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Air it out / **P 30**

Managing shop traffic / **P 44**



CASE STUDY IN THE UNEXPECTED

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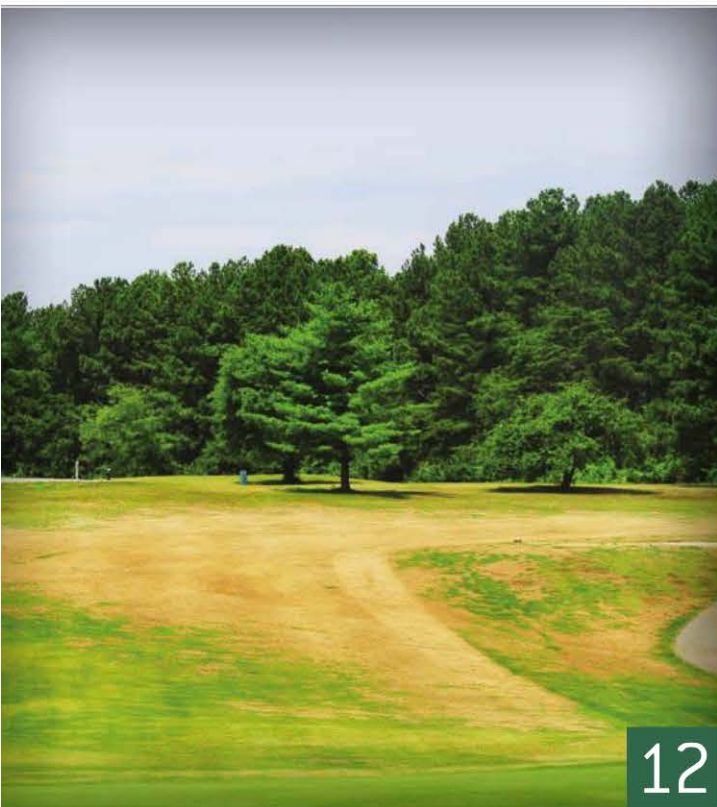
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IN THIS ISSUE



COLUMNS

- 10 OUTSIDE THE ROPES**
Tim Moraghan: Our 10 commandments
- 22 GAME PLAN**
Henry DeLozier: Hobson's choice
- 28 IRRIGATION ISSUES**
Brian Vinchesi: An important investment
- 36 DESIGN CONCEPTS**
Jeffrey D. Brauer: 'One great man'
- 44 NUTS & BOLTS**
Paul F. Grayson: By the numbers
- 50 PARTING SHOTS**
Pat Jones: The noisy ones

DEPARTMENTS

- 4 TEEING OFF:** Carolina on our mind
- 6 EDITORS NOTEBOOK:** Green and yellow extension
- 46 TRAVELS WITH TERRY:** Equipment ideas
- 48 CLASSIFIEDS**
- 49 AD INDEX**

FEATURES

- Cover Story*
- 12 CASE STUDY IN THE UNEXPECTED**
The winter of 2014-15 was one to forget for superintendents in the Carolinas and its aftermath has led to a challenging summer.

- Case Study*
- 24 IN COMPLETE CONTROL**
StoneRidge Golf Club superintendent Jeff Girard relies on a fungicide he discovered last fall to eradicate dollar spot from his Minnesota facility..

- Turf Management*
- 30 YOUR BIGGEST FAN**
Above-ground fans and sub-surface systems allow both superintendents and their greens' root systems to breathe easier during the dog days of summer. Plus, make purchasing fans a breeze.



30

- Safety*
- 38 AVOID THE "UH-OH" MOMENT**
Don't let a crisis be the first time you're dealing with a material spill. We guide you through planning for the inevitable.



38



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CAROLINA ON OUR MIND

I sometimes wonder if Mother Nature has a big carnival wheel that she spins to decide who's going to get hammered by ridiculous weather next. She gives it a big pull on the wheel and round-and-round-and-round it goes before ticking past the Great Plains, narrowly missing the Mid-Atlantic and finally settling on... the Carolinas. Sorry boys, it was your turn this year. Massive winterkill for you!

Winter damage is excruciating because it seems to be so incredibly random. It varies from ZIP code to ZIP code, changes with snow cover (or lack thereof), moisture, ice, turf type, tarps/no tarps, construction methods and lord knows what else.

Our cover story digs in to what happened this year to way too many courses around North and South Carolina and elsewhere in the Southeast. Our good friend Kevin Smith is prominently featured not just because his Bryan Park course in Greensboro looked like someone called in a Round-Up airstrike on it. Kevin is also a thoughtful, wicked-smart human being. He also had just completed a conversion from bent to ultradwarf and was looking forward to an "easier" time with the new turf.



Pat Jones
Editorial director and publisher

Instead, Mother Nature decided to bitch-slap him just to remind him not to try to fool with her. Despite the smackdown, Smith stood tall and acted. His agronomic response is detailed in the article, but he (and a bunch more supers like him) also jumped into crisis communications mode to make sure that Mother Nature didn't win completely.

Smith and his colleagues also benefitted from the support of Pat O'Brien and Chris Hartwiger of the USGA Green Section who did a marvelous job of credibly documenting the problems and making it clear to golfers that this was an unavoidable situation. Former super turned Carolinas Golf Association agronomist Bill Anderson also ably spread the word to member facilities. Dr. Grady Miller and Dr. Fred Yelverton of N.C. State issued news releases and technical bulletins to explain the science behind the problem and offer help with fixes. Finally, there was tremendous information and support from the Carolinas GCSA who reached out to local media to tell the story.

The real story of this year's winterkill in the South was ultimately less about the problem than the remarkable way the golf/turf community pulled together to lessen the impact and find solutions. It's a tribute to the "family" down there, and proof that if we stick together, even Mother Nature can't take us all down. **GCI**

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Green and yellow extension

GCI visits with a top John Deere executive after the company makes a major golf announcement.

Golf wunderkind Jordan Spieth won the John Deere Classic. The title sponsor might have won the week.

John Deere used the visibility associated with sponsoring a major sporting event to make a bold announcement: The company had reached a long-term contract extension with the PGA Tour.

The agreement means:

- The John Deere Classic will remain part of the PGA Tour schedule until at least 2023
- John Deere will remain the official equipment supplier to the PGA Tour and TPC Network, official landscaper product supplier of the PGA Tour, and official golf equipment leasing company of the PGA Tour until at least 2023.

Jim Field, president of John Deere's worldwide agriculture and turf division, made the announcement two days before the start of the 2015 John Deere Classic and two days after he addressed a group of industry professionals as

part of the annual John Deere Golf Pro-Am. GCI's Guy Cipriano chatted with Field about the extension and the condition of the golf industry following the formal announcement.

What does this announcement signify about John Deere's commitment to the golf industry?

"In many respects, at least for those outside of Deere, it's a strong, strong demonstration of reaffirmation to our commitment to the golf industry. We have long been very, very committed, and I think that's demonstrated through multiple avenues, including our industry partnerships and this PGA Tour relationship. This is just a reaffirmation and the re-strengthening to those outside of the company of our commitment to the golf industry."

What do you want golf industry professionals thinking about this announcement?

"A couple of things. We understand our destinies are collectively linked. Sure, we are in the equipment side and solution side of the business, but we understand at the end of the day, it starts with somebody who wants to play the game and it has to work all the way back. That will generate golf courses, which will generate all sorts of things, which ultimately generate the possibility for us to serve the golf course industry. I would say, from the superintendent's perspective, it's really two-fold. One, is that we are very much committed to advancing the game forward at all levels, including the highest level of golf. I would secondly say our continued association with the PGA Tour will help us create better products to make us better and to hopefully make us a better potential supplier for them. I think the third point that shouldn't be lost

on folks is that the PGA Tour has a very, very important brand. The fact that they are willing to endorse and recognize Deere as their equipment provider of choice is not an insignificant choice from their perspective and provides tremendous validation to our products and our position in the industry.”

We’re halfway through 2015. How would you assess things on the golf end of the business and what are some of your focuses in the second half of the year?

“For us, as we think about where we are today and where we are going forward, our biggest challenge that we go to work every day working on is how can we continue to distinctively delight customers. Do we understand all of their pain points and do we understand what it is that they really are after and are we delivering that? As I think about 2015, that happens every single day in terms of how we are serving folks. The golf industry itself, as we are halfway through the year, because it is such a weather-impacted business, it’s very tough to give any projections of what the industry looks like for a year. But I’m very optimistic at least relative to prior years in terms of how the industry will fare.”

You have precision applications in a lot of the markets you represent. Do you see that moving more and more into golf?

“I think what really sets Deere apart is our ability to share technologies across multiple equipment platforms and precision technology and precision application technology. Precision information is something that we are deeply investing in. We are very hopeful as golf embraces this more and more that we will be uniquely positioned to provide precision solutions for the golf business, leveraging the scale that we have in the ag business and the construction business.”

Numerous low-input turfgrass varieties were showcased during the Mountain View Seeds field day at Rutgers University.



HIGH HOPES FOR LOW INPUTS

By Guy Cipriano

Separate coasts. Same objective.

Oregon-based Mountain View Seeds is using the research facilities at New Jersey-based Rutgers University to test its current and future offerings. The company and university showcased their work during a field day July 15 at a pair of research farms.

Attendees dodged raindrops, observed wear and divot simulating machines, and examined a slew of bentgrass, bluegrass, ryegrass and fescue trials. They also repeatedly heard a phrase frequently entering industry vernacular: low-input turf.

Focused efforts to develop seed requiring less of every imaginable resource started around 2008, according to Steve Johnson, a breeder for Peak Plant Genetics, the research affiliate of Mountain View Seeds. Johnson has worked closely with Rutgers researchers since 1996, and Dr. William Meyer and Dr. Stacy Bonos are among the researchers who participated in the field day.

