"Again, this is pointing to the idea that desiccation is causing more injury than we may think," he says. "The use of a wetting agent or app or two in the winter, plus putting down moisture on the greens as often as you can; just mois-

ture management is important in conjunction in using turf covers."

Use a probe to find the appropriate target moisture level, especially since as grass is dormant in winter, it's much more difficult to spot stress, Richardson says.

PULL IT OFF

Finding the right date to remove turf covers in the spring is just as problematic as finding the right starting date. It's safer to err on the side of pulling them up too early rather than too late, says Koch.

"Pulling them up too late, you get a situation where you've really heated up the soil temperature under the covers," he says. "Those plants are totally deacclimated to the winter. So, when you pull the covers off, they think it's July when in reality it's March."

Superintendents can't rely on air temperature, because it's not necessarily going to be tied to the soil temperature under the turf covers, he says. As a general rule, pull the turf covers up at the earliest opportunity during the winter when it seems like all the snow and ice events for the season are finished. **GCI**

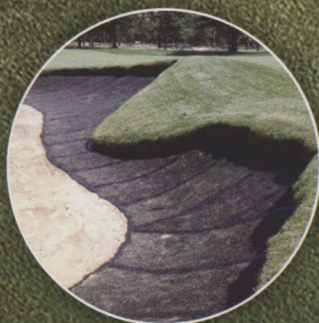
Kurt Kleinham is a contributing editor from Akron, Ohio.

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GOOD ROUTING



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

Golfers and architecture buffs sometimes lament that architects have missed the best possible routing for a given site. It's hard to tell, really. Even if a golfer sees a "perfect hole" somewhere in the woods, he has no idea if it could have been connected to the rest of the routing without other holes suffering.

So, what is a good routing? In my book, it's a golf course with 18 good (or better) holes and incorporates well established design principles, including the following attributes:

PAR

No one knows why par 72 is "standard," but it is. Par 70 and 71 are acceptable, especially when older courses convert short par 5s to long par 4s, but par 69 and 73 are rare and unpopular. There are also good courses with "extra" par-3 holes and fewer par 5s.

While natural holes are most important, all other things being equal, mixing up holes with different pars provides variety. Some courses attain the theoretical ideal of having no two pars in sequence - Augusta National features front nine pars of 4-5-4-3-4-3-4-5-4.

Similarly, consecutive long and/or hard holes are boring, as are stretches of short and/or easy holes.

LENGTH

Yes, length matters. Golfers know

what course length is comfortable for them. While length for all tees is also a function of tee organization, the back tees should be at least 6,700 yards.

Better players want back tee length of about 7,200 yards, but with only 0.01 percent of players needing that length, some courses are skipping the back tees, and more should.

WIDTH

According to most data, the routing's corridors between trees, water or natives should be at least 65 yards wide. Fairways need at least 30 yards of width. Between residential property lines, width should be at least 100 yards. Add "with more preferred" to the above statements.

PLAYABLE BY ALL LEVELS OF GOLFERS

After width, playability comes from limiting excessive forced carries (because average golfers top about 23 percent of their shots) and two-stroke hazards, like water and out of bounds.

VISIBILITY

All landing areas and targets should be visible to golfers, for beauty, safety, and strategy. While there are exceptions, blind shots are usually poor routing.

SAFETY

Golf isn't completely safe, but a good routing doesn't create safety issues.

Parallel fairways should be at least 70 yards centerline to centerline, and 50 yards from property lines. Tees and greens should be outside the normal landing zones of other holes, generally more than 15 degrees off the intended line of play. Add "with more preferred" to the above statements.

FITS NATURAL TOPOGRAPHY/ATTRACTIVE HOLES

"Natural" holes come in all types, but usually have elevated tees, valley fairways and great green sites that just look "right" on the land. Many routings fix awkward holes with earthmoving, but if even that can't be done, the hole was in the wrong place to start.

DRAINS WELL

A swampy fairway makes for a bad hole. Sure, we can add drain pipes, but a good routing largely avoids swampy land, even in absence of regulations dictating it anyway.

RECEPTIVE TARGETS

Good golfers like some help hitting targets and average golfers need it. They get frustrated when good shots bound away from or even off the fairway or green because of unfavorable slopes. Golf holes should be located or otherwise be designed to be neutral toward or contain shots. Receptivity stems from adequate target width and depth, and forgiving slopes.

GOOD CIRCULATION/SPEED OF PLAY

Good circulation is under appreciated as a design trait, but it reduces playing time and increases enjoyment. Good routings avoid "slow play" features such as tight hole spacing/frequent interference from parallel holes and unnecessary narrow play corridors.

SUN ORIENTATION

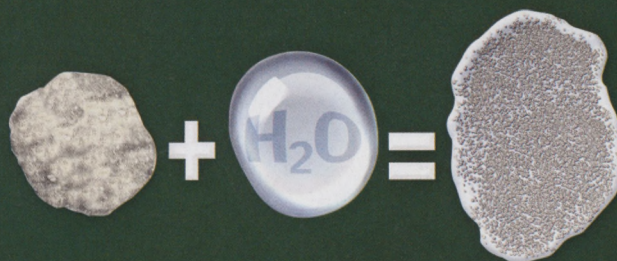
A good routing places the clubhouse from 12 to 6 on the clock face, setting up both afternoon and morning holes to play away from the sun. **GCI**



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WHEN POA ATTACKS...



