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# Golfdom

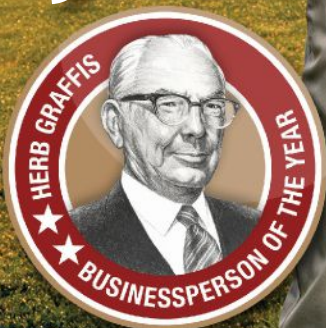
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**Plus**

Fall broadleaf weed control  
When OSHA comes knocking  
Winter desiccation on creeping bentgrass

## Blind(er) faith

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“... slow play on the PGA Tour is an annoyance, but at least those players are playing for some real stakes.”

**SETH JONES**, *Editor-in-Chief & Associate Publisher*

## Overanalyzing the Mad Scientist

I am writing today from Atlanta, here to take in the Tour Championship. East Lake was closed to the public Tuesday, but my media credentials allowed me on the course. I was there to follow the action of the maintenance team, but of course I also watched the golfers when they came by. It was strange having this access, as I'm used to rubbernecking among fans. Rubbernecking alone felt like an invasion of the pros' privacy, like I was watching something I wasn't supposed to.

Most of the players didn't even notice me, while one player asked *Golfdom* Digital Editor Tyler Gunter to take his camera elsewhere.

One player who didn't mind our analyzing his analyzing was Bryson DeChambeau. “The Mad Scientist” has been in the headlines lately as the poster boy for slow play on the PGA Tour. A video of him looking at a putt for what seemed like forever made its way to social media, and the ensuing criticism was fast and furious. Then, Brooks Koepka entered the fray, and we had some real drama on Tour. There even was an intense conversation at Liberty National, where people thought



the two might throw hands. DeChambeau came out afterward and said on SiriusXM Radio that the conversation was cordial, but that if it came down to a fight, Koepka would “kick my ass.”

DeChambeau had an interesting gizmo with him at East Lake. It threw a laser line on the green to help read the line. DeChambeau was alone aside from his caddie and his crew, so he took his time.

With all the recent talk of slow play, the PGA European Tour announced a four-point plan for 2020 to eradicate slowpoke play. The plan includes smaller fields, fines, a one-stroke penalty for slow-play infractions and a lessened amount of time to hit a shot. The PGA Tour seems less likely to make such moves.

In my mind, slow play on the PGA Tour is an annoyance, but at least those players are playing for some real stakes. If DeChambeau finishes last, he'll still take home \$395,000.

More frustrating is how slow play pervades the game beyond the professionals. It's bad for the golfers and the golf course. I wonder how many people who hassle DeChambeau on Twitter for slow play are guilty of the same thing at their local muni. It's one of those problems everyone seems to agree on, yet we can't overcome.

Maybe we all need to be more like the PGA European Tour. Penalty strokes don't mean anything to a weekend foursome barely keeping score, but instead, maybe you could make every foursome slap down a \$20 deposit as slow-play insurance. As long as you return your cart within the allotted time, you get your money back.

And if that doesn't work, go with the PGA Tour's method for stopping slow play — the fear of Brooks Koepka kicking your ass. ☹

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# Starter

NEWS, NOTES AND QUOTES



## //WHO LET THE DOGS OUT?

# THE UNDERDOGS OF TURF MAKE A COMEBACK

BY GOLFDOM STAFF



Man's best friend is back — for the 2020 Underdogs of Turf calendar, that is.

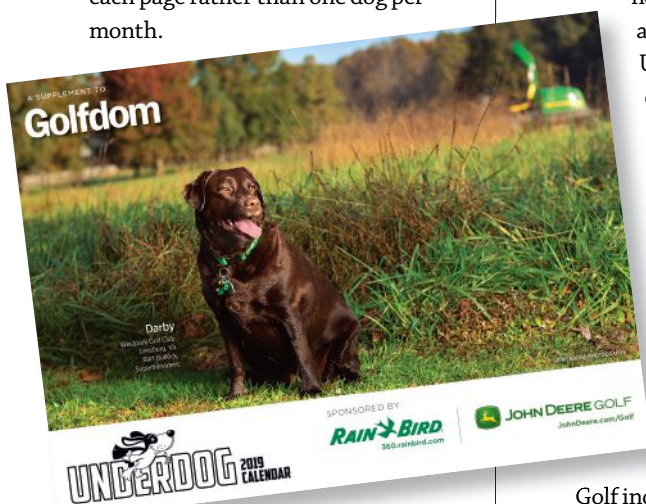
Presented by Rain Bird, John Deere and *Golfdom*, the Underdogs of Turf calendar is returning for the third year in a row. The brainchild of Kasey Kauff, director of grounds at Trinity Forest Golf Club in Dallas, the calendar features dozens of dogs on each page rather than one dog per month.

"Last year's calendar was a big hit with readers, and we think the 2020 calendar will be even better."

The calendar will be distributed with the December issue of *Golfdom*. It'll be mailed to 22,000 subscribers across all 50 states. What's more, the 2020 calendar will be larger in size than the 2019 calendar.

"Rain Bird is so excited to be partnering with John Deere and *Golfdom* to make the Underdogs of Turf Calendar even bigger in 2020," said Matt Corentin, global technological sales manager at Rain Bird Golf. "As most people know, we didn't come up with the idea of the dog calendar, just how to make it the best dog calendar in the turf industry by leaving no dog behind."

Golf industry professionals have until Oct. 1 to submit pictures of their pooches. To submit a photo, visit [golfdom.com/underdogs](http://golfdom.com/underdogs). One lucky dog will be randomly selected by Kauff and *Golfdom* Editor-in-Chief Seth Jones on Facebook Live to be the 2020 cover model. The chosen dog will be professionally photographed for the calendar.



"It's rewarding to see the Underdogs calendar back in *Golfdom*, and we couldn't do it without the support of our friends at John Deere, Rain Bird, Kasey Kauff at Trinity Forest and, of course, the many superintendents who submit their dog photos," said *Golfdom* Publisher Craig MacGregor.

## //MORE MONEY, MORE GRANTS

### USGA DONATES \$100,000 TO FIRST TEE

Thanks to a \$100,000 donation from the United States Golf Association (USGA), First Tee chapters across the nation are receiving grants to further their efforts to introduce life skills and the game of golf to more young people. The grants are a continuation of the support the USGA has provided to First Tee for more than 20 years.

Grants are being dispersed to 25 chapters located in or around USGA championship locations and Allied Golf Associations as part of the organization's strategy to leave a positive lasting impact on local host communities.

The announcement was made at USGA's 119th U.S. Amateur Championship in Pinehurst, N.C. Participants from the First Tee of the Sandhills, one of the USGA grant recipients, were on hand with chapter Executive Director Courtney Stiles and USGA CEO Mike Davis to share the announcement.

## //SETTLED UP

### TORO, STEEL GREEN REACH SETTLEMENT

The Toro Co. and Steel Green Manufacturing settled their litigation.

The settlement includes the court's entry of an agreed injunction, in which Steel Green and its employees will refrain from certain activities, including the use of the information that certain employees allegedly removed from The Toro Co.'s systems. The injunction also prohibits the sale of machines and parts by Steel Green during certain months in 2020.

The injunction prohibits Steel Green from selling Z-Spray parts during February and March of 2020 and Steel Green machines during March and April of 2020. Steel Green dealers and distributors are not affected by the injunction except for Steel Green's manager for one month in April of 2020. All other dealers will be permitted to sell Steel Green machines during that time. The other terms of the settlement are confidential.





Kimberly Erusha, Ph.D., (left), pictured here with Darin Bevard, is slated to speak on the challenges women face in the golf industry at Bayer's Women in Golf event.

## // DRUMROLL, PLEASE ...

# Women in Golf speakers, attendee list announced

BY GOLFDOM STAFF

➔ The turf and ornamental business of Bayer within the company's crop science division has revealed the speakers for and the names of the 50 women from the United States and Canada selected to attend the Bayer Women in Golf event Sept. 18-Sept. 20.

Among the all-star speakers will be Kimberly Erusha, Ph.D., managing director of USGA, and Carole Rau, career consultant at Career Advantage Golf. Erusha will be speaking on the challenges and realities women face in the golf industry, and Rau will speak on getting the job you want.

"This year's Women in Golf event is an important step for Bayer bringing diversity and inclusion into the

market," said Will MacMurdo, head of Bayer's U.S. turf and ornamentals business. "Bayer is deeply committed to diversity and inclusion in our workforce, and it is a value we want to share and expand in the market."

This educational event will assemble 50 women highly involved in the turf and golf industry from across North America for professional development, personal development and agronomic education.

In addition, women will be able to learn from and engage with other female professionals in the industry. The agenda includes a variety of insightful professionals from Bayer and other organizations who will participate in panels and lead discussions.

## // CONSERVATION CONVERSATION

### AQUATROLS SERVES AS AUDUBON INTERNATIONAL SPONSOR

Aquatrols has become a sponsor of Audubon International.

The partnership signifies Aquatrols' dedication to conservancy within the industry and will help fuel the growth of the company's recently launched nonprofit, The FairWays Foundation, according to the company. As a sponsor of Audubon International, Aquatrols will help fund various stewardship-focused projects led by the organization.

"Aquatrols has a reputation for conservation and stewardship within the turf industry that we are proud to be associated with," said Christine Kane, Audubon International CEO. "The company and newly founded nonprofit's mission align beautifully with our goals and should make for a great partnership."

## // THE RESULTS ARE IN

### ALMOST 1,000 VOLUNTEERS PARTAKE IN BIOBLITZ

Nearly 1,000 volunteers visited golf courses worldwide to participate in Audubon International's fifth annual BioBlitz.

This event, sponsored by the United States Golf Association, provided a unique opportunity for golf courses to engage with their community members in activities designed to showcase and record the abundance of wildlife found on course landscapes.

Southwinds GC in Florida received the Community Engagement Award, with a total of 271 participants. The Best Photograph Award also went to Southwinds GC for its photo of a red fox on the course. Bay Oaks Country Club in Texas received this year's Biodiversity Award, with 576 species identified on the course.



2019 BioBlitz participants smile for the camera at Applewood GC in Golden, Colo.



# Golfdom Gallery



**1 Bash brothers** At the recent Wee One fundraiser at Staley Farms Golf Course in Kansas City, Mo., John Deere's John O'Leary (left) and Blue Hills CC Superintendent Woody Moriarty were competing for long drive of the day. Turns out O'Leary won when he got an extra 10 yards of carry from his golf shirt.