Mountain View and Rutgers are key participants in an organized movement to bring attention to low-input offerings. The Alliance For Low-Input Sustainable Turf (A-LIST) launched in 2013 and is increasing its visibility in the industry. A-LIST represents an industry initiative created by seed companies and university partners to identify and market sustainable turf varieties. University cooperators include Meyer, North Carolina State's Dr. Grady Miller, Purdue's Dr. Cale Bigelow and UC-Riverside's Dr. James Baird. Mountain View Seeds, Lebanon Seeds, Seed Research of Oregon, DLF and Pickseed are the alliance's industry partners.

Seed varieties and blends meeting water and fertility guidelines established by cooperators are eligible to receive the newly created A-LIST approved designation. Nine varieties are currently positioned to receive A-LIST approval. Final decisions on initial approvals will be made this fall, and superintendents should begin noticing the designation when placing seed orders for next spring. Data will be incorporated with National Turfgrass Evaluation Program results to ensure approved varieties don't look like "garbage," says A-LIST executive director Jeremy Husen.

Husen says awareness of the A-LIST approval has started to build among superintendents living near participating universities. The four research sites are allowing the A-LIST to develop national guidelines based on conditions in four distinct regions. "Getting quantifiable data is the key," Husen says. "That's the end result. It's more than just a story. I want hard facts, I want numbers."



Pete Dye, left, and associate Tim Liddy are designing a new nine-hole addition to the Mystic Rock course at Nemaquin Woodlands Resort.

ROCK SOLID

Blasting more rock and moving piles of dirt through steep hills didn't deter Pete Dye from returning to Pennsylvania lumber titan Joe Hardy's posh resort.

Dye visited Mystic Rock, the golfing centerpiece of Nemaquin Woodlands Resort, last month to trade banter with Hardy and his daughter, Maggie Hardy Magerko, offer opinions on multiple industry issues and smack a gold ball resting between two gold tee markers using a gold driver into the Southwestern Pennsylvania woods.

Along the way, he discussed his newest project: The addition of nine holes to Mystic Rock, a 20-year-old course that hosted the PGA Tour's 84 Lumber Classic from 2003-06. "All I know is that there are 18 holes out there," Dye says. "I don't know where, but it's out there somewhere. It's still there isn't it?"

Yes, Dye's original 18 holes at Nemaquin Woodlands still exist, although they were tweaked and stiffened multiple times in preparation for the PGA Tour's stint at the remote location. The 89-year-old Dye will work with some familiar faces at Mystic Rock, including associate Tim Liddy and the crew from MacCurrach Golf Construction. Liddy aided Dye when Hardy decided to renovate Mystic Rock in the 2000s. Director of golf and turfgrass Alan Fike, golf course superintendent Andy Bates and construction superintendent Greg Iversen are among the Nemaquin Woodlands employees who will work closely with Dye and Liddy.

Preliminary works started last December. It didn't take long for Dye to make an impression with resort supervisors who are young enough to be his grandchildren. "I met him one day when he was initially designing the layout," Bates says. "It really took him 15, 20 minutes and he had a plan on a map. He threw his pencil down and said, 'All we need to do is throw a par 3 in there, and now all you have to do is pay for it.'"

The new nine will cost \$6 million, include 84 acres of turf and stretch to 3,500 yards. Projected opening is summer 2017.

From THE FEED

We started our summer travels by visiting Southern Indiana, Eastern Iowa, Western Illinois, Southwestern Pennsylvania and New Jersey. A soggy reality greeted our arrival in each place: pestering rain. We had a hunch the superintendents we visited weren't the only ones pushing water, so we asked our followers to reveal their rain totals from June 1-July 9. Here's how rain gauges across the country looked.



Christopher D. Navin

@Chris_turfgrass

As of today, Bulle Rock has 22.1" since May 28th. Another round of storms tonight will just add to the misery.



Ryan Howard

@TWRyanHoward

Jul 9 20" since June 1, 26" since May 17 northeast of Baltimore, MD



Scot Dey

@scotdey

How many ways can I say zero? Zip, zilch, nada, nothing, 0, nix, nought, nil, diddly-squat #YesIGoogledit



Zach Bauer

@ZBTurf411

7.44" since 6/1/15 and 21.03" since 5/1/15. YEARLY avg is 13.5". Wet wet year.



Brian Burke

@S3Cgolf

After viewing some of the RT's I don't feel so bad about our 9.23" for June.



Ryan Cummings

@RCummings38

8.35" since June 1. Feel fortunate since 25 miles south from here 4-6 inches more have fallen.



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OUR 10 COMMANDMENTS



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

As superintendents, we pride ourselves on the kinship and brotherhood inherent in our profession. We see ourselves as protectors of the earth, combining science with a spiritual belief in Mother Nature. We put our trust in ongoing education, devote long hours to protecting our “babies,” and do all this for our fellow man — in this case, golfers.

But is it possible we're being a little bit “holier than thou?” We talk a good game, but do we really practice what we preach? Yes, the GCSAA promotes lots of great programs, and once a year, at the national conference, we profess unity with an “all for one, one for all” vigor.

Are we really as supportive as one another — as well as our craft, our courses and our creed — as we think?

With a nod upstairs, I've created the superintendent's version of the 10 Commandments. This has been done with the utmost humility, plus a little sense of humor. You don't have to be religious to get the point. All I'm asking is take a read and give them some thought. And let me know what you think.

1 THOU SHALL HAVE NO OTHER GODS BEFORE ME

Our ultimate higher authority? Nature. That means our turf gods — Old Tom Morris, Joe Duich and Franny Fern Davis — have to take a step back.

2 THOU SHALT NOT MAKE IDOLS

While it's tempting, and often easy, do we really want to put Augusta National, Chambers Bay (this year; last year it was Pinehurst No. 2), Billy Payne, Mike Davis and such others above practicality? It's difficult not to want to emulate championship venues and the perfect conditions we see on television. But you should be most concerned with your course and your people (both those you employ and those who employ you). Worry about your own and spend less time comparing them to others.

3 THOU SHALT NOT TAKE THE NAME OF THE LORD IN VAIN

In this case, golf. The sport has been very good to us so we should praise and appreciate it rather than damn and condemn it. That's not to say everything is perfect, but at the end of the day, it's a pretty good gig. If you're not satisfied

with your job, do some soul-searching; perhaps it's time to explore other avenues. But remember: Once you're out, it's very difficult to return to the fold.

4 REMEMBER THE SABBATH DAY TO KEEP IT HOLY

Even the Lord took a day off after creating the world. While most of us work on the Sabbath, since that's when many golfers come to play, we still need to take care of ourselves, taking time off to recharge our batteries. Golf is still just a game and doesn't need the macho attitude of superintendents who brag about taking days, weeks and even months without taking time off. This is a great job, but it's also a tough one, and if you don't take care of yourself, it really can kill you.

5 HONOR THY FATHER AND MOTHER

Appreciate all those who got you where you are—parents, spouse, kids, friends and colleagues—and give thanks to those who keep you there. Listen to the words of wisdom of those who have gone before you. Even if much of that knowledge comes from an earlier, simpler time, it still applies today.

6 THOU SHALT NOT KILL

Except, of course, for unwanted insects, fungi, invasive weedy grasses... Our job is about both killing and giving life, which means we need to be extremely careful. Read all labels, talk to your crew, measure twice and cut once, as carpenters say, to avoid unintended consequences. But in the end, we are all about life in the form of healthy, vibrant turf. As the late, great Dr. Joseph Troll of the University of Massachusetts said, “Healthy grass is happy grass.”

(MORAGHAN continues on page 49)

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CASE STUDY IN THE UNEXPECTED

THE WINTER OF 2014-15 WAS ONE TO FORGET FOR
SUPERINTENDENTS IN THE CAROLINAS AND ITS AFTERMATH
HAS LED TO A CHALLENGING SUMMER.

By Trent Bouts

As the mercury plunged to 24 degrees in Greensboro, N.C. in late March, Kevin Smith felt his heart sink right along with it. A veteran of nearly four decades of caring for golf courses, he'd seen enough in his time to be shivering from more than the cold. Experience told him that this late, hard freeze was the final ingredient of a "perfect storm" for winterkill.

Smith had seen it brewing. A little more than a month earlier, he tweeted: "Must be the transition zone when your predicted hi temp. is lower than the lethal threshold for your turfgrass." Smith kept his fingers crossed all the same. He had harbored similar fears the year before after a tough winter but "nothing really materialized."

Then came the night of March 29. "That's when things got pretty scary," says Smith, vice president of agronomy for Pinnacle Golf Properties. "Up until then, we were just sort of fooled into thinking we might be okay. Up until then, I thought maybe we'd be lucky again this year."

Up until then...

What transpired over the following weeks was gut-wrenching.

Golf courses along I-40 from Winston-Salem to Raleigh, the state capital, suffered the most devastating outbreak of winterkill in more than 20 years, maybe even since the '70s. Huge swaths of Bermudagrass fairways simply didn't wake up. Even into June, golfers at some facilities were digging up dust instead of divots.

It wasn't an onset so much as it was an onslaught.

Damage to some courses, like two that Smith oversees at Bryan Park Golf Course, was so severe they had to close. The repair bill of somewhere between \$200,000 and \$250,000 was only part of the hit for city-owned Bryan Park. The twin 18-hole layouts generate

about 55,000 rounds a year. So closing each for four weeks, or more, in summer meant another "very significant impact" financially.

Then there's the potential for longer-term fallout from dented reputations. Bryan Park did its best to honor contracts for a busy schedule of events from outside groups. "To have folks come out and pay good money to play in conditions like that was extremely difficult," Smith says.

Both Carolinas were affected. Many courses along South Carolina's Grand Strand, with golf-centric Myrtle Beach at its heart, also felt the brunt of cold so severe in late-February that Gov. Nikki Haley declared a

temporary state of emergency. On Pawleys Island, where the average low for February is 39 degrees, there were 19 nights at freezing or below. Several courses without covers incurred considerable damage to their ultradwarf Bermudagrass greens. Aberdeen Golf Club completely resodded one green while Black Bear Golf Club was forced to regrass all 18.