LETHAL WEAPONS

PBI Gordon's Senior Product Manager Jay Young addresses the impact of inconsistent seasonal patterns and resistance on weed suppression.

What have been some particularly tricky weed pests turf managers have been forced to deal with on both sides of the transition zone? And how best to either contain or keep them at bay?

Poa annua. *Poa* continues to be a problematic weed for golf course superintendents on both sides of the transition zone. Keeping *Poa*, or any other problematic weed, in check starts with sound agronomics. Healthy, vigorous turf is essential in the battle against unwanted weeds. Chemistry rotation is also extremely important. Rotating different types of chemistry from both a pre- and post-emergent standpoint delays resistant biotypes from becoming the prominent weed.



Young

We've experienced some unusual seasonal transitions over the last few years, everything from longer summers, short falls and non-existent springs. How has this challenged golf course superintendents in their approaches to put together a program that addresses weed pressure?

Changing weather patterns do create a challenge when trying to develop a sound weed management program. It is impossible to predict what the weather will do one, two or three months out. It really becomes a challenge when deciding on what pre-emergent herbicide product to use. A superintendent who's managing turf that may be susceptible to winterkill has to be diligent

SPONSORED CONTENT

in their choice of chemistries to use in their pre-emergent applications. We're also seeing weeds migrate into new geographies with the shifting weather patterns. Weeds that were typically considered "southern" weeds are emerging in different parts of the country now.

What is a common mistake you see superintendents make with their weed program and how can they overcome it?

Once they find something that works from a herbicide standpoint, they stick with it. I don't really consider it a mistake. Rather, it falls in line with the "If it ain't broke, don't fix it," philosophy. It's human nature. Why change if something is delivering results? This mentality, however, leads to herbicide resistance. It is important to rotate chemistry in order to maximize the usefulness of the products that are currently on the market today.

Are you seeing any resistance issues with weeds? If so, what can superintendents do to avoid those issues?

Yes. Resistance is not as big of an issue in turf as it is in agriculture, but it is definitely becoming an issue. Rotation of chemistries and using products with multiple modes of action are simple yet effective ways to delay the onslaught of resistance. As we continue to see more resistant

weed populations, the superintendent may have to look at their weed management program in a similar fashion as they do their disease management program where they are rotating different chemistries.

How has the chemistry changed and/or improved in recent years to address weed issues in golf turf?

Reduced use rates with some of the new chemistries and AI's that have been introduced into the turf market. We now see new products with an ounces/acre use rate. Historically, use rates were ounces/1,000 sq. ft. These lower use rates in conjunction with new formulation technologies reduce the input and impact on the environment.

Are there any new weed pressures that superintendents need to be aware of that could become a serious agronomic issue in the coming years?

It seems like each year a new weed is re-emerging as a problem. Many of these re-emerging, grassy type weeds can be attributed to products being pulled off of the shelf, such as MSMA (Monosodium methanearsonate (MSMA) is a commonly used herbicide in warm-season climates). Resistance will become more of an issue if we do not take steps now to maximize the tools we currently have to use.

Always read and follow label directions.

For more...

Check out this issue's digital edition at golfcourseindustry.com for more information about the weeds, including how to better identify them on your course, as well as best practices for treating.

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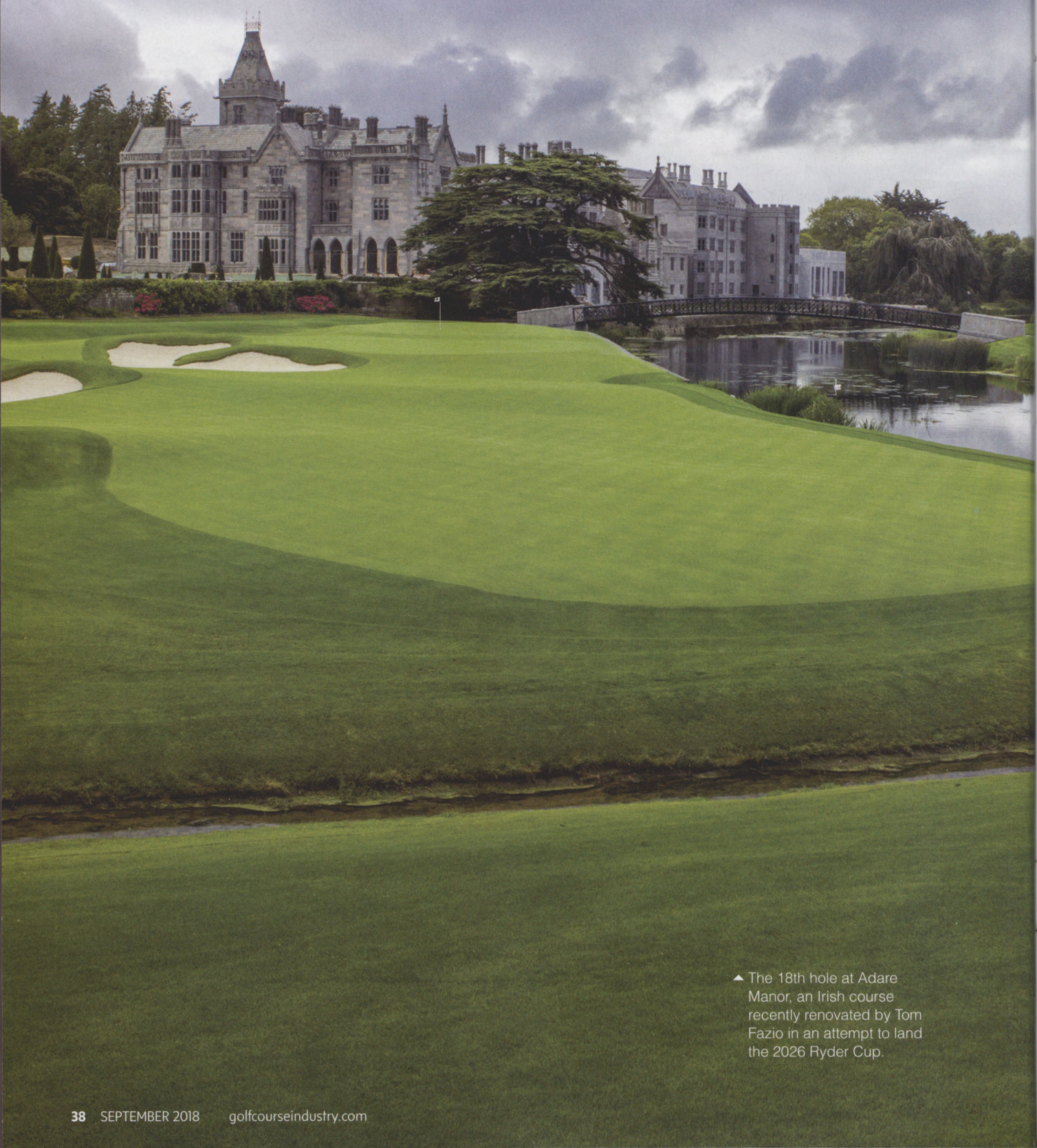