**2 Where's your hat, MacGregor?** Golfdom's Western Regional Sales Manager Jake Goodman (left) and Publisher Craig MacGregor (right) made time for a site visit to beautiful Timuquana CC in Jacksonville, Fla., where Alan Brown (center) is superintendent. And now we're wondering if MacGregor didn't like the hat we got him at the U.S. Open and gave it away ...



**3 Welcome to Atlanta** East Lake GC Assistant Superintendent Davis Watts (left), Golfdom Managing Editor Clara Richter (center) and Assistant Superintendent Dustin Bucher take time for a quick photo at the home course of the Tour Championship.



**4 You can really taste the grapes** At the North Coast Media sales meeting in Niagara-on-the-Lake, Ontario, Golfdom's team of wine connoisseurs took in the local wine tasting tour. Left to right is Group Publisher Bill Roddy, Account Manager Chloe Scoular and MacGregor.



**5 A straight flush** Sipcam Agro USA Marketing Manager Sam Wineinger rips one from the crapper at Staley Farms. We've heard of hitting into the crapper before, but hitting from the crapper? That's a new one.



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# The Golfdom

## FILES

FROM THE ARCHIVE

The year is 1933. Golf pros are giving golf lessons to high school and college students. The kids are loving it. Meanwhile, club manufacturers are having issues moving golf clubs frozen in inventories from 1931 and 1932. Do you see a solution here? Herb Graffis, founder of *Golfdom*, certainly did, and — as Graffis was wont to do — he shared it. While not presuming to “try to run anyone else’s business, least of all our advertisers” (something that’s still avoided here at *Golfdom*), he suggests selling the clubs to the kids and rather successfully pooh-poohs anyone who might suggest it’s a bad idea. To read the full article visit [golfdom.com/exclusive](http://golfdom.com/exclusive).

## Are kids answer to today’s grief, tomorrow’s hope in golf?

### PARENTS WILL BUY FOR KIDS

You might say that the major market is among the adults who have obsolete clubs that might be traded in and passed along to the youngsters because the youngsters haven’t the money to go for new clubs. Well, the advertising psychologists have doped out this parental yen as one of the strongest of sales-impelling forces. Pros who have plenty of close-up on the kid market will tell you that a parent will buy a new set of moderate-priced clubs much quicker for his offspring than he will for himself.

The golf-playing parent, when he wants new clubs these days, wants some of the 1933 models, and that isn’t going to solve the problem of liquidating the surplus stocks of obsolete models. The surplus stocks have to go to the youngsters, and if anyone can figure out another answer after last year’s experience of trying to peddle on cut prices, they are entitled to the plush-faced putter.

One place where some of the older heads may be kidding themselves, sadly, is about the capacity of the kid market to absorb the surplus. Take almost any youngster these days and you will see that when he wants anything real

strongly, he will get the money to pay for it, frequently earning it by ingenious methods that would solve the nation’s unemployment problem. It’s not the same setup that used to prevail when the older generation was working its way from plowboy to president at 50 cents a week. The average year’s caddie bill of \$30,000,000 ought to be the tipoff to that.

### TWENTY SALES AT ONE SCHOOL

Today the thing that should smart up the manufacturing end of the field to the

fact that this student market is worth some concentrated, studied effort is the experience of the pros. I know one good, steady pro who is no brilliant business genius but just a straight-down-the-middle guy, who is teaching a class of 150 pupils at a midwestern high school during the winter. Already he has 20 sets of fairly expensive clubs sold to these kids, and the minute such a liquidating pool as is suggested acquaints this fellow with the fact that he can get some mighty good six-club sets of obsolete irons to retail for around \$20, that pro will knock off kid business to the extent that will make the manufacturers bust out in the first good hearty laugh they have had since they were compelled to go into throat-slitting price concessions and consignment deals in order to liquidate.

With our usual charming confession of humility, *Golfdom* does not presume to try to run anyone else’s business, least of all those of our advertisers. We have oh, so many problems in trying to run our own affairs of *Golfdom* and *Golfing*. But it does seem that we could, in due shyness, suggest that this matter of liquidation and protection through a manufacturers’ pool working in conjunction with the PGA calls for some earnest consideration.

Pros with whom we have discussed the matter are for it because it is giving them a chance to get public recognition for the work they are doing with the kids. They’ll make some money out of the deal, too.

This matter of instruction that makes sales is tersely brought to a focus in a recent comment made by Bob MacDonald. Bob says that when you tell a kid that in five years he might become a champion golfer or a great lawyer or a doctor, the five years is nothing to the kid. ☺





# COMBINATION IS KEY

## ENCLAVE IS AN EFFECTIVE — AND FLEXIBLE — SOLUTION FOR SUPERINTENDENTS



**Spring dead spot no more.** Jim Kerns, Ph.D., inspects spring dead spot damage at N.C. State's Lake Wheeler Turfgrass Research Laboratory. Kerns' studies show Enclave is an effective solution to spring dead spot.

**G**olf course superintendents know how to adapt. With climate and disease pressure always in flux, so are control programs. That's always top of mind for Jim Kerns, Ph.D., associate professor of turfgrass pathology and extension specialist at North Carolina State University.

Quali-Pro's Enclave, with four active ingredients, gives superintendents the flexibility they need. Kerns and his team found that out when conducting research on the fungicide between 2014 and 2016.

"With the four active ingredients of chlorothalonil, iprodione, thiophanate methyl and tebuconazole, the theory behind it (is that) putting small doses together can achieve a synergistic reaction," Kerns says.

And he's seen that in his trials with Enclave.

"I've always been a big proponent of combination materials," Kerns adds, "especially as disease pressure

ramps up."

Kerns says that, historically, Quali-Pro and its combination chemistry have been very unique.

"They're one of the few that invest in research," Kerns says. "They understand how their products work to provide a solution back to superintendents."

Enclave controls a wide range of turfgrass diseases. Superintendents can slot it into their control programs when needed.

Enclave is an effective solution for spring dead spot and snow mold. It also controls dollar spot, brown patch, anthracnose and leaf spot, Kerns says. That makes Enclave a "peace-of-mind spray" for superintendents.

"It's going to give you broad-spectrum disease control to allow (superintendents) to think about other things they may have to do," he says.


While the active ingredients by themselves are not known to be particularly effective on spring dead spot, together they provided 98 to 100 percent

control in research, Kerns says. And results were long-lasting. Two well-timed applications in the fall yielded spring dead spot control into spring.

Kerns adds that Enclave is one of the best snow mold control materials on the market.

Throughout the research trials, Kerns says there weren't any adverse effects of applying Enclave, even in the middle of the summer.

An added benefit of using Enclave, Kerns says, is that it doesn't break the bank.

"In this day and age, in this economy ... to have something that you know has been tested, has been worked with, is something (Quali-Pro) has done very well," he says. "Golf course superintendents are under some of the highest pressure I've seen. As such, they need to have the ability to adjust and change. They also need to have the ability to work within a budget." 



# QUALI-PRO



# The Mayor of McCall

By Leon Gordon



**R**ick Mooney's business card is a mouthful: "Vice president of maintenance and development, Shore Lodge and Whitetail Club."

A better title might simply be "Mayor of McCall."

That's because everyone in the beautiful mountain resort town of McCall, Idaho — population 3,351 — knows Mooney. He's a native Idahoan and lives just outside of the golf course where he used to be superintendent. His father, Dick Mooney, a retired rancher, lives just up the mountain.

But just because everyone knows Mayor Mooney doesn't mean the pressure isn't on to deliver arguably the best golf conditions in the state of Idaho. That's why Mooney promoted Adam Lott, another native Idahoan, to follow in his footsteps as superintendent of the course. Together the duo makes sure Whitetail Club can hold its own against the best clubs in the country. After all, the members there are also members at some of the other finest courses in America.

"(Whitetail members) expect the same quality conditions they would get in Palm Springs or Atlanta," Mooney says, "we just have a mountain environment and a short growing season, so we have to fit a lot in, in a very little time."

The short season and the remote location

are two challenges Mooney and Lott often find themselves up against. That's why they depend on John Deere for their equipment.

"One of the main reasons we go with Deere — their equipment is great, but their service is phenomenal," Lott says.



Adam Lott and Rick Mooney

At Whitetail, the club operates an entire fleet of John Deere equipment to keep the course pristine. The crew utilizes Deere's 220E walk-behind mower on greens, 7500A fairway mowers, 260 walk-behinds for tees, 7400A for surrounds, 8800As for trim mowing and two 9009A mowers on roughs.

The 9009A has been a special addition to the fleet at Whitetail. After a short demo of the machine, Mooney and Lott decided to purchase two of the rough mowers to take advantage of its 9-foot mowing deck.

"It's been a game-changer for us from the rough standpoint, getting rough mowed faster and not with as many clippings as we were getting with the smaller machines," Lott says.

Another advantage the Whitetail team appreciates is if a machine needs a part, they can get it within a day, despite their remote location. And if they need it even sooner? That's also possible, with a little ingenuity.

"John Deere makes good quality equipment but one thing that is really nice is the versatility of parts that can be interchanged between different pieces of equipment," Mooney says. "Being in McCall, we're not close to a big city. Parts procurement can be a big challenge. We just don't have to stock a lot of parts because some of them can be switched intermittently between different equipment."

Mooney won't run for Mayor any time soon, despite the probability that he'd win. His reason is simple: When you've grown up appreciating the natural beauty of Idaho, it's not something easily given up for a desk job.

"Living in the mountain community of McCall, Idaho is heaven," Mooney says. "It's just a beautiful mountain resort town ... you get all four seasons. I couldn't imagine doing anything different."



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# Blind(er) faith

BY HAL PHILLIPS and SETH JONES

**When LedgeRock GC Superintendent Alan FitzGerald found a bunker solution he liked, he not only bought it, he also bought in**

**B**ack in the early 1980s, a fellow named Victor Kiam made himself famous by going on television to sell Remington electric shavers. Like a car dealer, Kiam starred in his own commercials. In fact, his signature pitch line made him a minor celebrity: “I liked the shaver so much, I bought the company.”

Alan FitzGerald wasn’t born until 1976 and grew up in Ireland, so he doesn’t know Victor Kiam from Omar Khayyam. What’s more, he didn’t buy Blinder Bunker International. But after some 15 years of research, test bunkers and cost-benefit analyses, he believes he’s found the best bunker liner system out there. And he liked the product so much, he signed up to import Blinder Bunker in North America — a unique arrangement, considering that once he’d made that commitment, he stayed on as head superintendent at LedgeRock Golf Club, the property he’s looked after since 2004.