Even some facilities with covers ended up with damage. Carolinas Golf Association agronomist Bill Anderson says lighter weight covers appeared to perform best. Some older, heavier types actually froze onto greens, as a result of rapid freeze-thaw-freeze cycles. In general, Anderson says, the ultradwarfs did well but “there was enough damage to say there is potential there for vulnerability.”

Greener stripes under the covers on some of Kevin Smith’s greens reminded him “just how small the margin for error is.” Those verdant strips indicated healthier MiniVerde Bermudagrass on the Champions course thanks to seams where two sheets of covering overlapped. Right alongside, areas of the putting green with only single layers of protection were less vibrant and slower to recover.

There were other reminders of that “fine line.” Smith says he had south facing slopes that were doing “beautifully” while just a matter of feet away a north facing slope was barren. “Even after all my years in the business, it’s still quite remarkable to witness how a slight tipping of the scales can mean the difference between rather extensive injury and no injury at all,” he says. “Just a little bit one way or the other means life

or death, really.”

Elsewhere in Greensboro, Sedgefield Country Club, which hosts the PGA Tour’s Wyndham Championship on its Ross course, shut down the sister Dye course in early June for a six-week recuperation. That repair was part of what was expected to be a \$250,000 bill for McConnell Golf across some of the 11 courses it owns or operates in the Carolinas. The majority of McConnell’s facilities are in the hardest-hit Triad and Triangle regions of North Carolina where industry observers say the final cost of sodding and sprigging could reach \$5 million.

Soaring demand for Bermudagrass sod pushed prices to nearly double in some cases. Some superintendents reported that a square foot of Tifway 419 Bermudagrass sod, which cost 17 to 19 cents in 2014, was running as high as 32 cents.

Some of that tab fell to Greensboro Country Club, which was forced to close its

club’s Farm course, which has Zeon zoysiagrass fairways since a renovation in 2009, suffered only minimal damage by comparison. “The zoysia got beaten up more than normal but it did so much better than the Bermudagrass,” superintendent Doug Lowe says.

When one observer told Lowe that the sight of winterkill damage was enough to make him swear out loud, Lowe sighed and said: “Amen to that. And we are. All of us, golfers and golf course workers, are going to have to look at this stuff every day for the better part of the summer. You can’t go anywhere in Guilford County and not see significant damage.”

SOFTENING THE BLOW THROUGH SOCIAL MEDIA

Lowe is one of a number of superintendents making good use of social media to soften the blow by keeping members and golfers informed. His blog offers extensive background on

has increased his posting rate from “every 3 to 4 weeks to more like every 7 to 10 days.”

“The response to the blog has been phenomenal,” he says. “You can do so much more. You can give more detail than you can in a newsletter or in an email and you can provide photos right alongside the words to enhance the reader’s understanding even more. Since the message got out and people began realize how widespread this was, they have been very understanding, sympathetic even.”

Social media has also played a part in helping superintendents cope with the non-agronomic stress caused by winterkill. In another Twitter post in late April accompanied by a photo of a stone dead fairway, Smith made sure no colleagues suffered alone. He wrote: “If anyone is feeling pressure from upper mgm’t re bermuda #winterkill bring them to Bryan Park.”

“It’s one of the unique and

“Even after all my years in the business, it’s still quite remarkable to witness how a slight tipping of the scales can mean the difference between rather extensive injury and no injury at all. Just a little bit one way or the other means life or death, really.”

— Kevin Smith, Pinnacle Golf Properties



Irving Park course on June 15. The club used a combination of sod and sprigging to bring the course back. Notably, the

what led to the winterkill, what damage it caused, and what he and his staff are doing about it. Since the winterkill hit, Lowe

greatest aspects of our industry that help is only ever a phone call away,” Smith says. “Whether it’s a piece of equip-

ment you need to borrow or a shoulder to cry on. There have been a lot of discussions within the company and with other superintendents about both the practical and emotional issues at hand."

More broadly, the 1,800-member Carolinas Golf Course Superintendents Association made a concerted push to alert and inform golfers. Through a news release distributed in late May, the association's executive director Tim Kreger appealed to golfers for patience.

"It's important for golfers to realize that this is an extreme event affecting public and private courses alike," Kreger says. "It's not a question of expertise or budget. It's simply a matter of when weather conditions get bad enough then bad things are going to happen. Golfers should know that our members are all doing they possibly can to get courses back to their best as soon as their club can afford it and Mother Nature's conditions will allow."

Like Lowe, Smith says his golfers at Bryan Park have been "quite patient and supportive." "They were anxious initially," he says. "But we are blessed with a very loyal clientele who just love Bryan Park through thick and thin. They understand that 'Hey, this is just one of things beyond anyone's control.' I couldn't be more grateful to them."

CHAOTIC SUMMER

The toll, as Lowe's "Amen to that" intimates, is not limited to club budgets and golfer activity. While science says that – short of using covers across the entire golf course – superintendents were powerless to prevent the damage, they're still taking the



Greensboro Country Club was forced to close its Irving Park course earlier this summer because of damage caused by a brutal winter. Superintendent Doug Lowe and his crew used a combination of sod and sprigging to bring the course back.

outcome personally.

While most now have their courses squarely on the recovery track, Smith speaks for many when he says, "Having an ailing golf course is a lot like having an ailing child on your mind the whole time. It definitely gets in your head." Recently, Smith had relatives visit from Texas, but as keen as they were to play some golf, Smith couldn't allow it. "I refused," he says. "It was just too humbling."

Indeed, as CGA agronomist Anderson observes: "The whole summer is going to be chaos for some superintendents as they try and patch things back up. A lot were hoping things would green up through spring but a lot of it just didn't. It was

just dead."

By mid-June much of the Carolinas was baking under the searing heat that superintendents needed to grow-in their repairs. But heat is only one half of the equation with water obviously the other. And the sky wasn't cooperating fully. In the first 10 days since Smith sprigged the Champions course at Bryan Park and Lowe, the Irving Park course at Greensboro Country Club, the city measured just 0.15 inches of rain.

As a result, superintendents were almost totally reliant on irrigation to keep their recovering turf "rice paddy wet, which is what you want," Smith says. "Where we have irrigation, the recovery is robust," he adds.

"But where we don't, out on the perimeters and in some of the rough, it's not quite so good. If we do get some good rains then we can go pedal to the metal with our fertility, granular and soluble. But at this stage, it's hard to imagine being open in two to three weeks which was our goal."

Conditions for recovery were better in Myrtle Beach, but only marginally. Barely 2.5 inches of rain fell in the first three-and-a-half weeks of the month with the bulk of it coming in two downpours a full three weeks apart. Jim Burris, superintendent at Long Bay Golf Club in Longs, S.C., believes a "long wet and cool spring" exacerbated the impact of winterkill along the Grand Strand. "We didn't get any heat until May," he says.

"Everything just seemed to go backwards at a period of time the grass should really be growing aggressively," Jim Knaffle, superintendent from the International Club of Myrtle Beach, told The Sun-News in Myrtle Beach. "It turned into a difficult time for a lot of people."

Kevin Smith was clearly one of them. This episode of winterkill brought back memories of the mid-'90s when he was managing 54 holes along the Robert Trent Jones Golf Trail in Alabama. He had to regrass more than 60 acres then. "It does affect you psychologically," he says. "But I guess I'm a little fortunate in that I've been through this before. So I know that life goes on." **GCI**

Trent Bouts is a Greer, S.C.-based writer, editor and frequent GCI contributor.

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UN-BELIEVABLE

AFTER AN UNSEASONABLY ROUGH WINTER, NOW THE CAROLINAS DEAL WITH AN UNCHARACTERISTIC DRY SPELL.

By Trent Bouts

Drought blamed for a spate of shark attacks off the Carolinas' coast is putting a bite on golf courses inland. The lack of rain means less freshwater flowing into the ocean leading to warmer sea waters with a higher salt content, a combination that appeals to sharks. Golf course superintendents, including those recovering from a severe dose of winterkill, are less enthused.

Their rainfall record is inversely proportional to the shark attack rate – 11 so far this year – which is four times higher than normal. More

than 50 counties across North and South Carolina have been elevated to moderate drought status. Another 30-plus are considered abnormally dry.

"It's been one of those years I'm afraid," says O'Neill Crouch, III whose winterkill repairs at Old Town Club in Winston-Salem, N.C., required 20 tractor-trailer loads of sod and 15 acres of sprigs. "We sprigged on June 8 and went 21 straight days without a single drop of rain" he adds. "That was tough."

Crouch's fortune in having access to city water is countered by the fact the club has to pay for it. Working to keep

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COVER STORY

his sprigged acreage rice paddy wet was like “watching dollars getting pumped out the end of a hose,” he says. “I don’t even want to think about what our (quarterly) water bill will be. It might be something like \$80,000.” In kinder times, Crouch “barely” irrigates at all on the Bill Coore-Ben Crenshaw redesigned course he likens to U.S. Open host course Chambers Bay “but with Bermudagrass.”

Whatever that bill is, it will come in on top of \$110,000-plus already invested on sod and sprigs. Then there’s the additional labor required after the skies finally opened up with such ferocity the rains washed out a significant amount of sprigs, in addition to some bridges on course. “We got heavy rains four days straight,” Crouch says. “The good news is that the last of the sprigs held after we repacked them for the third time. Then it got dry again.”

At nearby Forsyth Country Club, superintendent Chris DeVane tells of a similar experience, albeit on a smaller scale. Nursing three acres of sod and four acres of sprigs, DeVane saw his city water bill for June soar to \$22,000, versus the \$13,000 he had budgeted. With almost total control of how much water is going onto his A1/A4 greens, DeVane says he is “very happy” with their condition. “Our tees are good too but everything in the middle became a bit of a crap shoot,” he says.