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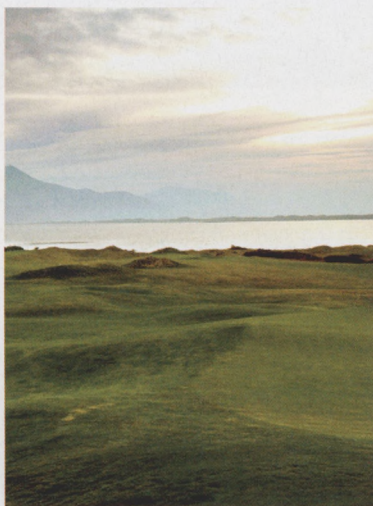
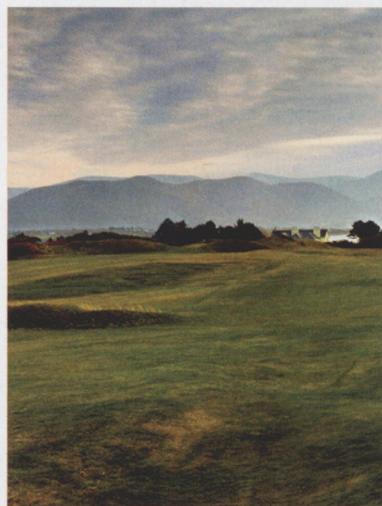
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▲ The 18th hole at Adare Manor, an Irish course recently renovated by Tom Fazio in an attempt to land the 2026 Ryder Cup.



PLUCK OF THE IRISH



OLD SCHOOL ROOTS AND NEW ERA STYLES – ALONG WITH WACKY WEATHER – CREATE VARIED WORK FOR IRELAND’S GREENSKEEPERS.

By **Judd Spicer**

Internationally-renowned for a culture of open-armed welcomes, colorful personalities and a lilting, poetic embrace of sport, the Irish are downright direct when it comes to an ingrained adoration of their home turf.

Of course, said grounds can prove a fickle lover.

A hotbed for North American travelers (the year 2017 reported a national tourism industry worth more than \$10 billion), the southwest region of Ireland makes for a golf nexus, and one where traffic is defined by spike steps in lieu of

buggy wheels amid the walking culture.

Highlighted by historic links' plays along the North Atlantic and primo parkland-style stars, southwest Ireland pairs the gent's game with an inviting culture of post-round pints for guests from the west.

For the area's course managers, a mix of old school homage and new era approaches present a range of plays as diverse as Ireland's climate of extreme weather patterns.

To wit: After the winter and spring of 2018 provided a record-setting stretch of rain, the summer season provided the driest two-month spell in a half-centu-

ry. Not that all the courses across Counties Kerry and Clare were affected in the same "manner."

At Adare Manor, just outside of Limerick, the recently overhauled course is the talk of Europe and is making a worthy bid to host the 2026 Ryder Cup. Originally designed by Robert Trent Jones, Sr., an 18-month overhaul by Tom Fazio – with input from Irish pros, Padraig Harrington among them – saw the parkland-style grounds opened anew in the late spring of '18 with deserved fanfare.

"It's the hardest thing I've done outside of bringing up my children," Alan

SPOTLIGHT

MacDonnell, golf course superintendent at Adare Manor, says of the rework's labor of love.