While that arrangement is unique, the fact that he’s also gone into the venture 50-50

with LedgeRock Golf Club itself is even more unusual. It’s FitzGerald’s desire to keep LedgeRock looking pristine while also striving to make Blinder a success in the American market that has earned him the 2019 Herb Graffis Businessperson of the Year Award, awarded annually for eight years by *Golfdom*.

Jake Straub, who first met FitzGerald at Penn State “the day he walked off the airplane” from Ireland, says that the reason FitzGerald has been so successful is because he is always asking, “Why?”

“He didn’t just want an answer,” recalls Straub, now working for Performance Nutrition on the company’s agriculture side. “He’s outside the box. He still asks ‘Why?’ and as he’s gotten older, he also asks ‘Why not?’ And that’s a great thing.”

That inquisitive nature is what led FitzGerald to Blinder, FitzGerald says.

“I emailed (Blinder) out of the blue. That’s what I did with most of these companies selling the liner technologies,” FitzGerald recalls. “In that sense, the interaction was just the same: ‘Can you send me a sample?’

*Continued on page 18*





**The Herb Graffis Businessperson of the Year Award** is named in honor of *Golfdom*'s founder, World Golf Hall of Fame member Herb Graffis. Graffis was one of the first people to think of golf as a business when he and his brother Joe founded *Golfdom* in 1927. With his foresight, Graffis helped advance the game in numerous ways, from founding the National Golf Foundation and the Club Managers Association of America to his work advocating on behalf of superintendents and elevating their profile.

The award includes a *Golfdom* cover story celebrating the honoree's accomplishments, as well as expenses-paid trips to the *Golfdom* Summit and the Golf Industry Show. It is with all due respect that we present this award in Mr. Graffis' honor.







## // GRAFFIS AWARD

*Continued from page 16*

How do I get it here? What does it cost to get a crew over here?' As it happened, it wasn't cost prohibitive, and once I saw the product perform — honestly, the flexibility of the liner struck me as genius — I could see this was a real technological advance. So, I came back to them: 'What if I imported it for you and you taught me how to do it? Would that work?'"

Blinder's short answer was "Yes." But leaving it there would gloss over and considerably shorten a pretty good, thoroughly trans-Atlantic story.

★ ★ ★

### When Irish eyes are smiling

Wherever FitzGerald has found himself, he's shown a remarkable ability to find work (and high-caliber professional training) at the finest, most ambitious golf facilities around. This naturally builds up the old résumé. It also tends to build up the diverse, real-world experience that sets elite golf course superintendents apart.

FitzGerald grew up in Castlecomer, in the southeast of Ireland. He was around the game all his life but never considered a career in golf until he took a summer job at Mount Juliet, the Jack

*Continued on page 20*



Alan FitzGerald was really impressed with Blinder's heavy, porous, seamless and flexible design.

PHOTO PREVIOUS PAGE: FERNANDO GAGLIANESI.  
PHOTO THIS PAGE: COURTESY OF ALAN FITZGERALD

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## // GRAFFIS AWARD

**“I think the world of Alan. He is personable, and he’s a hard worker — that’s why he is where he is today. He wanted to make it to the top and also make himself better at the same time.”**

— RICK CHRISTIAN

*Continued from page 18*

Nicklaus-designed resort a half-hour from his home. There, he encountered Aidan O’Hara, CGCS, who had learned his trade, in part, at Muirfield Village in the other Dublin (Ohio), and whom FitzGerald and others credit for first bringing U.S. agronomic standards to Ireland.

“It was a magnificent place to work. Mt. Juliet was really one of the first two big resort developments in all of Ireland,” FitzGerald says, noting that The K Club is the other. “So, the standards were very high, and we did a lot of in-house construction: tees, nurser-

ies, driving range, the shelling and shaping of bunkers. In a matter of two to three years, it felt like we’d built pretty much every feature of a golf course. We built an entire putting course at Mt. Juliet, 18 miniature USGA spec greens — with gravity-powered water features! It was not a formal education, but it was extensive.

“Eventually, Aidan said that if I was serious about getting into the profession, I should get a basic greenkeeping education, then attend university in the States. That’s how I ended up at Penn State.”

He was 20 years old when he arrived in State College, his first trip to the United States. Eventually, he would earn a two-year turfgrass science degree under the watchful eye of George Hamilton, Ph.D. — and meet his Pocono-bred future wife, Jamie. After an internship at Loch Lomond in Scotland that first summer, “the stars aligned,” and he accepted an assistant-in-training position at Pine Valley Golf Club in Clementon, N.J., only the consensus No. 1 track on the planet.

“I think the world of Alan, he did a wonderful job here,” says longtime Pine Valley GC Superintendent Rick Christian. “He’s personable, and a hard worker — that’s why he is where he is today. He wanted to make it to the top and make himself better

*Continued on page 22*

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## // GRAFFIS AWARD

LedgeRock was designed by Rees Jones and captures the essence of a classic old style course with scenic beauty and original landscapes.



*Continued from page 20*

at the same time. He is always willing to learn and is always doing his research.”

The young Irishman, newly married, would eventually spend six years at Pine Valley. Then LedgeRock, a private Rees Jones signature design just breaking ground south of Reading, Pa., called.



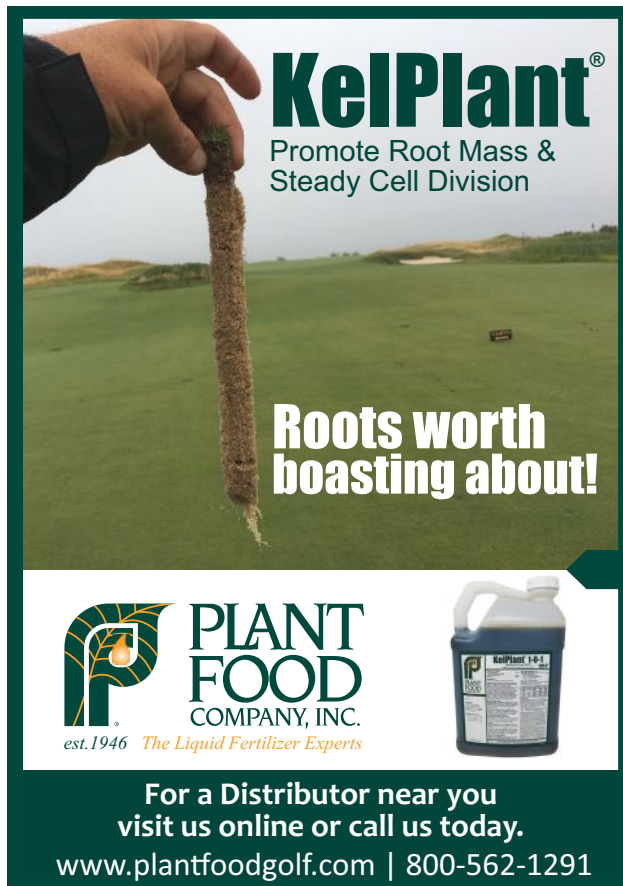
### Life on the Ledge

FitzGerald arrived at LedgeRock during the tree-clearing process, and despite his in-house construction credentials, was not expecting to be involved in building LedgeRock.

“I wasn’t hired as any sort of construction superintendent. I was hired to be the golf course superintendent, to grow the course in,” he said. “I was researching irrigation systems and setting up the shop

*Continued on page 24*

PHOTO BY: LARRY LAMERCHT

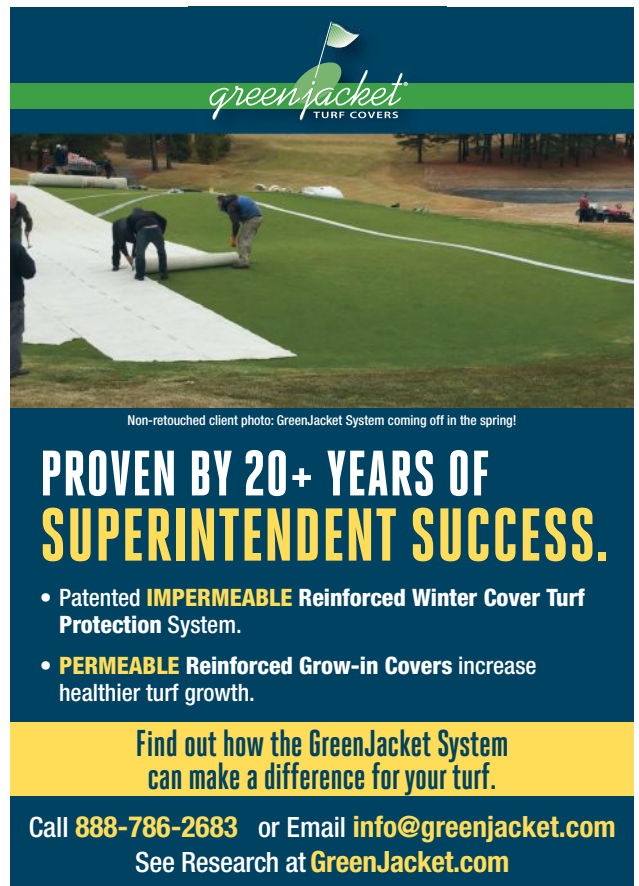


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## // GRAFFIS AWARD

*Continued from page 22*

when Rees calls me out to No. 6 one day and asks me, 'Will you be able to mow that bank? How will that work for you?' We had that kind of relationship. It was great to be so involved."

While Jones doesn't recall that exact moment from 15 years ago, he does remember how easy it was — and still is — to work with the Irishman.

"Alan really knows how to relate to people," Jones says. "That's so important in today's world. People have forgotten how to talk to people! That is as important today as growing grass."

Jones notes FitzGerald's pedigree, but adds that having Pine Valley on one's résumé doesn't do any good unless that superintendent can deliver. "Coming from a place like Pine Valley, there's an expectation ... and he's fulfilled those expectations, because LedgeRock is as good

**"Alan really knows how to relate to people. That's so important in today's world. People have forgotten how to talk to people! That is as important today as growing grass."**

— REES JONES

as Pine Valley. He's been (at LedgeRock) since the beginning ... and they're glad they hired him there."

FitzGerald calls the workload back in those early days "completely nuts," as the project manager left for a different project, and the weather refused to cooperate.