“Things are definitely not as bad as they could be,” says David Johnson, CGCS from High Point Country Club in High Point, N.C. “But they

sure could be a lot better.” When he was looking for Bermudagrass to kick back into growing mode and fill in winterkill zones in May, the skies offered up just .7 of an inch for the whole month.

In the end, he laid 12 tractor trailer loads of sod and sprigged two acres on the driving range. He harvested another acre of sod from out-of-play areas on the course to complete repairs. “We’re fortunate that we draw our irrigation from a creek and we’re still pumping at full capacity for now,” Johnson says. “But the creek is low.”

Just outside Leesburg in the South Carolina midlands, Dean Bedenbaugh is also watching the level of a creek that feeds his irrigation ponds at Ponderosa Country Club. Bedenbaugh says his course received just over an inch of rain in all of June. “Afternoon storms just keep going around us,” he says. “We aren’t getting a lick of rain. Fortunately, they have been catching some of the storms in town and that feeds the creek that runs to my irrigation source.”

He has been using wetting agents to make the most of what water he can put on the golf course. “It’s nothing that scares me yet,” he says. “But we would love to get some rain. That’s for sure.”

“Dry, dry, dry,” is how Clay DuBose, CGCS describes life at Tradition Golf Club on Pawleys Island in the Myrtle Beach area. By mid-month, DuBose says Tradition had received barely .75 of an inch for July. June delivered five inches but in isolated large doses including a three-inch downpour in the first week

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COVER STORY

of the month. "It has been hit and miss," he says. "Some guys on the north end are doing alright. We've had nothing on the south side, basically."

DuBose's nagging concern is the quality of the water he has access to from the Intracoastal Waterway. "I can get water, but the salt level is starting to creep up," he says.

Drier than normal conditions haven't hurt Chad Berry at Golden Hills Golf and Country Club in Lexington, S.C. Berry is converting his TifDwarf putting surfaces to TifEagle and also dealing with a major sewer line project through the golf course. Being able to control how much water goes where has been helpful. "We've had some really dry stretches but our creek and ponds are doing okay," he says.

Further north, at Furman University Golf Club in Greenville, S.C., Paul Brandenburg, CGCS is wondering when he might have to tap into the city water supply to restock his irrigation pond. "We've certainly talked about it, but we're going to hold off for now. It's kind of a last resort for us," he says. "Our pond is down close to three feet. Basically we've had no rain for the past 14 days and that's been made worse by the heat. Even Bermudagrass can get stressed when it's 99 degrees."

Brandenburg aerified his greens mid-June and "had the hose coming along right behind the aerifier." "It's been tough the past couple of days," he says. "I thought we were going to get some rain last night but all we got was wind. You expect 90, 91

degrees with high humidity, but it's been much hotter than that."

In Charlotte, N.C., Matthew Wharton, CGCS says his A-1/A-4 bentgrass greens at Carolina Golf Club have "never looked better at this time of year" but he admits his pond levels are less attractive. Like Johnson, 80 miles to the northeast, Wharton found May to be almost crunchy. "April was wet and cold but when things finally started to warm up in May, we only got .11 of an inch for the entire month," he says. "We were slinging water like crazy. Maybe five million gallons."

Things improved to a degree in June, but the 2.5-inch total was deceiving Wharton says because after an initial downpour that brought an inch, the rest came in "dinky, light showers that weren't really meaningful." As a result, Wharton has some areas looking "a little raggedy, a little shaggy and brown." More significantly, his pond levels are down "six or seven feet" to less than half capacity.

Like most in the Carolinas, Wharton is mindful of not overstating the case given what their counterparts in California are enduring. Still, he admits he would "sleep easier if it rained." "We grew this course in from a restoration in 2008 during the worst drought on record and we didn't run out of water," he says. "So in the back of my mind I keep telling myself if we didn't run out then, we won't run out doing normal maintenance. But my members see the ponds going down and they keep asking me if we are going to run out." **GCI**

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HOBSON'S CHOICE



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.

Thomas Hobson, a 17th century Englishman, owned a livery stable. To rotate the use of his horses, he offered customers the choice of either taking the horse in the stall nearest the door or none at all. This take-it-or-leave-it proposition gave birth to the expression "Hobson's Choice."

In our experience, we often see club leaders debating whether to do something undesirable or nothing at all. Usually these dilemmas involve member discipline, course care and upkeep or capital expense planning.

For example, what should the club do with a recalcitrant or ill-behaved member when it desperately needs more members? Or, when the club needs to improve its services for women and families, how does a manager navigate the golf committee that wants to rebuild bunkers to please the golfers?

Whether you call it a Hobson's Choice, a rock and a hard place or a no-win situation, everyone wants to avoid such undesirable situations. Our advice is consistent: plan. Too many clubs function in a constantly reactive state, without a growth plan and with an urgent need for incremental member revenue. Here are three examples of how diligent planning helps you avoid a Hobson's Choice.

MARKET KNOWLEDGE

What are existing members' demographic and psychographic traits, and where do you find more people like them? The starting point is to know members and to understand what they value about your club. Each club should keep a member profile that includes preferences, as well as things they don't like. Member surveys are easy and effective tools for gaining this valuable knowledge.

Top clubs go further by knowing their members' backgrounds: where they attended school, where they work, which activities their children enjoy. Then they use that information to make informed decisions. Too often boardrooms are populated by members who do not have current data concerning their members and are reduced to guessing about what actions will be well received.

New members are right outside the front gate. So who are they? The U.S. Census Bureau provides valuable insights, including household income (HHI), household net worth, fair-market home value and educational level, which research shows well-educated people tend to join clubs of one type or another.

Knowing the market for prospective members suggests strategies and tactics to recruit new members. For example, clubs surrounded by families with medium-to-high HHI suggests the importance of strong junior programs. Clubs in areas with a number of men and women 55 or older suggests an appeal built around socialization. Whatever the research tells you about your community, follow it by building membership plans that match the market.

MEMBER REFERRAL

The best recruiters for a private club are its current members. Every club should have a robust member recruitment process in place.

Women are especially effective in this regard. So are friends. Demonstrate how comfortably your club brings new members on board. Emphasize how easily new members make friends. Many clubs make the mistake of claiming they are friendly without demonstrating how new members are embraced. Tell stories about the fun your members are having. Better yet, use pictures and let members tell their own stories.

Fitness is a priority for many prospective members. Emphasize activities in your visuals and show the wide assortment of choices.

MEMBER COMMUNICATIONS

Effective member communication is a requirement to reinforce value. Bearing in mind communication is a two-way process, top-performing clubs are utilizing three strategies:

- **Personalization.** Everyone wants to receive their news in their own time, using their preferred media and in formats convenient to them. The future of communications is targeted messaging that communicates what matters to individuals. The shotgun approach to communications is dead.

- **Reinforcement.** No matter how many times the club may have issued announcements, more communication is needed. Never assume your audience is waiting for your message. If it's important for them to know, it's important enough for you to repeat.

- **To-The-Point.** As time-starved as most golfers and club members are, they need crisp and succinct messages. Get to the point. Tell them the what, when, where and why of the matter and emphasize benefits. And make sure golfers and club members know what action you're asking them to take. **GCI**

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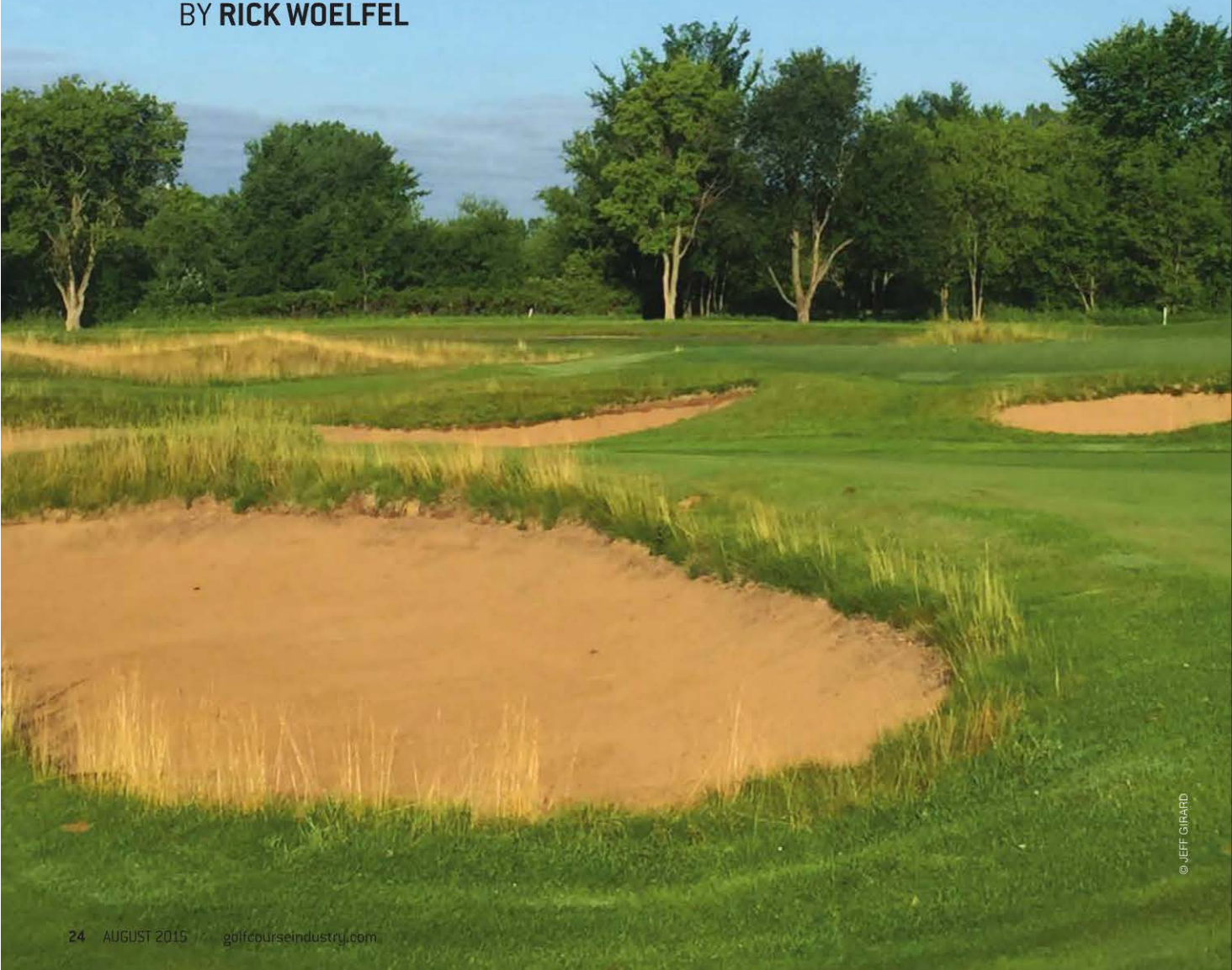
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IN COMPLETE CONTROL

StoneRidge Golf Club superintendent **Jeff Girard** relies on Xzemplar fungicide to eradicate dollar spot from his Minnesota facility.