Sporting 180 acres of wall-to-wall grass, the course and surrounding grounds are spotless, with nary a leaf or grain of sand seemingly out of place. Dichotomic in presentation from the country's weather-contingent links' layouts and aesthetics, the Adare course and immaculate 840-acre spread across the property (also under MacDonnell's purview) are as verdant as Dublin on St. Patrick's Day. "I feel it safe to say, without doubt, that we are the greenest golf course in the country," MacDonnell says of grounds that contain 1,450



▲ The sixth hole of the Old Course at Lahinch Golf Club.

sprinklers, the most for a parkland course in Ireland or the British Isles.

Concurrent to the vision of Fazio and Adare owner J.P. McManus, MacDonnell credits a flow of dedicated labor, irrigation and mow strategy for the

course's lush appearance. The superintendent works with slender mowers, and while the approach is slower (it takes two days to cut the entire course), the results indeed show on seemingly every blade.

"We tried the big, noisy ma-

chines, and now the 5-deck rotary mowers are parked in the shed all year," MacDonnell says. "We're just getting such a cleaner cut with the smaller mowers."

In the re-work, over 220,000 tons of sand capped the site.

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"The fact that the whole site has been sand capped, the irrigation is obviously a driver of that," he adds. "We have 6 inches of sand on our fairways and 3 inches of sand on the rough, so the pace drives quickly. The fact that we sand capped, and the fact that we have such an intensive drainage system, the enormity of the irrigation system has made us where we are today."

A full-time staff of 43 works the course with an earnestness befitting Adare's opulent price tag.

"We have brand new irrigation systems and we have fabulous labor – and it's the labor that has kept it going," MacDonnell says. "We could turn

on the irrigation system and keep it on, but we'd be about 65 percent coverage. It's the guys on staff who are the key."

While the grounds' crew has a local flavor, the top of Adare's totem has a decidedly American training.

"We've pulled in eight greenskeepers from the Ohio State program, and they've come home to work as senior and assistant greenskeepers," MacDonnell says. "But it's a bit like when the K Club was the course; they introduced a lot of very good greenskeepers. So, it will be a constant conveyor belt here. People are going to leave us, and I've made a commitment to promote from within

when senior positions do come up. The lads are very loyal to me, and I feel I have to be very loyal to them."

Being the hot new course in Europe doesn't come without its inherent stresses.

"Every day is pressure here," MacDonnell says. "We're charging a fee ... I want every golfer to walk off this course and say, 'Oh my God.' It's that wow factor. Design is one thing – and the design here is lovely and fabulous – but we're the keepers of the green. We are what's going to set us apart from the other clubs in the area or across Europe. It's that attention to detail, and we have to have everything immaculate."

And the super isn't just settling for the lure of Adare's re-open.

"I have peers coming in and telling me they've never seen anything like it," MacDonnell says. "And I hope they've never seen anything like it, just as I hope in five years' time they've never seen anything like it."

At a more traditional parkland style play, historic Killarney Golf & Fishing Club maintains 36 holes within its eponymous, 25,000-acre national park.

A four-time host to the Irish Open (twice won by Nick Faldo), the championship Killeen Course offers a postcard setting along Lough Leane, the re-



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Partial settlements of the lawsuit may affect your rights.*

A partial settlement in a lawsuit pending in the United States District Court for the District of New Jersey ("the Court") against the following Defendants, General Chemical Corporation; General Chemical Performance Products, LLC; General Chemical LLC, GenTek Inc., Chemtrade Logistics Income Fund; Chemtrade Logistics Inc., Chemtrade Chemicals Corporation; and Chemtrade Chemicals US, LLC.; Chemtrade Solutions, LLC; C&S Chemicals, Inc., USALCO, LLC, Kemira Chemicals, Inc., Southern Ionics, Inc., GEO Specialty Chemicals, Inc., Frank A. Reichl, Vincent J. Opalewski, Alex Avraamides, Amita Gupta, Milton Sundbeck, Kenneth A. Ghazey, Brian C. Steppig, American Securities LLC, Matthew Lebaron, and Scott Wolff. Plaintiffs in the lawsuit claim that Defendants hurt competition and violated state antitrust, consumer protection, and other laws by allocating customers and markets and fixing the price of Liquid Aluminum Sulfate ("Alum"), thereby causing indirect purchasers to pay too much for Alum. Defendants deny any wrongdoing.

A Settlement has been reached with Defendant GEO Specialty Chemicals Inc. ("GEO"), Kenneth A. Ghazey ("Ghazey") and Brian C. Steppig (the "GEO Settling Parties"). The lawsuit will continue against the other Defendants (collectively, "Non-Settling Defendants").

WHO IS INCLUDED IN THE CLASS? The Indirect Purchaser Settlement Class consists of all persons or entities in AL, AR, AZ, CA, CO, DC, FL, HI, IL, IA, KS, ME, MA, MI, MN, MS, NE, NV, NH, NM, NY, NC, ND, OR, PR, RI, SC, SD, TN, UT, VT, WV, and WI that purchased liquid aluminum sulfate, not for resale, which was manufactured, produced or supplied by Defendants or their unnamed co-conspirators from January 1, 1997 through February 28, 2011. Excluded from the Class are Defendants, co-conspirators and their respective parents, subsidiaries, and affiliates.