"I think we had 23 inches of rain that first July. We had a 100-year storm, then a 300-year storm — (a) pattern that seemed to repeat all summer. This is a very dramatic site topographically. We'd fix everything after a storm — and everything

would just wash out again," FitzGerald says with a shrug. "The tenacity of the founders was really amazing. They stayed with it, so that's what we did as well."

LedgeRock GC opened for play in June 2007. The Great Recession hit the following autumn, and private clubs started dropping like flies all over Pennsylvania and across the nation. But here again, LedgeRock's founders showed great tenacity.

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Indeed, things didn't stabilize for FitzGerald and LedgeRock until about 2011. With those seven years of relative chaos behind them, the superintendent knew it was time to address two issues of primary importance: the club's perennially contaminated bunkers and his pending dual citizenship.

"I'm going through the U.S. citizenship process right now," FitzGerald says with a wry smile. "I wouldn't say I've procrastinated on it, but I could've done it sooner ... It was a handy excuse to get out of jury duty."

★ ★ ★

### A faith in Blinder

The bunkers at LedgeRock couldn't wait that long.

"The bunkers here regularly washed from the time the sand went into them.

*Continued on page 26*

During the Great Recession, LedgeRock focused on a regional strategy to help broaden its membership base, though the course didn't stabilize until 2011.



PHOTO BY: LARRY LAMERCHT

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## // GRAFFIS AWARD

*Continued from page 25*

For the first few years, the maintenance staff did a great job removing the contaminants, but eventually it got to the point where the sand needed replacing,” FitzGerald says. “My standing joke has been, ‘The members here have never played in brand-new bunkers.’”

In 2005, when FitzGerald first pondered how to address the continuing washout issue, bunker-liner technology was still in its infancy.

“During construction here at LedgerRock, fabric liners were the only things on the market, really. We priced them out and looked into it seriously. But the benefits versus the costs didn’t make it worthwhile, in my opinion,” FitzGerald says. “The cost/benefit analysis I made back then is really the same analysis every superintendent must make today — even 15 years later, with the development of so



FitzGerald thinks it’s possible for other superintendents to juggle their daily tasks and an outside venture, as long as their club is also on board.

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“Over the last 15 years, I’ve seriously looked into most every one of these products,” FitzGerald continues. “Each one has their strong and weak points. Cost is a massive issue. It’s also hard to come by the aggregates you need in some cases.”

In general, FitzGerald believes the bunker liner product universe can be broken into two broad categories: soft (fabric liners) and hard (aggregate liners). That’s ultimately why he was drawn to the Blinder product, which, in his opinion, creates an all-new third category with its heavy, porous, seamless and flexible design.

“Essentially, the base is compactable road stone, a solid, consistent surface that water runs along and does not penetrate,” he says. “The rubber is mixed with a polymer and hand-laid into place to ensure it closely follows the contours of the bunker.

Water flows right through that layer. It’s seamless, and being rubber, it’s just more flexible than anything else. You could roll it up like a carpet if you had a big enough lift.”

Blinder has been operating in Europe for a decade, where, unlike in North America, it’s one of the most recognizable names in bunker liners. According to FitzGerald, in 10 years and more than 1,000 bunkers, there have been zero failures.

“Our biggest issue is cost: We’ve done a lot to bring it down, but on a straight square-foot price, our product is 30 percent more expensive than most of our competitors. That’s due to the cost of the raw materials — and that we install it. And we pretty much refuse to compromise on quality, which justifies the long-term investment prospect, in our view. These bunkers just do not fail,” FitzGerald says.

It’s perhaps no surprise that FitzGerald believes in the Blinder product; on some level, every entrepreneurial venture requires that belief.


More surprising, perhaps, is his full-time employer’s belief in the venture.

PHOTO BY: FERNANDO GAGLIANESI





a Blinder call in the middle of the day is seamless and unremarkable, to be honest.

"I don't see a reason why other superintendents couldn't swing the same sort of arrangement, if the right opportunity comes up. The big thing, obviously, is to be sure the club is on board. There has to be something in it for them. The secondary thing is, if the club said, 'No way,' you have to be prepared for that and have a Plan B. If you don't, it would get real awkward, real fast." 

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LedgeRock General Manager Gerry Heller, a 25-year golf hospitality veteran, recognizes that the arrangement with FitzGerald and Blinder is unique. But he sees it as eminently sensible, as well.


"Alan was totally upfront with us about this, and we frankly viewed it as an opportunity — for him as a valued employee and for us as a club," Heller says. "We haven't made any real money on this venture yet. But we haven't lost any either. Alan has showed that he can do this outside work and keep the conditions here at LedgeRock pretty close to perfect — *and* effectively manage the maintenance staff here; *and* direct the renovation we're currently doing with Rees Jones; *and* conduct a bunker study with the USGA; *and* serve on the board of his superintendents association ...

"More to the point, the Blinder bunkers we've installed here have been done at cost. That's what the club gets out of it, and we see that as a pretty good deal."

Most recently, Blinder outfitted all the bunkers at Skippack GC in Eastern Pennsylvania, but FitzGerald is clear-eyed about the challenges ahead. "We have to do a lot more volume in order to make any real money. But we're getting there."

And he remains philosophical about how this outside business project plays into his natural ability to multitask — a trait most superintendents develop early in their careers.


"As it is," he says, "I'd say 97 percent of my day is still centered on LedgeRock and day-to-day maintenance operations and the renovation we have going here. The Blinder business accounts for the other 3 percent, but because it's all above board, fielding




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Congratulations to Alan FitzGerald (Class of '98) on being selected as the recipient of the Herb Graffis Award from *Golfdom* magazine.

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# WHEN OSHA COMES KNOCKING

Are you compliant when it comes to OSHA's safety regulations?

Here are a few ideas to keep your crew safe and make sure you're covered.

BY CURT HARLER



The No. 1 cause of job-related deaths on golf courses is machinery rollovers. Nationwide, 18 of the 48 deaths in the latest Occupational Safety and Health Administration (OSHA) reporting period were caused by equipment rolling over on a worker.

And yes, one golf course employee was killed last year by a golf ball. And while it may sound like the punchline to a bad joke, it was no laughing matter to his family, his course or to the inspectors at OSHA.

Rounding out the top five causes of work-related deaths on golf courses are being struck by carts or vehicles; falls; being struck by tree limbs; and Mother Nature. In that last category, deaths from heat stroke accounted for 4 percent of work-related golf course deaths.

OSHA's job, according to Howie Eberts, inspector in OSHA's Northern Ohio office, is to help employers eliminate job-site accidents and deaths. Eberts emphasizes that OSHA inspectors do not have a "gotcha" mentality. However, the law does provide them with tools to attract the attention of any employer. And every employer should have a safety training program in place.

## START WITH THE NEWBIES

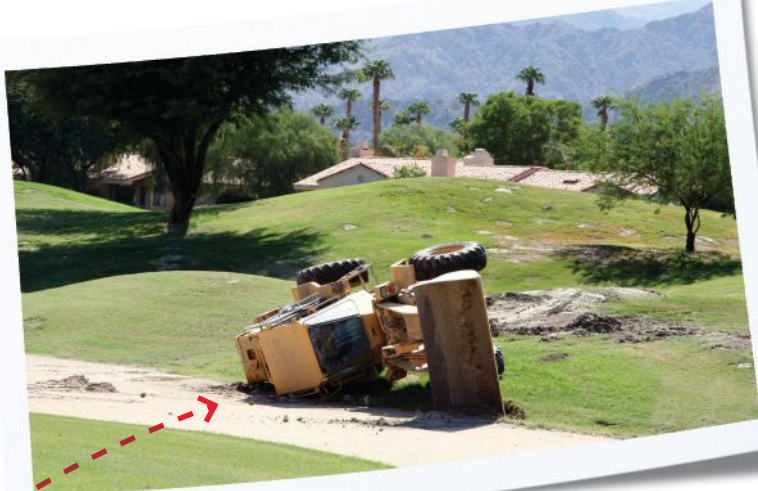
"New employees are six times more likely to be injured than experienced workers who know the grounds," says Michael Pate, Nationwide Insurance associate professor of safety and health at Penn State University.

He recommends a walk-through with all workers to identify high-risk operating areas like steep slopes, retaining walls and bunker faces. While manufacturers typically use a 15-percent slope as a safety threshold, Pate says even the slightest slope is not safe. "Be sure people know where the significant risks are and how to mitigate them," Pate says.

One way to cut injuries is to have a policy to keep mowers two machine



## // DO THE SAFETY DANCE



for repeated violations of OSHA safety regulations can run as high as \$129,340. That would put a dent in any course's operating budget.

### WHAT OSHA DOES

OSHA's inspectors are trained to look for job-site safety hazards. Not every employer rolls out the red carpet when OSHA comes knocking. In fact, one roofer's license plate reads "FUOSHA," which probably does not refer to an obscure village in Japan. Eberts showed a photo of the plate to superintendents at the Ohio Turf Show, where he also showed photos of multiple red flags that grab an inspector's attention at any country club or public course.

Eberts notes that across all OSHA inspections, 82 percent of problems can be placed into one of four categories: struck by; falls; caught between; and electrocution.

It's not unusual to see a course employee

*Continued on page 30*

widths from a drop-off. Although grass height often dictates the machine used, when possible, use a walk-behind or string mower on risky slopes.

Workplace injuries are expensive. The average workers' compensation medical claim in 2016 was approximately \$29,100, according to actuaries at State Farm Insurance.

It's worse on management if there is a job-site violation involved in an accident. The average fine levied on golf courses nationwide since 2016 is \$5,000. It varies

from location to location. In Ohio, the figure averaged \$2,200 per citation in that same period.

Fines go as high as \$12,900 for a first offense. However, reductions are possible if the course shows willingness to work with inspectors and remedy the situation promptly. Keep in mind that while serious injury or death will compel an inspection, OSHA workers can show up at any course or other worksite at any time.

Fines for serious or repeated violations are much stiffer. The average fine since 2016 for serious offenses is \$12,934. Fines

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## // DO THE SAFETY DANCE

Continued from page 29

up on an articulating boom. The law says that anyone working above 6 feet must have fall protection. "You must have a harness or rail," Eberts states. Every employee, within a couple of days of starting the job, should be aware of such restrictions as part of a worker safety orientation.

Even getting up on a roof presents opportunity for injury. OSHA regulations say ladders must extend 3 feet above the top surface the worker is accessing.

It's not just going up that's an issue — going down is, too.