BY **RICK WOELFEL**





When Jeff Girard first arrived at StoneRidge Golf Club at the start of the 2007 season he found, in his words, “A dollar-spot factory.”

StoneRidge is a semi-private facility, located in Stillwater, Minn., across the St. Croix River from Wisconsin and minutes from the Twin Cities of Minneapolis-St. Paul. The club opened for play on July 4, 2000 and has come to be regarded by many as one the premier public-access golf facilities in the state. Under normal circumstances the golf season runs from approximately the second week of April to the second week of November.

The golf course itself was built on sand-based soil and the playing area consists largely of bentgrass. The in-season climate is characterized by warm, humid days and cool nights, ideal conditions for dollar spot to thrive.

This situation is not unique; in most of North America, save for the Pacific Northwest, dollar spot is a superintendent’s most pressing disease issue. Eradicating it is not, and Girard found that the fungicides available to him when he first arrived at StoneRidge weren’t necessarily effective over the long term.

“For the most part, there has never been a real great dollar-spot product,” he says. “There are a lot of pretty good dollar spot products out there but you have to kind of spray them preventatively. You need to get it out before you see disease activity.

“The problem with that is ... if you want to keep the disease in check, you need to spray preventatively. You’re looking at spraying every two weeks, three weeks at the most. The problem you then run into is from a money standpoint.”

Girard controlled the issue on his greens, which cover approximately four acres, but his 33 acres of fair-

ways were another challenge. He found it impossible to spray often enough to control dollar spot without going over budget.

“If on a scale of 1-10 my dollar spot was a four,” Girard says, “I could go out and spray and maybe it would get back to a two. And then the next time around it’s up to a six and I would knock it back to a four. So you’re never really getting back to a zero.”

Each year Girard would set a budget that called for five fungicide applications on his fairways. But by season’s end, he found himself



Girard

having to put down two additional fungicide applications to combat his dollar-spot problem. “I was spending more money,” Girard recalls, “but I still wasn’t getting the control out of the chemicals; I still wasn’t getting the results.”

A solution to the dilemma was needed. That solution turned out to be Xzemplar, a Group 7 fungicide developed by BASF for use on golf courses and other large-scale turf-grass sites, including athletic fields and turf farms. Its active ingredient is luxapyroxad (26.55 percent).

Girard first learned about Xzemplar by his local distributor, Chris Hoff of WinField, which is based in the Minneapolis-St. Paul area.

As the fall of 2014 drew closer, Girard still had serious concerns about dollar spot. On Sept. 15 of that year, at Hoff’s urging, he applied the Xzemplar for the first time. “It completely wiped out the dollar spot,” Girard says, “and I was completely clean through the rest of the fall.”

Based on those results, Girard changed his protocol for 2015.

“I was so fed up with what I was doing in the past,” he says. “The different chemicals on the market, I just wasn’t happy or getting the

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StoneRidge Golf Club superintendent Jeff Girard started applying Xzemplar last fall to control dollar spot. Girard has applied the product regularly this year.

success I wanted. I told myself, 'This year, we're going to really change it up.' In the past I used to spray some of the cheaper chemicals that are more preventative early in the year and then I would save my one or two applications of what at the time was considered real knock-it-out products. I was saving those for the middle of the summer when dollar spot got really bad. My thinking was I need to get at the dollar spot right away and I need to get it under control from Day 1."

On May 25, Girard put down his first application of Xzemplar for 2015. "From a timing standpoint it was what I had done in the past," he says. "I waited until I thought the conditions might be favorable; I still hadn't seen any dollar spot on the 25th of May. But I told myself, 'It's starting to become favorable, so I'm going to get out ahead of it.'"

Girard hasn't seen any dollar spot at StoneRidge since then but he continues to adhere to a regular spraying protocol. "I sprayed [Xzemplar] on the 25th of May and my next application was five weeks later," he says. "I still hadn't seen any [dollar spot]. In the previous eight years, by the Fourth of July, I was already sick of dollar spot."

In addition to choosing Xzemplar as his fungicide, Girard has other steps to produce healthier turf. "We had a thatch problem," he says. "We've increased our

core aerification on our fairways the last two years to try and reduce the thatch level. It has helped. It's allowed us to be able to irrigate less than we have in the past."

Girard also scaled back on the use of nitrogen-based fertilizers in 2015 in an effort to reduce thatch buildup. Under normal circumstances, this would have made the turf more vulnerable to dollar spot, but as of this writing the fungus was not present. "We've only put down two-tenths-of-a-pound of nitrogen," Girard said in late July. "That's low for a golf course."

By spending fewer dollars on nitrogen-based fertilizer, Girard has additional funds to devote to other areas. Call it a classic win-win situation for the superintendent and his customers.

And while no superintendent is ever completely satisfied with the condition of his/her golf course for more than a short stretch of time, Girard can look at the property and feel a sense of satisfaction about what he and his team have done to keep the facility free of dollar spot. "Dollar spot was quite rampant at other courses in the area," he says. "I would talk to other superintendents and get pictures on Twitter from golf courses nearby complaining about dollar spot and I'm here now walking up and down fairways trying to find one section of dollar spot in them." **GCI**

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AN IMPORTANT INVESTMENT



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

The equipment it takes to maintain an 18-hole golf course is both varied and substantial. Depending on the course, that equipment's worth varies from \$1 million to \$2.5 million in replacement costs. Not only is the equipment expensive to purchase, but it also is expensive to maintain.

In fact, it is rare to visit a golf course where there is not a least one full-time mechanic. Many courses have an additional part-time mechanic who may be a member of the grounds staff who spends part of their time working on equipment. On high-end courses it is not uncommon to have two full-time mechanics. Given the large net worth of the equipment and its need to be maintained, it is no surprise so many resources (parts and labor) are dedicated to maintaining the equipment to protect the course's investment. And between the mechanic(s) and parts, annual costs can be \$90,000 to \$125,000 or more.

Depending on location and design, today's irrigation systems are worth anywhere from \$1.5 to \$5 million per 18 holes. This is equal to or more than the net worth of the maintenance equipment. Therefore, it is essential the irrigation system is operational. If it isn't, then the golf course is at risk.

If the system breaks or suffers a major failure, you cannot just pull another one out of the maintenance facility, borrow one, rent one or order a new one to have in a few weeks. Nevertheless, only a minority of golf courses have dedicated resources adequate to maintain their irrigation systems. A course usually has a small irrigation parts budget (\$5,000 to \$15,000 per year) and maintenance and repairs are handled on an as-needed basis, in too many cases by the assistant superintendent or superintendent themselves. Higher-end courses may have an irrigation technician who may do irrigation full time or a staff member who deals with irrigation issues. Courses in the Southwest where irrigation system operation is even more critical and systems can be very large (4,000 or more sprinklers) may have two or three irrigation technicians. A good rule of thumb would be one irrigation technician per 1,500-2,000 sprinklers.

For most owners, public agencies and private country clubs, the irrigation system is the largest investment they will ever make. Maintaining the irrigation system is imperative to maintaining high quality turf conditions and requires budgeting for both parts and labor. New systems do not require a lot of parts as they are most likely under warranty, including extended warranties on sprinklers and control system components. However, there is still a labor require-

ment and today's systems, given their size, require preventive maintenance as opposed to just reactive.

If you have dedicated personnel assigned to the irrigation system, then preventive maintenance gets done. If you are reactive to irrigation issues and assign personnel to repair irrigation as needed, preventive maintenance rarely gets done. This entails testing grounds, tightening ground clamps, leveling sprinklers, setting sprinklers to grade, exercising gate valves, adjusting arcs, checking nozzles, keeping controller enclosures cleaned out and making sure the central control databases are up to date are all preventive measures. Preventive maintenance also helps you save water and electricity by keeping your system operating efficiently and maintaining high sprinkler uniformity.

You need some specialized equipment to properly maintain an irrigation system. Other than a shovel, minimally a volt-ohm meter is needed. A wire tracker and a fault finder for conventional systems are helpful, too. Decoder-based systems require more specialized equipment for the particular type of decoder system manufacturer it is. Besides troubleshooting equipment, a small, but detailed parts inventory is required consisting of repair couplings, wire connectors, sprinkler internals and an assortment of mainline and lateral fittings. Your irrigation maintenance personnel should also be trained on troubleshooting the particular manufacturer's product installed at your course. Training is easily arranged through your local irrigation supplier.

Protect the large investment in the course's irrigations system with preventive maintenance by means of an irrigation technician and the necessary parts inventory in your annual budget and staffing requirements. GCI

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Above-ground fans and sub-surface systems allow both superintendents and their greens' root systems to breathe easier during the dog days of summer. Plus, make purchasing fans a breeze.