WHAT DOES THE SETTLEMENT PROVIDE? GEO and the Settling Parties agreed to pay into an Escrow Account the sum of up to \$4,375,000 (the "Settlement Funds") as follows. GEO shall use its best efforts to cause its insurers to pay \$801,074 directly into the Indirect Purchaser Escrow Account within thirty (30) days of Final Judgment. GEO shall also pay \$898,926 into the Indirect Purchaser Escrow Account (collectively, the "First Installment"). GEO shall make one additional payment of \$1,675,000 that shall be paid into the Indirect Purchaser Escrow Account on or before the first anniversary of the First Installment. GEO will undertake a marketing process for a sale of all or substantially all of its equity interests, a merger of GEO and another entity, or a sale of all or substantially all of its assets (collectively, a "Sale") that will commence no later than thirty (30) days after entry of Final Judgment. If this marketing process is successful, upon the closing of the Sale, the Indirect Purchaser Settlement Class shall be entitled to receive from GEO additional compensation pursuant to an equity value formula up to \$1,000,000.

At this time, Interim IPP Lead Counsel are not seeking attorneys' fees in connection with this Settlement. Interim IPP Lead Counsel intends to ask for reimbursement of certain of their out of pocket expenses incurred so far in this litigation, including expert witness expenses incurred to date, as well as service awards for the class representatives of up to \$25,000.00 each from the Settlement Fund in recognition of their efforts to date on behalf of the Class. At a later date, Interim IPP Lead Counsel may seek up to one-third of the aggregate of funds achieved for the Class, and from any future recovery that may occur in this Class Action against the Non-Settling Defendants.

HOW DO I RECEIVE A PAYMENT FROM THE SETTLEMENT? No money will be distributed yet. The Interim IPP Lead Counsel will continue to pursue the lawsuit against the Non-Settling Defendants. All Settlement Funds that remain after payment of the Court-ordered attorneys' fees, incentive awards, costs, and expenses will be distributed at the conclusion of the lawsuit or as ordered by the Court. You may visit the website www.LiquidAluminumSulfate.com for updates on the status of the lawsuit.

WHAT ARE YOUR OPTIONS? If you wish to remain an Indirect Purchaser Settlement Class Member, you need not take any action at this time. You will give up your right to sue the GEO Settling Parties for the claims that the Settlement with them will resolve. If you want to keep the right to sue or continue to sue the GEO Settling Parties about the legal issues in this case, then you must exclude yourself from the Class. **If you exclude yourself from the Indirect Purchaser Settlement Class, you will not get any payment from the Settlement.** To exclude yourself, you must send a letter to the Settlement Administrator, **postmarked no later than October 2, 2018.** You may also comment on or object to the proposed Settlement. Your objections must be **filed no later than October 2, 2018.** Details on how to request exclusion, comment, or object to the Settlement are available on the Settlement website, www.LiquidAluminumSulfate.com.

WHO REPRESENTS ME? The Court appointed Jay B. Shapiro of Stearns Weaver Miller Weissler Alhadeff & Sitterson, P.A. and Marvin A. Miller of Miller Law LLC as Interim IPP Lead Counsel to represent the Indirect Purchaser Settlement Class on an interim basis and for purposes of the Settlement. If you want to be represented by your own lawyer, you may hire one at your own expense.

The Court will hold a final fairness hearing to decide whether to approve the terms of the Settlement at **10:00 a.m. on November 14, 2018**, at the Martin Luther King, Jr. Building & U.S. Courthouse, 50 Walnut Street, Newark, New Jersey 07101. If there are objections, the Court will consider them but may still approve the Settlement. You may appear at the hearing, but you are not required to do so. The hearing may be rescheduled without notice to the Class, so if you plan to attend, please periodically check the Settlement website for any updates.

**This notice is only a summary. For more information,
please visit the Settlement website, www.LiquidAluminumSulfate.com
or call 1-866-217-4455.**

SPOTLIGHT

gion's largest freshwater lake. Killarney proves an inviting mix of past meeting present, with the club's rich backdrop maintained with a truly modern strategy.

"We very much promote a biological and organic approach toward our courses, so we've moved away from chemical applications as much as possible," says the sprightly Cormac Flannery, general manager at Killarney Golf & Fishing Club. "So, we're using urea natural, urea Hercules and we're using a lot of biological tees, which is very new, certainly in western Europe, which helps promote this healthy, earth soil profile."

With its national park orientation, which limits certain applications and products, Flannery notes a result of healthier soil and grasses, along with promoting grasses indigenous to the area.

"And the grasses you traditionally don't want in there are reacting poorly, in our favor, to this biological approach, because we're promoting the drier profiles with less compaction, which our finer grasses prefer," Flannery says. "There are probably fewer than five of Ireland's 300 golf courses that are utilizing this approach, but I would say that in as little as 10 years, I'd expect that half the courses will have converted down this road. Every year there's a product that is taken off the market because of EU regulations, whether it involves earthworms or daisies or herbicides, pesticides."

Course peripheries also pay deference to the organic approach.

"There's a nice definition

to our longer rough, which is a bent-fescue mix and we treat that every winter, though not chemically," Flannery says. "Once upon a time, a selective herbicide was placed on that with Rescue being the most well-know. And that can be very expensive. Nowadays, come the close of October every year, we'll get contractors in, cut it, bale all that grass and take it away. And then we just treat it again in the springtime, essentially with a heavy raking, no chemicals, totally friendly to the flora and fauna within the park."

Per the latter, Flannery references the property's ample red deer, native to the country. "On the rare occasion when two males meet each other on a green, that's the nightmare scenario," he says.