Open trenches present a major hazard. "Trenches are a problem," Eberts says. Any trench 5 feet or deeper must be shored up. "One cubic yard of soil weighs more than a

Volkswagen," Eberts notes. A trench landslide will trap a worker, perhaps fatally.

Most insurance companies offer advice and evaluation of job sites with an eye to reducing potential issues. In every

case, analysts agree that management buy-in is vital. This includes everyone in the chain, from greens committee members who might balk at delays or the expense of changes to the superintendent and the crew chiefs. Of course, employees must be part of the process since they're the ones who need to be aware of changing situations.

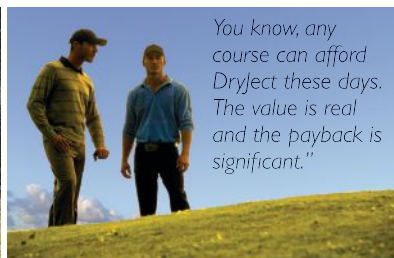
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Pate advises being sure new workers can operate equipment on level ground before moving to riskier areas. "Avoid jerky operation that can cause shifts in weight," he says. "Keep equipment low, operate at a slow speed, be sure stop/starts are smooth and use safety equipment."

These guidelines should be part of any program, printed out and stored in a binder in the maintenance shed and re-evaluated regularly.

Something as routine as a skid-steer loader can become a safety issue. "Don't stack pallets (on a fork) so high that the driver can't see over them," Eberts says. It's not uncommon for a worker on the ground to be caught between a loader and a pile of flats or another piece of equipment. Such injuries fall into either the "struck by" or the "caught between" category.

Once all those materials are in place, Eberts advises superintendents to be mindful of damage to storage racks. Check



## WHAT TO PUT IN AN OSHA BINDER

Among the kind of information that should be included in a club's OSHA compliance program documents are:

- A statement that OSHA compliance is club policy
- Contact info for the safety program director
- Names of members on the club's safety committee, which advises about hazards but does not have executive authority
- First aid and emergency planning scheme
- Employee training protocols, including a record of session dates and what was covered
- Self-inspection procedures
- Incident records



them frequently for mechanical damage, rust, overweighting and unbalanced loading. Nothing triggers a disaster like

an overloaded shelf of chemicals or parts collapsing on a worker.

*Continued on page 32*

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## // DO THE SAFETY DANCE

*Continued from page 31*

And if you think that's cringeworthy, consider that OSHA hears of four people per year who go through chippers (this includes chippers used in all businesses, including landscaping). "Nothing is left but what is blown into the truck," Eberts says. Branches have a bad habit of grabbing a worker's jacket or shirt and pulling them into the machine.

### WHAT YOU MUST REPORT

No matter how horrific or mundane the cause of a worker's death at a golf course, OSHA must be notified. "Even if it is a heart attack, you have to report every death at work," Eberts emphasizes.

An employer also has to report any hospitalization for work-related treatment within 24 hours of the incident. While your mind and thoughts might be with the worker, they also have to be with OSHA's reporting requirements.

"If a worker goes to the ER for stitches, no, you don't have to report it," Eberts says. "If they're admitted overnight, you do." Note the incident in the safety binder.

The club's OSHA compliance statement should be brief, to the point and understandable by all workers (see sidebar). This includes Spanish-speaking workers or workers who might have trouble reading at all. While exceptional incidents grab headlines, there are scattering of other death causes

that, when a superintendent thinks about them, are not all that strange on a golf course.


For example, electrocution in a water-filled trench is understandable when one walks irrigation lines. While ghastly, having a lawn mower roll over, pinning the operator underwater in a pond is not unthinkable. In fact, both incidents happened recently at different clubs.

If an incident occurs, it must be documented, and all employees involved should be debriefed. The supervisor should listen to employee suggestions for improvement, as well as offer guidance for avoiding a repeat accident.

Three-wheel devices can be especially tricky. Some bunker equipment lacks a rollover protection system (ROPS). Perhaps counterintuitive is Pate's advice not to use a seat belt on machines without ROPS. Not being strapped in gives the operator a

chance to jump off or crawl out from under a rolled machine.

Lastly, Pate advises a written policy forbidding operation of machinery under the influence of alcohol or other substances.

The odds of having an incident befall a club will be reduced by planning, awareness and record keeping. Sticking a copy of this article in the club's safety policy binder will help demonstrate that the course is aware of the need for safety and has made safety part of everyday operations. 



**OSHA HEARS  
OF FOUR  
PEOPLE PER  
YEAR WHO  
GO THROUGH  
CHIPPERS.**





# Super Science

## // KEEP IT ROLLIN'

### IRON SULFATE AND LIGHTWEIGHT ROLLING FOR DOLLAR SPOT

By Wendell Hutchens, Travis Roberson and David McCall, Ph.D.


**D**ollar spot (*Clarireedia* spp.) is one of the most damaging turfgrass diseases worldwide. Superintendents routinely apply a wide variety of broad spectrum and site-specific fungicides to suppress dollar spot, but there are increasing alternatives to traditional fungicides employed for dollar spot management.

Iron sulfate ( $\text{FeSO}_4$ ) applications and/or rolling offer potential nonfungicidal treatments for reducing dollar spot. A study was conducted on an L93 creeping bentgrass (*Agrostis stolonifera*) fairway at Virginia Tech to assess the effect of

$\text{FeSO}_4$  applications at 0.5 lb./1,000 ft<sup>2</sup>, lightweight rolling three times per week, lightweight rolling six times per week,  $\text{FeSO}_4$  at 0.5 lb./1,000 ft<sup>2</sup> plus lightweight rolling three times per week and  $\text{FeSO}_4$  at 0.5 lb./1,000 ft<sup>2</sup> plus lightweight rolling six times per week on dollar spot suppression.

Results illustrated that  $\text{FeSO}_4$  alone reduced dollar spot counts by more than 64 percent compared with nontreated plots. Furthermore, lightweight rolling three times per week did not reduce dollar spot counts, while lightweight rolling six times per week reduced dollar spot counts 58 percent compared with nonrolled plots. There were no additive or interactive effects

of lightweight rolling in conjunction with  $\text{FeSO}_4$  applications in this study.

Both frequent lightweight rolling and  $\text{FeSO}_4$  applications clearly are effective dollar spot suppression strategies. However,  $\text{FeSO}_4$  at 0.5 lbs./1,000 ft<sup>2</sup> is ~\$13/acre is theoretically much more cost effective than the time and labor it takes to lightweight roll fairways six times per week. The implementation of dollar spot management techniques such as these could potentially save money and reduce the number of fungicide applications necessary for dollar spot suppression, thereby reducing the risk of fungicide resistance. Work is currently being done on ways to optimize  $\text{FeSO}_4$  applications targeting dollar spot. 

Wendell Hutchens and David McCall, Ph.D., are at Virginia Tech University, and Travis Roberson is at Willow Oaks Country Club, Richmond, Va. You may reach Wendell Hutchens at [wendelljh@vt.edu](mailto:wendelljh@vt.edu) for more information.

## NEWS UPDATES

### PBI-GORDON'S PEDIGREE FUNGICIDE SC RECEIVES REGISTRATION IN CA

PBI-Gordon Corp. announced that its Pedigree Fungicide SC has received registration for use in the state of California.

Pedigree is formulated to provide control of brown patch, fairy ring, leaf and sheath spot, large patch, red thread, pink patch, yellow patch, southern blight and gray snow mold, according to the company.

The product is labeled for use on golf courses, residential and commercial properties and sports fields, and it's a flowable suspension concentrate. It has shown safe and consistent performance on creeping bentgrass, Kentucky bluegrass, annual bluegrass, annual and perennial ryegrass, red fescue, tall fescue, bermudagrass, zoysiagrass and St. Augustinegrass, according to PBI-Gordon.

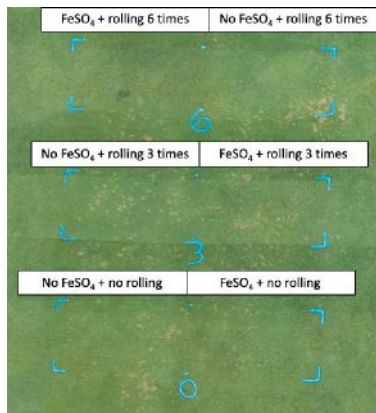
Pedigree is marketed through a partnership with Nichino America. The product features a proprietary formulation and the active ingredient flutolanil.

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“WINTER INJURY FROM DESICCATION IS A LEADING CAUSE OF TURF LOSS ACROSS THE NORTHERN AND CENTRAL GREAT PLAINS.”

**Bill Kreuser, Ph.D.**

(see story on page 34)



Effect of  $\text{FeSO}_4$  and lightweight rolling on dollar spot suppression.



// **OUT TO DRY**

# Prevent winter desiccation on creeping bentgrass

By Bill Kreuser, Ph.D.

**W**inter injury from desiccation is a leading cause of turf loss across the northern and central Great Plains. Desiccation occurs whenever turfgrass water loss exceeds its ability to acquire water from the soil.

Desiccation can happen at any time of the year, although most superintendents likely associate desiccation with hot and dry summer conditions. During open winters, the combination of wind, fluctuating air temperature and frozen soil leads to significant turf desiccation. Exposed and elevated sites or locations with sandy soils are most prone to desiccation. All of these conditions are present throughout much of the Great Plains. In severe cases, they can cause the turf crown to dehydrate and die.



The winter of 2013-14 was challenging for many golf course superintendents across North America. Superintendents in southeastern North America had widespread winterkill on bermudagrass (*Cynodon* spp.) following extremely cold winter conditions, and many annual bluegrass (*Poa annua* L.) managers around the Great Lakes had to deal with months of ice encasement.

Winter desiccation stress was severe

throughout Nebraska and the Dakotas during that same winter (Figure 1). Winterkill of creeping bentgrass (*Agrostis stolonifera* L.) was common in spring 2014, despite having great cold and ice encasement tolerance. While creeping bentgrass with significant thatch accumulation was disproportionately affected (i.e., tees, fairways and some greens), there was some degree of injury across most creeping bentgrass stands in the region.

Winter desiccation typically is not an annual occurrence in the Great Plains. In Lincoln, Neb., reports of winter desiccation become widespread whenever total liquid equivalent precipitation (rain and melted snow) is less than 2 inches from December through March. It certainly depends on other factors, like the time between snow/rainfall, the amount during one storm, and wind and temperature extremes when the turf is not covered with snow. Still, the 2-inch threshold can serve as a helpful indicator of winter desiccation risk over a large region.