By **Jim Dunlap**

The dreaded combo platter of high heat and high humidity that Mother Nature serves up each summer throughout much of the U.S. used to be a sure recipe for indigestion for golf course superintendents, particularly those charged with keeping bentgrass greens healthy. Today, thanks to improved technology in the development and use of both above-ground fans and sub-surface systems, superintendents and their greens' root systems can breathe easier in August.

"Fans have revolutionized the superintendent's ability to maintain bentgrass greens at a different level than they used to," says Mark Langner, director of agronomy at the FarmLinks research and demonstration golf course in Sylacauga, Ala. "Come July 1st,



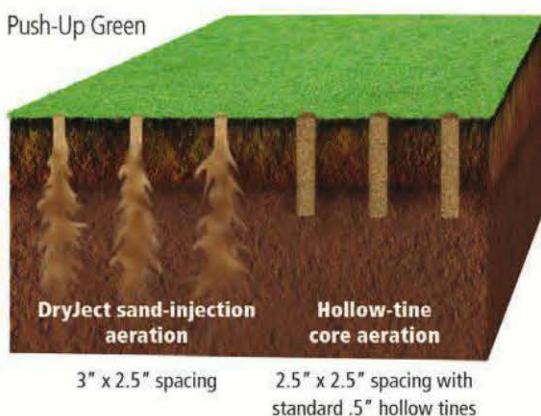
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bentgrass greens are in ICU, and even Bermudagrass can have heat stress in a low air movement environment. Rain is our nemesis in the South, but we figured out that by using fans, we could keep our greens dryer, and with sub-surface systems, either vacuum or pressure-based, we can also either heat or cool the root zone as needed."

WINDS OF CHANGE

While they are relatively small in relationship to the amount of turf they're charged with cooling, fans can lower greens surface temperatures by as much as 10 degrees Fahrenheit and soil temperature by 4 to 6

degrees Fahrenheit, according to a study by David McCall of Virginia Tech University.

In addition to reducing moisture left over from morning dew, fans increase transpiration by cooling the turfgrass plant internally. Interestingly enough, there is some disagreement among agronomists, even within the USGA, as to whether the primary benefits of fans are cooling or drying, but regardless, the air movement generated is beneficial. Chris Hartwiger, director of the USGA's Course Consulting Service, for instance, refers to the process as "evaporative cooling," which he says is not really drying, but instead assists



Sub-surface systems move cool air through the root zone to lower soil temperatures. In wet weather, the system removes excess water and increases aeration.

plants in evaporating moisture from the plant stoma in excessively wet or humid conditions.

Superintendents have a variety of options for dealing with greens turf stress during periods of high heat and humid-

ity, depending on the number and surface volume of greens affected, the availability of electrical power for installed fans and, of course, the size of the maintenance budget. Some high-end courses have as many

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as 40 installed permanent fans while others have only one or two for consistently problematic greens areas and obviously many courses have no installed fans at all, especially if they're in low-humidity climates.

Other courses, due to either limited need or limited budgets, make do with one of a variety of portable fan units available, which can cover a variety of problem spots and do not require access to a permanent power source.

Others are even more low-tech and less expensive, sometimes using a Buffalo blower or a trailer-mounted turbine blower just to get some air movement across the greens.

“Come July 1st, bentgrass greens are in ICU, and even Bermudagrass can have heat stress in a low air movement environment. Rain is our nemesis in the South, but we figured out that by using fans, we could keep our greens dryer, and with sub-surface systems, either vacuum or pressure-based, we can also either heat or cool the root zone as needed.”

— Mark Langner, *FarmLinks*

Technique can also be used to get sub-surface air movement with USGA-spec greens, by plugging the outflow for the sub-surface drainage and blasting air into the other end, Langner says. Regardless of the technology used, superinten-

dents and agronomists are in agreement that any air movement in hot and humid conditions is better than nothing.

Alex Stuedemann, superintendent at the TPC Deere Run facility in Silvis, Ill., which hosts the annual John Deere

Classic, has wall-to-wall bentgrass turf and the hot and humid Midwest summer to manage. He has recently added another permanent fan to the four TurfBreeze fans installed at Deere Run in 2006, and purchased a portable, gas-powered fan, as well.

“We utilize the fans on the saddles of our problem putting surfaces from May to August, and we recently purchased a TurfBreeze portable because we have some greens that are enclosed by the stands and other structures for the John Deere Classic,” Stuedemann says. “We just use it on those greens that challenge us on air movement, but if we get heavy

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TURF MANAGEMENT

What to buy

OK, you've determined that you have a problem with your greens, and it's not an isolated incident, it happens every summer when the weather is hot and humid. The obvious solution, short of changing out your bentgrass for a heat and humidity-resistant Bermuda strain, is to get some air movement to cool and dry your current greens through the summer. Once you get the nod from ownership, you know your budget and you know the extent of your problem – how many greens need help, is there power for the fans or sub-surface systems you plan to buy, and are there other factors to be considered?

The two largest suppliers of golf course fans and sub-surface systems are Precision USA and SubAir and its golf course fan subsidiary TurfBreeze. Both have customers throughout the golfing world, and both boast an extensive product line of both above-ground fans including portable units and sub-surface systems. Both have a number of prestigious course clients, and both have planted their product flags on virtually every corner of the golfing globe.

Prices can vary according to the specifications of the individual fan or sub-surface system chosen, but Precision USA's Andy Masciarella and SubAir SVP and agronomist Kevin Crowe provided some pricing guidelines for their products. Masciarella says a typical price range for a Precision fan is \$5,000 to \$7,000 per fan, depending upon the size and horsepower of the fan selected. A portable Precision fan, including tax and shipping, is around \$13,000, according to Dr. Dana Jitcov, the company's director of operations. Crowe says SubAir's TurfBreeze fans range from \$3,800 for their smallest unit to \$7,200 for their largest and most expensive permanent fan. The TurfBreeze gas portable fan runs around \$8,500, or \$10,700 for the larger, trailer-mounted unit. Sub-surface system pricing is dependent upon a variety of factors, the most obvious being how many greens are involved. Crowe says the SubAir below-ground systems typically run around \$16,900 per green for the most commonly chosen systems, while the above-ground, metal-enclosed systems run approximately \$14,500 per green. Precision, whose Precision Air sub-surface can blow hot or cold air under the greens, has a wide range of pricing and features available, depending upon the course customer's needs.

While the Precision and SubAir lines are the best known, there are a number of smaller manufacturers of fans designed or applicable for golf course use, as well as numerous industrial fan products which can conceivably be adapted for use on the course. There is even one company which manufactures a product they call "The Rock Fan," which features custom fan covering and camouflage that houses the fan inside what appears to be a rock or a variety of other "disguises" that a course may request.

While superintendents are well aware of the benefits that fans provide, purchasing and installation of a permanent fan or fans can be a tough sell to course owners or members, not to mention neighboring homeowners. When his own salesmanship cannot overcome initial objections about price, noise or value provided, Precision's Masciarella is happy to have superintendents run a test on a device of their own creation.

"Sometimes a superintendent will jury rig a fan setup to prove that the investment is worthwhile," Masciarella says. "We're happy to have them do that, because once they get a fan installed, they see the value right away. One of the things we've heard from more than one superintendent after installing a fan at a problem green is 'My worst green has become my best green.' "

rain and heat, we use all the technology we've got at our disposal."

WHERE, WHEN AND FOR HOW LONG?

As is the case with much of the discussion about the use of fans for cooling/drying of greens turf, there are a number of opinions regarding the length of time that greens fans should run. Many turn the fans on at the onset of the summer heat and humidity and leave them on until those conditions abate. Hartwiger, though, suggests

"in all but the most extreme cases, it's probably not the best bang for the buck to run (the fans) 24 hours (a day)."

Deere Run's Stuedemann is in the 24-hour club once he turns the fans on for the summer, barring a significant drop in temperature and humidity. On the other hand, it isn't costing the course an inordinate amount of money to run the fans.

"Our power cost, using 220 single-phase power, is about \$70 a month per fan," Stuedemann says. "For the portable



Fans can lower greens surface temperatures by as much as 10 degrees and soil temperature by 4 to 6 degrees Fahrenheit.

fan we bought, it uses 10 gallons of fuel every 14 hours, so there's a higher daily cost with it, but on the other hand, it cost \$10,000 to get power to the permanent fan that we installed last year because it needed almost 1,000 feet of wiring. You need to consider the proximity to a power source when you're considering installation costs."

Once the decision has been made to purchase a fan, or multiple fans, the next question is where to install them. The things to consider are the power source, the coverage necessary and the golfers. As Stuedemann notes, the distance from the power source necessary to operate a permanent fan can make a big difference in initial cost, in large part due to the cost of the copper wire needed for conductivity.

The fan will also need to be located in a spot where its air flow will reach the problem areas of the green, ideally traveling at a speed of at least 3-4 mph across the affected surface. The prevailing wind direction at the affected site will factor into this, as well. Superintendents can measure the length of airflow coverage in a variety of ways, using engineering flags at intervals across the green, smoke bombs or other indicators, combined with

more high-tech devices such as infrared thermometers or soil probes.

The other consideration is the player: Is the fan directly in the line of sight of approaching players or distracting in any way? On the other hand, as Andy Masciarella, owner and president of fan manufacturer Precision USA says, "When the green looks good, the fan goes away."

While some courses prefer to run permanent fans around the clock in the summer, others either don't require that level of air movement or have to moderate their run times to accommodate nearby residents who object to the noise at night or in the early morning. Some newer models can be programmed to turn off and on according to irrigation cycles and moisture levels. Additionally, some are available which are less noisy than earlier fans.

At the end of the day, superintendents strive to do as the USGA's Hartwiger suggests, namely to "find a balance between what is good for the grass and what is good for golf." Fans can help to achieve that balance when humans and plants alike are sweltering. **GCI**

Jim Dunlap is a writer based in Encinitas, Calif., and is a frequent GCI contributor.