An animal of a different variety may be explored at Lahinch Golf Club in County Clare, site of the Dubai Duty Irish Open for 2019. Home to sister plays on the Wild Atlantic Way, the rugged, mounded grounds and salted air across its tough Old Course are befitting a test from the best on the European Tour.

Dating back to 1892, Lahinch counts among the country's most cherished plays, with the Old Course having enjoyed the design hands of both Old Tom Morris and Dr. Alister MacKenzie before an eventual restoration at the turn of the millennium by well-respected Martin Hawtree.

Playing at the behest of Mother Nature, the fairways trended from golden to near dormant amid the summer drought of '18, though a late July sprinkle offered the hope

of a return to gratis irrigation.

"Links golf is dependent on the weather, that's namely the challenge to the golfer," says Paddy Keane, general manager at Lahinch Golf Club, as a light mist finds his glasses. "So, we need to be mindful as we set up the course. It can be a beautiful morning with the sun shining and then, four or five hours later, you might get our misty weather with some wind that could make the course near unplayable. So, we need to set up for what we have in the morning time, but also what's forecast for the afternoon."

Lahinch irrigates greens and tee boxes, and hand waters fairways to promote finer, fescue



▲ Keane



▲ MacDonnell



▲ Flannery

grasses.

"The difficulty for all the greenskeepers is the extremes," Keane says. "We get rain, we get wind, we get sunshine. But when you get the wettest winter on record like we just had – over 2 meters of rainfall recorded – and go from that to the driest spell in nearly 50 years, the grass is just going, 'I'll grow, I

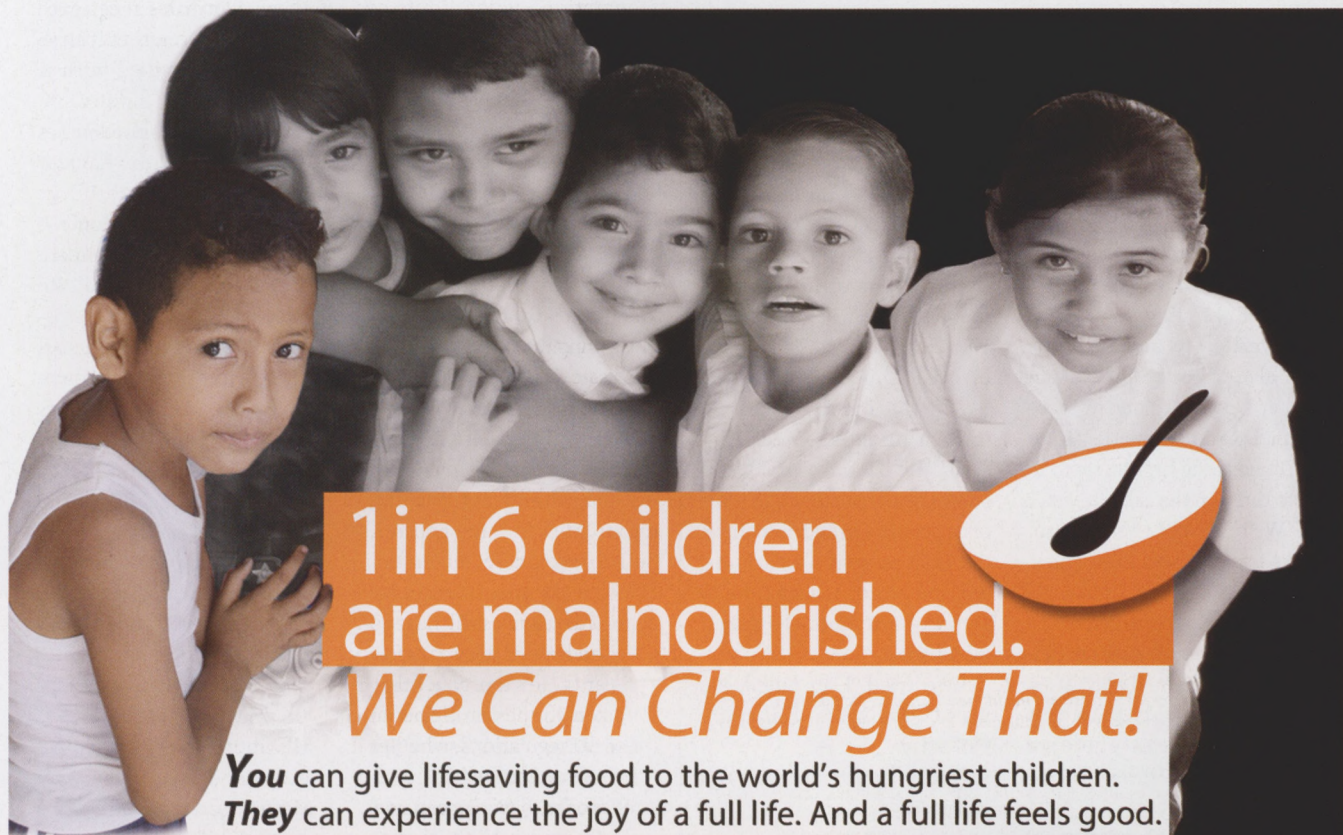
won't, I'll grow, I won't.' It's all working with and around nature. And that hasn't changed here from the day golf was first invented."

Not that new lessons in course maintenance can't be learned.