Unlike other sources of winterkill (low temperature, ice encasement, snow mold), peer-reviewed research articles on winter desiccation and prevention are extremely limited. Most management practices to limit winter desiccation are based on past user experiences and product marketing. Following the winter of 2014-15, we observed that protective covers did offer some — but not complete — protection in highly exposed areas. Putting greens that received frequent topdressing during the season also fared better than greens that were only topdressed prior to winter.

**FIGURE 1**



Typical symptoms of winter desiccation injury on a creeping bentgrass fairway at the Awarii Dunes GC site. Low areas had minimal damage, while exposed slopes had widespread winterkill.

PHOTO BY: BILL KREUSER



Many superintendents also were using antitranspirants, wetting agents, horticultural oils and turf colorants in late winter, but most did not include a nontreated control area to evaluate the success of these products. The objectives of our research were to understand which products offered protection from winter desiccation stress and determine how these products sustained the crown moisture content of creeping bentgrass turf.

## FIVE SITES DOWN TO TWO

A series of field research experiments were initiated at five sites with a history of winter desiccation during the winters of 2014-15 and 2015-16. They included Awarii Dunes GC in Axtell, Neb., Sand Hills GC in Mullen, Neb., Monument Shadows GC in Gering, Neb., Dakota Dunes GC in Sioux City, S.D., and the JSA Turf Research Center near Mead, Neb.

All research sites were highly exposed, and only the site at Sand Hills GC received light winter irrigation at the superintendent's discretion. The site at the JSA Turf Research center was covered with impermeable plastic before significant snow or rainfall. All other

sites received natural precipitation. Only the Awarii Dunes and JSA Turf Research Center had significant winter desiccation injury during one or both years of the study. Research at these two sites are described in further detail below. The other sites received enough winter precipitation or irrigation to avoid winter desiccation injury.

The experiment was conducted on a creeping bentgrass golf course fairway (or fairway research plot) at Awarii Dunes (T-1) and the JSA Turf Research

Center (L-93). The fairway turf received minimal sand topdressing during the growing season, were well watered throughout the fall and mowed at 0.5 inch. Both soils were predominantly sand, and there was approximately 0.5 inch of thatch across both plot areas.

We applied various winter desiccation prevention treatments in mid-November 2014 and 2015. They included both a permeable and impermeable turf cover (GreenJacket), heavy

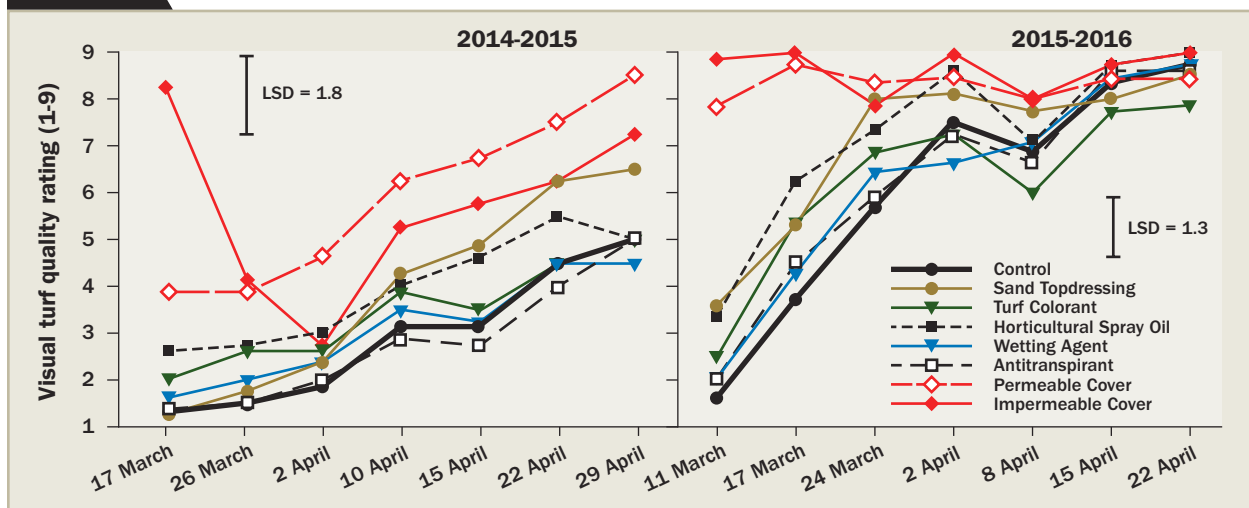
Continued on page 36

**TABLE 1**

**Treatment list of the winter desiccation prevention treatments evaluated at the five research sites during the winters of 2014-15 and 2015-16.**

Treatment	Thickness or rate
Nontreated/noncovered control	—
Sand topdressing	0.2-inch depth
GreenJacket white permeable cover	2.5 oz./1,000 ft <sup>2</sup>
GreenJacket white impermeable cover	6 mil
Civitas plus Harmonizer, horticultural spray oil plus turf colorant	16, 1.0 fl. oz./1,000 ft <sup>2</sup>
Foursome, turf colorant	1.5 fl. oz./1,000 ft <sup>2</sup>
Tournament Ready, wetting agent	8.0 fl. oz./1,000 ft <sup>2</sup>
Transfilm, antitranspirant	8.0 fl. oz./1,000 ft <sup>2</sup>

**FIGURE 2**



Turfgrass quality rating at the JSA Turf Research Center near Mead, Neb., following the winters of 2014-15 and 2015-16. Visual turfgrass quality ratings of 1 indicated completely dormant or dead turf, 6 indicated minimally acceptable turfgrass quality and 9 indicated perfect quality for a creeping bentgrass fairway.



Continued from page 35

sand topdressing in late fall (0.20-inch depth), four spray-applied products (Table 1) and a nontreated control. We replicated all treatments four times at each site, and individual plots were 5 by 9 feet in size. Plugs were drilled out of the ground monthly at the JSA Turf Research Center from December until March to measure turf crown moisture content. Spring green-up was then monitored in the field at the JSA Turf Research Center. Because of travel constraints, two sets of plugs were removed to a greenhouse at the University of Nebraska-Lincoln in mid-March from the Awarii Dunes plots to measure crown moisture content and monitor green-up.

## DESICCATION PRESENCE AND PREVENTION

Covering the research area with a large tarp before snowfall resulted in significant winter desiccation injury at the JSA Turf Research Center. While natural precipitation was not excluded from Awarii Dunes GC, the site only received 1.25 inches of total liquid precipitation from December through mid-March; 0.95 inch occurred on Dec. 15, 2014. This led to significant winter desiccation injury and big differences in creeping bentgrass crown moisture content.

Sand topdressing and the two GreenJacket cover treatments helped prevent winter desiccation injury (Figures 2 and 3). All three treatments

had acceptable turf quality (greater than 6.0) six weeks after the covers were removed from the JSA Turf Research Center site. The covers stayed on the plots slightly longer than desired. This stimulated the turf to quickly break dormancy in early March. A hard freeze during mid-March 2015 caused the turfgrass quality rating of the impermeable cover treatment to plummet from near perfect (8.2) to an unacceptable level (2.8) in only nine days. Fortunately, the below-freezing temperatures were short-lived, and we removed the damaged leaves quickly during mowing (Figure 2).

Both the permeable and impermeable covers produced extremely high turf quality ratings following 2015-16 winter. Lack of a hard freeze in late March or April resulted in acceptable turf quality ratings for both covers. Clearly, superintendents should remove protective covers prior to active turf regrowth if there is still a risk of hard freeze.

The sand topdressing treatment always had unacceptable turfgrass quality at the end of winter (Figures 2 and 4). This occurred because the grass was covered in sand and exposed leaves were bleached brown. Sand topdressing protected the turf crown and resulted in rapid green-up each spring at both locations. Regular sand topdressing during the year and at the end of the season clearly have the potential to protect creeping bentgrass during winter desiccation stress.

It also has the added advantage of a lower cost than protective covers, especially for tees and fairway turf, and doesn't require labor in early spring to remove covers before the turf starts active regrowth. It's likely that frequent in-season sand topdressing can help protect creeping bentgrass crowns from winter desiccation. That may explain why frequently topdressed creeping bentgrass greens had much less injury than tees and fairways following the winter of 2013-14.

**FIGURE 3**



Turfgrass canopy after covers were removed in March 2014. Treatments include (bottom to top) GreenJacket impermeable cover, GreenJacket permeable cover, sand topdressing, nontreated control, Foursome turf colorant, Tournament Ready wetting agent, Transfilm antitranspirant and Civitas horticultural oil plus Harmonizer turf colorant.

PHOTO BY: BILL KREUSER



The spray-applied treatments did not prevent winter desiccation injury at either site following the winter of 2014-15 (Figures 2 and 4). All of the spray-applied treatments and nontreated control had unacceptable turf quality ratings during the spring rating dates. Winter desiccation kills most, but rarely all, creeping bentgrass plants in a stand. This means that surviving plants slowly can reestablish an affected area.

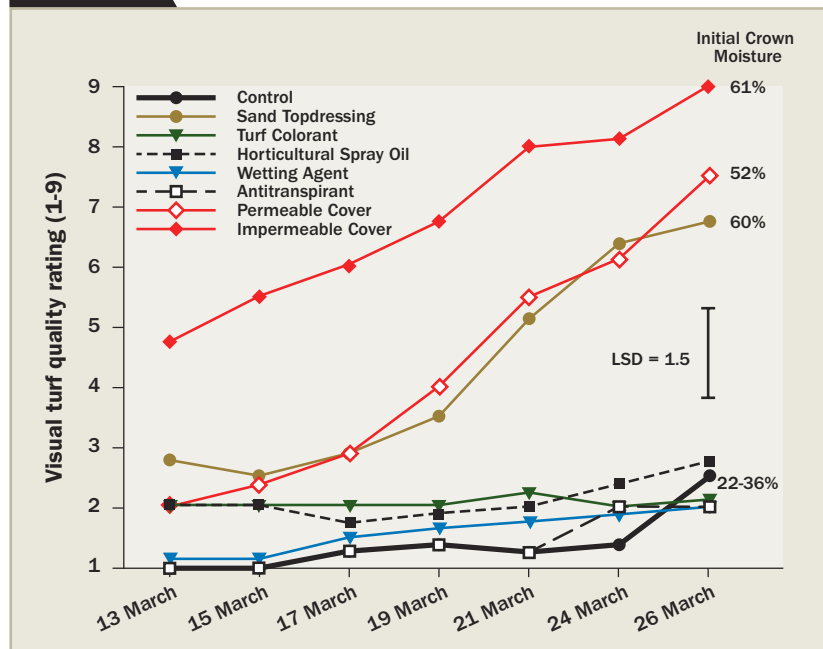
The turf in the spray-applied plots did recover to creeping bentgrass — with some annual bluegrass — by the middle of July. This slow recovery would be completely unacceptable in a golf course setting.