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On March 2, 2015, the golf course architecture profession lost one of its giants in Jay Morrish. On Memorial Day weekend, his wife Louise hosted a tribute to the life of what she called, and all agreed was, "One great man."

The highly attended event was impressive, and perhaps the number and quality of people who couldn't make it from all over the world, was even more so. I know Jay didn't live his life just to have an impressive funeral, but the reaction of so many people tells me he was a man well loved, and certainly had a life well lived, both personally and professionally.

His course list is phenomenal, and his accomplishments in the field of golf course architecture are well documented. As a fellow architect, I can tell you there are artistic architects, there are technical architects, there are construction-oriented architects and there are design-oriented architects. Most favor one or the other, but Jay had more ability in all four areas than any architect around.

For all his accomplishments, it was his personal life that was the focus of most tributes. Friends (I doubt Jay had an enemy!) and family all shared warm remembrances of what a caring man he was with family, friends and strangers.

Industry stalwarts shared numerous entertaining stories on his time designing courses with Jack Nicklaus and Tom Wieskopf, and lastly his son Carter. There were more on his hunting trips, and his house, which was a museum for his trophies. All in all, it was as much laughs as tears, which is fitting for a man known for his sense of humor and storytelling.

My personal remembrances of Jay date to my first month in Dallas back in 1984. I was an unknown practitioner, in business a month. I certainly wanted to meet Jay, and was introduced during the Byron Nelson tournament on the course he had designed. I doubted he knew me, but he said he had been looking forward to meeting me, which stunned me, and made me feel great. He and Louise invited me up to the hotel room they had above the 18th green, certainly making me feel more a part of the DFW golf scene.

In 1994, I was invited to speak at the Australian Club Managers Conference, and toured many of the great courses there, including the Jack Nicklaus redesigned Australian Club. I figured there would be many photos of Jack around, but I only saw a photo of Jay onsite during construction. It was he the superintendent remembered most.

In 1999, I had the honor of co-designing a course with Jay, courtesy of a joint development venture of two companies, each who insisted on using "their architect."

We decided to combine forces, and it was a great learning experience some

22 years into my career. My staff was in awe of him, and we all learned a lot about architecture for pros and better players, and had so much fun doing it.

I continued to have lunch and dinner with Jay after he retired, usually at "Uncle Bucks," a restaurant contained within a local hunting store, which I am sure he browsed for an hour before and after I left. And at every ASGCA meeting, I listened to Jay whenever I could, and always instructed new members to do the same to learn about the "old days" of the architecture profession. Hearing a Jay Morrish story the fifth time was more entertaining than hearing most other stories the first time.

In DFW, and in the golf industry, no one could "hold court" better, and Jay was in a league with the likes of Dan Jenkins or Sam Snead. Jay's wry sense of humor made everything funny. Among the best was Bob Cupp recalling when they both worked for Jack Nicklaus. Once, Jack was explaining how he wanted a bunker built, using mostly contorted hand gestures to make his point. He asked if Jay knew what he wanted, to which Jay responded, "What bothers me, is that I do."

Upon sitting through a terrible grade school violin recital (and knowing violin strings were made of stretched, dried and twisted sheep gut) he remarked, "A sheep lost its life for that?"

And Louise related that Jay was Jay right until his last days. He told a friend, "I haven't died before. But, I don't like it, and don't think I'll do it again." With Jay, even death was funny.

There are many, many more Jay Morrish stories. As Larry the Cable Guy might say, we could go on all night, and the memorial nearly did, as so many were reluctant to know Jay as only a memory. We imagined that golf courses are already being redesigned and look forward to playing those, and seeing Jay again. **GCI**

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AVOID THE “UH-OH” MOMENT



DON'T LET A CRISIS BE THE FIRST TIME YOU'RE DEALING WITH A MATERIAL SPILL. WE GUIDE YOU THROUGH PLANNING FOR THE INEVITABLE.

by Mickey McCord

ARE YOU PREPARED FOR A HAZARDOUS MATERIAL SPILL?

Have you ever had a spill, or unintended release of a hazardous material at your course and your first reaction was “Oh s#!, what do I do now?” No one wants to be responsible for releasing a potentially toxic chemical into the environment and exposing yourself and others to the risk of contamination and injury. You don’t want an emergency to be the first time you’ve thought about how to respond; planning ahead will prepare you to handle the situation and minimize the risks involved.

Let’s start with determining what a hazardous material is. In general terms, hazardous materials are chemicals that pose a threat to the environment and the health and safety of workers and others. We use a lot of chemicals on the golf course — cleaning fluids, fertilizers, pesticides, paints and fuel are all considered hazardous materials. In normal use these chemicals are valuable tools we use to do our jobs, but they also have the potential to cause adverse effects especially in large quantities and concentrations such as a spill.

All employers are required to develop and implement a written safety and health program including emergency response procedures and a Hazard Communication plan. The Emergency Response Plan outlines procedures for dealing with various emergencies and the Hazard Communication Plan makes workers aware of the potential hazards involved in using chemicals. Let’s take a look at how you can develop an Emergency Response Plan for chemical spills, using the information included in your Hazard Communication Plan.

There are five parts to a Hazard Com-

munication plan — 1. Materials Inventory; 2. Labels; 3. Safety Data Sheets; 4. Training; and 5. Written Plan. Labels and Safety Data Sheets give you all of the specific information you need to understand the hazard associated with a product and how to handle and use it in a safe manner. Looking at any product label you’ll quickly see the signal word, either “Warning” or “Danger,” as an indication of the relative severity of the hazard. The signal word tells you at a glance how dangerous the material is. If you see “Danger” and the skull and crossbones pictogram, be extremely careful because this product could be lethal. Every label also has a precautionary statement describing recommended measures to minimize risks associated with exposure to the hazardous chemical in case of accidental spillage. The precautionary statement has other safety information such as the PPE required for handling, use and cleanup; what to do in case of a fire; and first aid treatments.

You’ll find the most detailed information in the product Safety Data Sheet. There are 16 sections to the new GHS

(Globally Harmonized System) Safety Data Sheet, four of them provide information you need when responding to a spill.

SECTION 2, HAZARD IDENTIFICATION — Has the hazard class for example “Flammable Liquid,” the signal word, pictograms giving a graphic indication of the type of hazard, and the Precautionary Statement that is on the label.

SECTION 4, FIRST AID — Instructions for administering first aid to exposed persons, including important symptoms/effects, acute, delayed; required treatment.

SECTION 5, FIRE-FIGHTING MEASURES — Lists suitable extinguishing techniques, equipment; chemical hazards from fire.

SECTION 6, ACCIDENTAL RELEASE MEASURES — Lists emergency procedures; protective equipment; proper methods of containment and cleanup. This section distinguishes a small or large spill when volume has a significant impact on the level of the hazard and suggested emergency procedures for evacuations and consulting other experts when needed.

This information, found on product labels and Safety Data Sheets will help you develop your Emergency Response Plan and put it into action. The five steps for addressing chemical spills outlined in your Emergency Response Plan are:

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INDUSTRY

ed, the first thing you should do is make a quick evaluation of the spill area and provide immediate assistance to anyone involved. The rest of your actions will be determined by where the spill happened, what type of material has been released, gas, solid or liquid, how much has been released, is there a fire or risk of a fire, and has anyone been contaminated or injured.

CONFINE

Once you've made your evaluation of the situation, if material is still leaking, try to stop the discharge, then confine the spill. Depending on where the spill occurred you may need to

close doors, cover floor drains and use soil or an absorbent to restrict movement of liquids.

REPORT

Next, report the spill to a responsible person. This could be your safety coordinator, the superintendent or assistant superintendent, or possibly someone designated as leader of a response team. Be prepared to provide information on injured persons, the material spilled, estimated quantity and the location. In some cases, other agencies or medical assistance should be contacted. Obviously, call the local fire department if the fire is too large for you to extinguish.

SECURE

The area should be secured until an emergency response team arrives to make sure no one enters the spill area.

CLEANUP

Cleanup should be performed by qualified persons with appropriate training, personal protective equipment and cleanup materials. Typical cleanup procedures include: waiting at least 30 minutes if volatile materials are present, wearing appropriate PPE to protect skin, eyes and respiration, gently sweep or use damp towels to collect powders, absorb free liquids with towels or other absorbents, and collect

waste and contaminated PPE for proper disposal.

These two plans provide the information your employees need to respond quickly and appropriately to a chemical spill. When combined with a good training program, including practice drills, your crew will be prepared to appropriately respond to a chemical mishap and reduce the risk of injury to themselves and others. **GCI**

Mickey McCord is the founder of McCord Golf Services and Safety, providing safety training for superintendents and turf maintenance crews. He is a frequent GCI contributor. Check him out at mccordgolf.com and on Twitter at [@mccordgolf](https://twitter.com/mccordgolf).

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BY THE NUMBERS



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

Shortly after I started at Crown Golf Club a heated argument ignited among returning mower operators in cold storage – the shop's unheated indoor storage area subject to freezing in cold weather. Each operator was complaining the other guy was blocking their way and to get their mower out in the morning the other had to move. Unfortunately, the suggested relocation was in the way of someone else's mower.

It is a fact of life that golf courses outgrow their storage buildings almost immediately, and this chronic lack of space is frustrating. I knew the drivers understood the mowing sequence better than anyone else. So I asked them to park their mowers in the order in which they need to go out in the morning, with the first one out closest to the door and so on. I then let them sort it all out.

Once the mowers were parked, I marked the center isle edge of each mower with blue painter's tape and put a short stripe between each mower. A small square of painters tape on each mower got a "temporary" number and with the tape I made matching numbers three stripes wide and five stripes high on the parking spots. I then told everyone the numbered parking spots would be strictly enforced. Having chosen the order themselves, everyone agreed this was fair.