"Around eight years ago, we had a dry spell with no rain, and we were watering morn-

ing, noon and night, and it made no difference," Keane adds. "So, this year, what we decided to do was hand water the fairways with mobile sprinklers on a roving basis, and we kept the moisture level around 8 to 10 percent on the surface. So, when it does rain, it will recover quickly."


Provincial knowledge of weather patterns, including the region's high winds in April and May, followed by high tides in January and February, are key to the course watchmen. "Our head greenskeeper on the Old Course, Brian McDonagh, is from this locality so he has a good idea (of what's going to happen with the weather),"



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Keane says. "A lot of it is local knowledge."

As the mist finds couples with a wind gust, the filled Lahinch tee sheet sees players teeing off like turnstiles. Inclement conditions are all part of the Irish experience.

"For most of our North American market, when they come here and there's a 50 mile an hour wind and the rain is sideways – when our local members wouldn't dream of playing – the visitors, they love it," Keane says. "They don't get that experience at home. Most people are on holiday; they're here for the experience and here for the fun. And they're particularly here for the 19th, for afterwards – to go get something for dinner, have a few pints, talk about the rounds and engage with our locals."

Further charm of locality flows like a properly poured Guinness at inviting Dooks Golf Club in County Kerry, home to classic links play since 1889. Bone dry in the '18 summer, the fast and firm fairways play off the cosmetics of the comely Dingle Bay setting.

Owned by its members, one can also taste the provincialism at Dooks. It's one of those special places where the flavor of rounds long bygone seem to float through the salty breeze.

"We're all about being a real, links course," says John Foley, general manager at Dooks, his accent deep and energetic. "It's probably the most natural, oldest-style links you'll play. It's a small bit of property, the greens are small, and we have little pot bunkers – it's a throwback to the old time."

Such throwback is of theatrical proportions.

In the late 1960s, the course was saved by members from a

takeover by absentee owners in what became the nationally-known "Save Dooks" campaign as course popularity grew and Dooks' brass recognized a need to augment from its original nine-hole layout, members got creative with finding turf to build a back nine, sometimes bringing in sod from their own home yards.

The turf's progeny plays on to modern day. "No ryegrass, no nothing; it is complete fescue, top-to-bottom," Foley says of Dooks' greens.

And of the fairways, Foley scoffs at the idea of bringing in ryegrass to assist with sturdiness. "We don't want to go down that road," he says smiling. And he's content to let nature take its course on landing areas. "To tell you the truth, if you played golf in Ireland for 20 straight days, you wouldn't be able to tell which courses irrigate fairways and which courses don't," he adds.

Provincial pride in tending only enhances Dooks' character. "Our man is a wizard out there," Foley of his superintendent. "He'll be out here at 10 o'clock at night. It's a labor of love for him and he takes so much pride in this course."

Such pride is well-evident across this nation, complimented by the personality and pints of its people. On and off-course, the Irish present a welcoming wit and word. It was County Dublin-born Samuel Beckett who wrote:

Ever tried. Ever failed. No matter. Try Again. Fail again. Fail better.

And, of course, he too was a golfer. **GCI**

Judd Spicer is a golf writer based in Palm Desert, Calif., and is a frequent GCI contributor.

(continued from page 10)

THE OPEN CHAMPIONSHIP

Britain had a near-drought this summer and still produced a great Open at Carnoustie. Why? Because the Greenkeeper and R&A decided to leave the course as it was through the green (brown, fast and dried out), while concentrating on the greens. Stimp-meter readings were carefully monitored and the greens remained consistent throughout the week.

No matter what your environmental or meteorological situation, the putting surfaces are key. Keep them consistent, keep them fair, keep them alive. This is the most responsible way to meet the conditions necessary for any competition while also rewarding good shots.

PGA CHAMPIONSHIP

This was the last PGA in August, and as Bellerive proved, it's good the event is moving to May as of next year. I don't know what the PGA of America expected in St. Louis in August, but they got it and then some thanks to an extremely hot, wet summer than wreaked havoc with course conditions. Still, the PGA did the right thing, challenging players with hole locations and length and not pushing agronomics in late summer. Here's how to react when conditions make your course a little too player-friendly:

- When greens are extra-receptive, up the challenge by placing holes closer to the edges and use more front locations.
- When fairways are wet and there's less roll, find other ways to challenge the long hitters who stand to benefit. Select a teeing ground

which removes the driver from the big-hitter but not the short-hitter to place them in the same landing zone with equal second shots. Or calculate their tee-shot length so your fairway bunkering comes into their view when selecting a club.

- With wet conditions, don't cut the turf too low, which may add driver length (ball roll) and avoid tight mowing that damages turf when it's moist.
- Be flexible with tee selection, by varying hole lengths significantly. You cause the better player to think twice.

Whenever you're holding a tournament in the late summer, watch for extra agronomic stress on the course and be ready to deal with it right away.