The winter of 2015-16 was less severe at both study locations. At the JSA Turf Research Center, the spray-applied treatments had similar or slightly better turfgrass quality than the nontreated control. All treatments had acceptable turfgrass quality by the start of April 2016 (Figure 2). The story was similar at Awarii Dunes, except the Transfilm antitranspirant had acceptable turfgrass quality when the spring ratings began on March 13, 2016. All the plugs from Awarii Dunes treatments, including the nontreated control, recovered completely following the less severe winter of 2015-16.

## WINTER DESICCATION INJURY RELATED TO CROWN MOISTURE

Winter tolerance of cool-season cereal crops like wheat, barley and turfgrass largely is dependent on the moisture content of the plant crown. This meristematic region is the growing point of these grasses. During fall, crown moisture content declines from approximately 80-85 percent to roughly 55-60 percent. As the water content in the crown declines, the freezing tolerance increases. As crown moisture content increases in spring — called deacclimation or crown hydration — cold tolerance declines. Crown hydration followed

**FIGURE 4**



Turfgrass quality ratings from fairway plugs at the Awarii Dunes GC taken on March 13, 2015. Plugs were transplanted in a greenhouse at the University of Nebraska to monitor recovery. Visual turfgrass quality ratings of 1 indicated completely dormant or dead turf, 6 indicated minimally acceptable turfgrass quality and 9 indicated perfect quality for a creeping bentgrass fairway. The initial average crown moisture content is reported to the right of the treatments.

by cold temperatures is a common cause of annual bluegrass winterkill during late winter. This phenomenon occurred with the impermeable cover treatment during May 2015 at the JSA Turf Research Center.

Interestingly, wheat and barley cold hardiness can decline as crown moisture content falls below the normal winter 55-60 percent. We speculate that below-normal crown moisture from winter desiccation stress also may reduce cold tolerance in creeping bentgrass. Commonly, a windbreak north or northwest of creeping bentgrass turf provided some protection from winter desiccation injury. These winds typically are strong and extremely cold in the Great Plains.

The results of our field studies clearly demonstrate the connection between March crown moisture and significant winter desiccation injury.

We used logistic regression to

calculate the probability of winter desiccation survival at a given crown moisture content (Figure 5). This analysis indicates an equal probability of survival or significant injury when the crown moisture content was 51.8 percent. In fact, all the treatments that had mid-March crown moisture greater than 51.8 percent completely recovered from the winter desiccation stress.

Treatments with mean crown moisture less than 51.8 percent did not recover from winterkill in an acceptable amount of time (turf quality rating greater than 6 by the end of each study year). The lone exception was the turf colorant treatment from the JSA Turf Research Center following the winter of 2014-15. That treatment had a mean crown moisture content of 59 percent but still had unacceptable turfgrass quality (4.9) on April 29, 2015 (Figures 2 and 6).

Continued on page 38



Continued from page 37

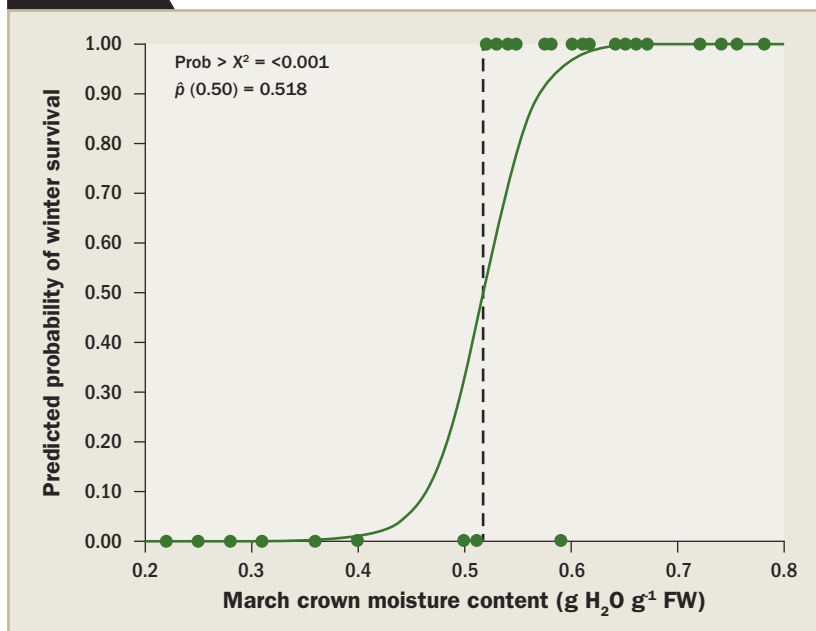
## PROTECTION TREATMENTS AFFECT TURF CROWN MOISTURE

Following the first winter at Awarii Dunes, all the spray-applied treatments and nontreated control had crown moisture contents less than 40 percent (Figure 2). All of those treatments also had significant and lasting winter injury. Sand topdressing and the two GreenJacket covers sustained creeping bentgrass crown moisture and led to rapid spring recovery. Less severe winter desiccation stress occurred during the second winter. All treatments and the nontreated control had crown moisture greater than 52 percent and made a complete recovery in 2016.

We monitored crown moisture monthly at the JSA Turf Research Center, and it was fairly stable during December and January (Figure 6). The crown moisture content of the different treatments began to change in mid-February. Still, all treatments were 56 percent or greater; well above the 51.8-percent injury threshold.

Crown moisture content for each treatment continued to diverge into March. The plots with GreenJacket

**FIGURE 5**



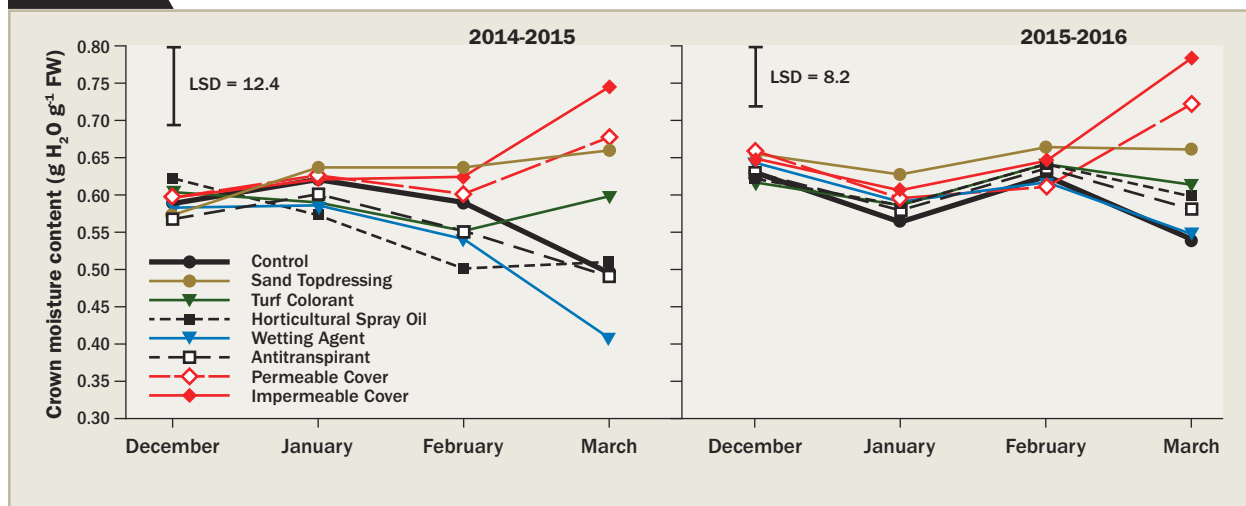
The probability of significant winter desiccation injury based on March crown moisture content and the resulting spring green-up. Treatments were considered victims of winter desiccation injury if turfgrass quality rating was below acceptable levels at the end of April in 2015 and 2016. The vertical dashed line represents the crown moisture content where there was a 50-percent probability of practically significant winter desiccation injury.

covers increased crown moisture content and lost cold tolerance. The crown moisture of the nontreated control, antitranspirant, horticultural oil and wetting agent declined significantly

from mid-February to mid-March.

This may suggest late winter poses the greatest risk of winter desiccation injury. Light applications of irrigation may be justified during this time. For

**FIGURE 6**



The crown moisture content of creeping bentgrass at the JSA Turf Research Center as a result of winter desiccation prevention treatment and winter month.


example, all of the treatments at Sand Hills GC had crown moisture content of approximately 60 percent, likely because of light winter irrigation when temperatures were well above freezing and the ground was free of snow. Only small amounts of irrigation are required to sustain crown moisture because the crowns are quite small. Managers are not trying to irrigate leaves as they would in the summer.

## WINTER DESICCATION MANAGEMENT RECOMMENDATIONS

Dry and open winter conditions can lead to significant winter desiccation on creeping bentgrass turfgrass. These conditions can cause a reduction in crown moisture — especially in late winter — that can be lethal for many creeping bentgrass plants. Recovery can be extremely slow. Crown moisture measurements in early spring may help creeping bentgrass managers assess the risk of winter desiccation injury, but the measurement is extremely time consuming and tedious.

The permeable and impermeable GreenJacket protective covers sustained crown moisture and resulted in rapid green-up. Remove these covers in late winter to prevent premature deacclimation in the early spring.

Sand topdressing also is a viable alternative to protective covers. While turf quality following winter was unacceptable, sand topdressing led to fairly rapid spring recovery compared with the nontreated controls. Spray-applied treatments like Transfilm antitranspirant may offer some protection from mild winter desiccation stress, but protection is unlikely during severe winter desiccation stress.

Light applications of irrigation during warm and windy periods of winter also may help sustain turf crown moisture and limit winter desiccation injury. This practice is widely used across much of the Great Plains. 

Bill Kreuser, Ph.D., is a turfgrass scientist at the University of Nebraska-Lincoln. You may reach Bill at [wkreuser2@unl.edu](mailto:wkreuser2@unl.edu) for more information.

## Acknowledgements

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**Fall fertilization** on cool-season turfgrass ensures that the grass is healthy before it goes dormant for the winter.