The blue painter's tape was meant to be temporary until I could get around to painting the lines, but the tape held up remarkably well when applied to a clean floor. In fact, the blue painter's tape lasts several mowing seasons before needing to be refreshed, and a putty knife easily scrapes up the lines or numbers.

At day's end, few vehicles get parked in the traffic isle and they get moved out into the grass first thing the next morning. Machines that don't fit in cold storage have parking spots outside of the building and the keys are brought in at day's end. Rarely used machines that can stand being stored outside are parked in the

tall weeds. Equipment no longer used is sold or scrapped to free up space.

In addition to the mowers flowing in and out with few complaints, there have been other unexpected benefits. For example, using the mowers' numbers simplifies recordkeeping. Each time a machine comes in to be checked, set or repaired I enter the mower's number, what was done to it and engine hours in my work log. When parts are ordered, I note what mower they are for by mower number. When the parts arrive, I mark which mower they are for, then the new parts lying on the workbench tell me which machine is ready to be worked on.

Numbering the parking spots and leaving just enough room for the machine that goes there has resulted in the densest parking pattern yet. The parking spots allow a few inches between mowers making the best use of the available space.

A clean parking area makes it easy to spot fresh leaks. And since they are all backing into the space for a quick morning getaway, mapping the leaks under each machine allows me to zero in on which machine needs attention.

Since it is difficult to tell clear hydraulic fluid leaks from water, I added red dye to the hydraulic fluid making it arterial red. Looking like blood, it gets everyone's attention. Engine coolant is iridescent green, water is clear, grass juice is dark green, crankcase oil yellow to black depending on the engine type, and coffee spills are light brown. **GCI**



Vehicles get parked in the traffic isle and they get moved out into the grass first thing the next morning.



A clean parking area makes it easy to spot fresh leaks.



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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.

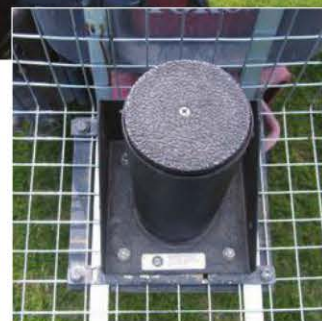
BACKING UP MADE EASIER

Having full visibility when backing up any large self-contained sprayer unit is difficult at best, as seeing over the large tank and viewing the right-side boom while spraying is not an easy proposition. This 2015 John Deere 2020A Pro Gator, equipped with a 2015 John Deere HD 300 gallon sprayer, now has a 5-inch diameter mirror (P/N 97618) and a 6½ inch by 16 inch west coast mirror (P/N 50-97627-3) available from NAPA. The large rectangular mirror is mounted on the top of the ROPS and the circular one is mounted on the right side "A" pillar. The mirrors come with the mounting brackets and they cost about \$30 total and took about 30 minutes to install. Joe Corsetti, equipment manager, and Ryan Gamble, superintendent, are a great team at The Member's Club in Myrtle Beach, S.C.



COURSE SETUP MADE EASIER

The basket is mounted on the support bracket measuring 9 inches by 10 inches using 1-inch square tubing welded together with one 6-inch piece, two 8-inch pieces, one 9-inch piece and one 25-inch piece. The 25-inch piece bolts through the 2009 Toro Greensmaster 3150Q right side rear frame. The 6-inch piece is bolted to the tab coming off the steering yoke part of the frame. The McMaster Carr metal bicycle basket (Part No. 2701T136) measures 21 inches wide, 15 inches across and 9 inches deep (\$45.65). (A plastic milk basket can also be used measuring 19 inches wide, 13 inches across, 10 inches deep.) The basket is bolted and held in place with two scrap flat bars measuring ½-inch thick, 7/8-inch wide, 10 inches long with notches and holes drilled in them for mounting. A Par Aide Hole Cutter Carrier (Part No. SKU 1011) is bolted to the support bracket. The cup puller is carried in a piece of 1-inch PVC pipe, with end cap glued on, held onto the basket with zip strips. A cup setter, extra flags, etc. are also carried. About \$150 total cost was spent for new components and one hour fabrication time. Sean Sullivan, CGCS, at The Briarwood in Billings, Mont., conceived this idea.



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(MORAGHAN continued from page 10)

7 THOU SHALT NOT COMMIT ADULTERY

Keep your eyes on your course and don't let them wander. Isn't your plate full enough?

8 THOU SHALT NOT BORROW

We're all offered deals, kickbacks and the like from suppliers, members and others. If you run a side business or are laying the groundwork for your next venture, be careful. Make sure your current employers are sufficiently aware of what you are doing. Ask yourself if you are engaging in a conflict of interest, and if you're still giving 100 percent to those who pay your salary. Sneaking around, lying, being secretive can come back to bite you.

9 THOU SHALT NOT BEAR FALSE WITNESS

It's true in all industries, and certainly in ours. Rumors, tale-telling, gossiping are rampant. And where do they get us? Nowhere. Rather than spreading innuendo and falsehoods about other supers or other courses, why not support your friends and neighbors? We have a code of ethics and we should all try to live up to it. Of course, we're only human and it is human to kid around and have fun, sometimes at others' expense. But don't let it go too far and negatively affect someone's opportunity to make a living. And one more thing about rumors: They tend to backfire.

10 THOU SHALT NOT COVET

Be thankful for what you have and make it the very best it can be, every day, with the resources and tools you are given. Take a good, long look at your situation and I'll bet you'll conclude that things aren't too bad. That's no reason not to want to move up the ladder and do better for yourself and your family. But not at the expense of someone else. **GCI**

COMPANY	WEBSITE	PAGE
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BASF	betterturf.basf.us	26
DryJect	DryJect.com	31
GenNext Biotech	gennextbiotech.com	43
Grigg Bros.	griggbros.com	40
Jacobsen	jacobsen.com	52
John Deere	JohnDeere.com/Golf	11
Lebanon Turf Products	LebanonTurf.com	4, 5
OHP	ohp.com	17
Otterbine	otterbine.com	33
PBI Gordon	gordonsprofessional.com	21*, 27
Penn State	turf.psu.edu/apply	23
Plant Food Systems	plantfoodsystems.com	20
Qualipro	quali-pro.com	34
Sensient	sensientindustrial.com	45
SipcamAdvan	sipcamadvan.com	51
SUPERthrive / Vitamin Institute	superthrive.com	35
Syngenta	GreenCastOnline.com/Appear	cover tip, 18
Toro	toro.com	19
Turf Max	turfscreen.com	15
Turfco	turfco.com	9, 42

THE NOISY ONES



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

If you're a turfhead and you're on Facebook, you are missing out unless you're a member of the "Golf Course Maintenance" group that's a little slice of agromomic heaven on the world's most popular social media platform.

The brainchild of the legendary Gary Grigg, the GCM group started with a few supers who wanted to privately discuss problems and share ideas away from the prying eyes of golfers, suppliers and media schmucks like me. It has grown ... my how it has grown ... to more than 3,400 members around the globe. It's awesome.

Gary, though sort of retired, still serves as moderator and traffic cop. He has allowed more commercial folks and salespeople in over the years, but only with the caveat of no product pitches and no bashing of competitors. He even let a few writer types like me in, which he undoubtedly regrets. In general, everyone follows the rules and behaves themselves, but occasionally Gary has to remind people of the rules or even boot somebody out.

The GCM group is so good, we gave Gary one of our Super Savvy Social Media Awards for it a couple of years ago. It's a treasure trove of good info and I think there are a lot of turfheads who only post there rather than sharing anything except pictures of their kids on the public version of Facebook. So, if you're interested in candid conversation with some of the best turf minds in the world, you should ask to join.

I'm about to bend one of Gary's rules by paraphrasing a recent post on the GCM page from a U.S. superintendent (which has apparently since been deleted). The super was bemoaning his next green committee meeting because the group was dominated by a few highly vocal low-handicappers who had specific agendas like faster greens, softer bunkers or particular things that didn't fit their vision of "their" course. He hated the idea of having to sit through another bitching session and was looking for advice on how to handle these noisy clowns.

Lots of good minds chimed in to suggest solutions. Document the costs of what they were asking for and have the finance committee kill the dumb ideas. Talk privately with a few of the more reasonable members and have them lobby the idiots on your behalf. Develop a set of written maintenance standards that would require ownership approval to change.

One guy said, "What you've got to do is cut the hamstring on the back of (the

dumbass green chairman's) leg right at the bottom. He'll never play golf again, because his weight displacement goes back, all his weight is on his right foot, and he'll push everything off to the right. He'll never come through on anything. He'll quit the game."

Wait, sorry, that was Spackler. Disregard that. But the rest of it was pretty solid advice.

My reaction to this complaint, being an old guy, was familiarity. Tension between what the committee or owner wants and what a superintendent can realistically deliver is as old as golf. Honestly, don't you think Old Tom Morris probably heard the same crap back in his day?

St. Andrews Green Chairman: "Tom, we want ye to make the greens faster!"

Old Tom: "I canna do it with the few measly old sheep you give me now! I need new, younger sheep but you nae will open your purses to pay for them, ya flinty bastards!"

Old Tom famously used to swim in the Firth of Fife every morning no matter how cold or stormy it was. I secretly think he was hoping to drown himself instead of going to another green committee meeting.

There's no question that respect for the superintendent and their level of autonomy within most operations have both grown in recent years. Yet, the age-old problem of satisfying the noisiest demands of a few of your best players will never go away.

The challenge of balancing the needs of the 95 percent who are likely perfectly happy with your course against the 5 percent who have an axe to grind will never completely go away. The only real solution is to sell yourself as an expert who should be given the authority to do whatever is best for the entire membership. That's a daunting idea, but one you need to consider every day. Rather than griping about the grippers, focus on the support of the rest and you, like Old Tom, can outlast the bastards. **GCI**

“Tension between what the committee or owner wants and what a superintendent can realistically deliver is as old as golf.”

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