A few general comments no matter what the event and when it's played:

- Don't get upset when — not if — Mother Nature throws you a curveball. Be prepared.
- Low scores are not a bad thing if conditions are uniform and anyone is capable of having a great round.
- Focus on the quality of the leaderboard and player enjoyment. You want them to want to come back again tomorrow, next week, next year.
- Don't let your ego get in the way. It's not about you; it's about the players, the event and the course. Any superintendent can make a course hard. The good ones know how to make it challenging, fair and fun. **GCI**



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Travels with Terry

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



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

SECTION MAN STALLS

This section man system has six stalls for 12 total staff members with two employees per stall. Each stall has a greens mower; tee/collar/approach mower; two grass catchers; handheld blower; string-line trimmer; hovercraft mower; two metal leaf rakes; hoe; two bunker rakes; spring-tooth rake; scoop shovel; bucket; two rain suits; broom; tamper; whipping pole; plastic milk crate; divot mix; and two – ½ lockers with safety equipment; rain suits, etc. Two-man sections ride together in a turf vehicle pulling a trailer with both mowers to maintain each respective section. Seth Miller, superintendent; Chris Krause, equipment manager; Chris Parde, assistant; Ryan Schroader, assistant; and Robert Collier, second assistant, are the successful team at the Troon Country Club in Scottsdale, Ariz.



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Two 100-gallon Better Built HD Model 29224164 Diesel & Unleaded Gasoline Fuel Tanks (\$250 each from Northern Tool), with 12-volt pumps (\$250 each from Northern Tool), with the fuel filters changed every three months. Both tanks are bolted to this Carry-On Model 5X8SP Wire Mesh Trailer (\$1,200 from Tractor Supply). The two pumps are powered by a 12-volt marine deep cycle battery with 1,000 cranking amps that is strapped to the trailer, which is recharged with a solar panel (\$30) with a waterproof toggle switch (\$30) hidden underneath it to turn the power to the pumps on/off. Each trailer wheel has chains stretched from the wheels to the trailer railings with padlocks to guard against theft. The fuel trailer is taken to the Town of Blacksburg (Virginia) Public Works Department every three days to be filled-up for The Hill Golf Course, instead of having permanent above-ground fuel tanks. Bobby Thompson, superintendent, and Bruce Caldwell, equipment manager/assistant, make up the golf maintenance team. **GCI**



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THE LAWYERS ARE COMING



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

So I'm driving to work this morning, half-listening to the crazy morning gang (ugh) on my radio when they break to a commercial. I was jarred to hear this:

"If you or a loved one were diagnosed with non-Hodgkin's lymphoma after using Roundup weed killer, you may be entitled to compensation. Call (insert shady law firm's name here) now."

Just a few weeks after a California jury awarded \$289 million to a former school groundskeeper with cancer, the sharks are in the water. They smell blood – and by that I mean giant class-action settlements or verdicts – and it's going to impact all of us.

I hate it when I'm right all the time, but my first thought when I originally heard about the verdict was, "Now the floodgates will open." Sure enough, the ginormous legal industry wasted no time in coming after a product that every one of us has used. In fact, this is hardly a new topic for the sharks. More than 400 suits about NHL and glyphosate have already been filed around the country and aggregated in front of another federal judge in California. The latest news will blow that number up.

This has nothing and everything to do with the anti-GMO controversy and the ludicrous new claims about glyphosate in Cheerios that shameless activist groups threw on top of the bonfire created by the verdict. These

particular legal claims are theoretically unrelated to food crops treated with Roundup. Yet, the lawyers clearly feel that it's an easy target because people have been fed so much disinformation about the GMO issue. The facts become secondary to the emotion.

Here's what the *Los Angeles Times* – one of America's most liberal papers – said: "On the surface, the jury found that glyphosate more likely than not contributed to Johnson's cancer. But that's a questionable conclusion, for the simple reason that the scientific evidence that glyphosate can cause cancer, especially lymphatic cancer, is sketchy at best – and according to one huge study of herbicide use in the U.S., nonexistent."

Instead, the lawyers suggested that inert ingredients and the formulation process somehow magically transformed a simple and safe compound into a carcinogen. So, they said, even though glyphosate couldn't be proven to cause NHL, the product as a whole may. The jury seemed eager to send a message to the makers of Roundup, so they swallowed that argument whole and spit out a punitive damage award of a quarter-of-a-billion dollars.

This is going to be a long, ugly legal situation for the foreseeable future despite the science. Juries in big product liability cases don't care about science. They care about sending messages.

Second, you're probably going to face questions about this situation on

several fronts. First from golfers and neighbors. As I write this in late August, I had already heard from superintendents who were being asked about Roundup and "those other poisons you use" by concerned folks. You need to be able to answer those questions simply and as transparently as possible. Something straightforward like this is probably the right way to go:

"All of the products we use are tested and registered by the EPA during a really rigorous process that goes on for a decade, requires thousands of tests and costs \$150 million or more.

Despite that testing, our team still handles these products carefully and follows the label instructions on when and how to use them and whether protective clothing is required. I have a college degree in turfgrass science and I've been studying these chemicals for years, and I would never apply something I felt posed any risk to my staff or our guests."

Your employees need to hear that, too. Not only should they be confident that their workplace is healthy, they should also be prepared to answer those same questions from players.

You'll likely get questions at home. You need to be as unequivocal as possible: "Nope, honey, it's not a problem. I'm 100 percent confident that there's no risk to me or my people. And, yes, I'm careful not to bring residue from any pesticides home with me on my clothes or skin."

Golf is a tiny fraction of overall Roundup use but the fact that this case revolved around someone who worked in the green industry puts a bullseye on all of us. Will we see some of the same anti-pesticide hysteria we experienced in the early 1990s? Maybe. But, thanks to decades of education, a focus on IPM and better practices, and strong science to back up the safety of these products, we should be better equipped to ride the storm out.

But, in the meantime, batten down the hatches. We may be in for a bumpy voyage for a while. **GCI**

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