# Fall fertilization frenzy

One of the keys to healthy grass in the spring is to make sure it's in good health before going dormant in the fall. One way to ensure this is to implement a fall fertilization program. Fall fertilization improves plant health, increases density and vigor and extends the green color of the turf.

According to Kevin Frank, Ph.D., professor and Extension turf specialist at Michigan State University, cooler temperatures and precipitation in the fall produce ideal growing conditions for cool-season turfgrasses. "Fertilization during this time," he says, "often results in improved growth, density and color, along with what you don't see, such as carbohydrate accumulation in the plant."

"Physiologically, (fall) is one of those times that a plant is sort of in the sweet spot because the weather conditions are optimal for the plant to be most efficient with those nutrients," notes Cale Bigelow, Ph.D., professor of agronomy

at Purdue University.

Frank prefers a strategy of spoon feeding throughout the fall months or fertilizing earlier on fairways and roughs instead of applying fertilizer at the end of the season. However, Bigelow notes the benefits of late fall (Oct. 15-Nov. 15) fertilization.

"That's important because it affects your source of nutrients," he says. "In the fall fertilization, you might be using slow-release nitrogen, while in late fall, it's quick-release or water soluble."

Bigelow says he sees more superintendents playing around with water-soluble nitrogen and applying it as a liquid. According to Frank, one of the biggest changes he's seen in the last 20 years or so is moving up the application of fertilizer to September or October or spoon feeding throughout the fall. **G**

GOLFDOM FILE PHOTO

## Knox Fertilizer Co.

### BOB HARTMAN

Director of Sales and Marketing



Fertilizing in the fall provides important characteristics for the health and survival of turf. In most instances, especially in cool-season turf, summer stress has taken its toll, and turf needs help recovering, building the root system and preparing itself for the long winter ahead. In other parts of the country, warm-season grasses also go into dormancy, so they too benefit from the fall application. Additional potassium helps both the cool- and warm-season grasses store energy over the winter and promotes a quicker spring green-up the following year. Fall fertilization helps maintain a green color longer into the winter. Using additional potassium in the fall helps turf store water and increases stress tolerance associated with the long, hot summer and impending winter. While the best time to fertilize can vary based on geographic region and turf varieties, the optimal time would be when the temperature drops. The roots are still active, but the growth of turf shoots has slowed. Golf courses typically have annual fertilization programs, but if a superintendent were to fertilize only once a year, fall is the best time to do it. I can't imagine someone not fertilizing in the fall.

## Brandt

### GORDON KAUFFMAN, Ph.D.

Technical Manager



Early fall fertilization will encourage turfgrass vigor. When soil temperatures cool, spoon feeding will facilitate the hardening-off process. A complete and balanced fertilizer program will offer the best results. When applied correctly, you'll see accelerated shoot and root growth, better color, increased tillering and enhanced recovery from mechanical damage or cultivation. Early autumn signifies the best time for golf course superintendents to aggressively apply nutrients to cool-season turfgrasses. Focus on larger doses of nitrogen (N) during this time. Nutrient demand declines on soils with higher exchange capacity. Decrease N inputs in midfall to encourage carbohydrate allocation to turfgrass roots. Consult a soil test to determine specific nutrient needs.

## Koch

### CHRIS DERRICK

Field Sales Agronomist



To prepare for winter dormancy, the plant's physiology transitions from an actively growing state to one where it's storing carbohydrates for later use as an energy source. By fertilizing turf in the fall, you're providing it with nutrients it can store away for the next growing season. You're going to see quicker green-up in the spring for a better-looking course earlier in the season. Fall fertilization also improves shoot density and root growth. The timing of the application depends on weather patterns and climatic conditions that affect temperature and its role in plant function. There may be the need for an early fall application intended for summer stress recovery or later in the fall for winter preparation. The best time to fertilize is when turf is still green, but growth has slowed or even stopped. Simply speaking from my experience, when best management practices as well as The Fertilizer Institute's 4 R system are factored into the decision-making process, the need to fertilize only applies if the plants need it.

## The Andersons

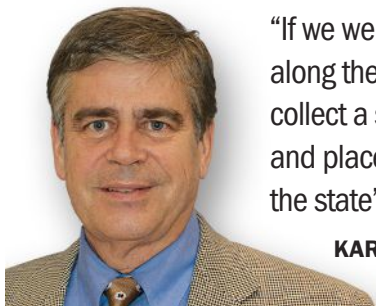
### ANTHONY GOLDSBY, Ph.D.

Research Agronomist



The focus of fall fertilization is on rejuvenating and recouping that grass ahead of winter and the following spring. When superintendents put fertilizer out in the spring and summer, they associate that with growth at the top of the plant. In the fall months, a lot of that energy is put down into the roots. You're going to get a deeper root system and food reserves for the plant. You'll get later color retention into the fall, and the following spring, they're going to green up quicker. Most people are going to start in September or October and go until maybe Thanksgiving. When you're getting temperatures below 65 degrees F, you get that energy going down into the root instead of shoot growth. There is not an instance when fall fertilization would not be necessary. If you're going to skimp out on fertility or don't have the budget for it, I would recommend removing it from the summer or not doing a springtime application. Fall, especially for cool-season turf, is really the most important part.





"If we were in Nebraska, my dad would stop along the highway or in a town, and I would collect a small soil sample with a spoon and place it in a glass vial, labeling it with the state's name."

**KARL DANNEBERGER, PH.D.,** *Science Editor*

# Like sands through the hourglass ...

**A**s a preteen, our family vacations consisted of arduous cross-country trips in a 1963 Chevrolet Bel Air station wagon. Our vacations originated in Illinois and spread to destinations in the West and Southeast.

At the time, one of my hobbies was collecting soil samples. I can't remember why I was interested in soil, but I would collect a sample from each state we visited. If we were in Nebraska, my dad would stop along the highway or in a town, I would collect a small soil sample with a spoon and place it in a glass vial, labeling it with the state's name. We would then continue our journey.

The 1963 Chevy Bel Air didn't have air conditioning or a radio. There was not much to do in the back seat. I spent a lot of time staring at those glass vials containing soil samples. I often wonder what I was thinking during all those miles, but I do remember the variation in color from the red clay of Georgia to the dusty gray of Death Valley, the shape and texture of the "black gold" of Iowa to the rocks of Wyoming.

I was in Cairo, Egypt, a couple of years ago and came across a young person in a market outside my hotel. I noticed he was holding a jar of sand, so I asked him about it. He told me he had

collected it from the banks of the Nile.

Sand collecting, who would have thought? Actually, there are societies of sand collectors, including the International Sand Collectors Society. As described on Wikipedia, a sand collector is an arenophile, or "sand lover." The word does not exist in the Merriam-Webster dictionary. It must be a relatively new description. Fascination with sand centers on the variety, color, mineralogy and location. The most desired sands are the rarest. Some of the rarest are found at Pitcairn Island and Easter Island. The black and green sands found in Hawaii are so rare that collection is prohibited.

Sand is widely used in golf course management for green construction, topdressing and in bunkers. Superintendents' interest in sand is technical. Their primary focus is on the size, distribution and shape. Sand is distributed into five classes based on size, ranging from very coarse sand to very fine sand. The importance of sand-size

distribution is well understood. Sand shape, however, often is glossed over. It is described in two terms — angular or rounded.

We use two geometrical parameters, sphericity and roundness, to describe the shape of sand grains. The terms are not synonymous. Sphericity is a measure of how close the shape of the sand approaches that of a sphere. Roundness describes the sharpness of a grain's corners and edges regardless of shape. Sphericity and roundness are determined visually. From the Krumbein roundness test, or Riley sphericity index, one matches the sand shape with what appears in these charts. The sand shape falls into one of six categories, from very angular to well rounded.

"Round" sand is not just round. Round is either well rounded, rounded or subrounded, while angular could range from very angular to angular to subangular. Like sand-size distribution, sand shape is best described by an accurate description.

Sand angularity affects firmness of a putting green surface. The more angular the sand and associated lower sphericity, the more adhesion that occurs among the sand particles. Adhesion increases as the edges of the particles grab the surface and bind together. As management practices move to providing firmer putting green surfaces, the degree of angularity in a sand topdressing material becomes a factor.

Vacations are like sand, everyone knows what they are. However, you do not really know the characteristics of each, until you look closer. Vacations improve over time, but I wish I could take one more trip in that 1963 Chevy Bel Air station wagon. **G**

Karl Danneberger, Ph.D., *Golfdom's* science editor and a professor at The Ohio State University, can be reached at [danneberger.1@osu.edu](mailto:danneberger.1@osu.edu).



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# Fall broadleaf weed control in cool-season turf

*Dave Gardner, Ph.D., is a turfgrass scientist at The Ohio State University. Dave has conducted numerous weed management and control research projects to help superintendents achieve effective broadleaf weed control. You may reach Dave at [gardner.254@osu.edu](mailto:gardner.254@osu.edu) for more information.*

## **Q** Why is fall a good time to control broadleaf weeds in cool-season turf?

Two reasons. One, winter annual broadleaf weeds such as common chickweed germinate in late summer and early fall. Winter annual broadleaf weeds are more susceptible to herbicides in fall and therefore easier to control than in spring. The second reason is that perennial broadleaf weeds are translocating carbohydrates from leaves to roots in fall. A broadleaf weed herbicide applied in fall will be carried down to the roots along with the carbohydrates, resulting in complete control of the weed. On occasion, a broadleaf weed herbicide applied in spring will control only the leaves of the weed and not the roots, so the weed will recover.

## **Q** How late in fall can a broadleaf weed herbicide be applied and still be effective?

It depends on the weed species, condition of the weed, the herbicide to be applied, location and weather. In general, in Ohio, we recommend that broadleaf weed

herbicides be applied by mid-October. That said, in some cases, superintendents can achieve good broadleaf weed control with applications

## **A BROADLEAF WEED HERBICIDE APPLIED IN FALL WILL BE CARRIED DOWN TO THE ROOTS ALONG WITH THE CARBOHYDRATES, RESULTING IN COMPLETE CONTROL OF THE WEED.**

made in the first or second week of November.

Be aware that the leaves of some weed species such as wild violet and ground ivy degrade in late fall, and there may not be enough viable leaf area to intercept and take up the herbicide to provide effective control.

Some new active ingredients are effective in cooler weather, and some new combination herbicides also are effective in cooler weather. In addition, ester formulations are much more effective in cooler weather than amine formulations.

## **Q** What tips do you have to make a fall application of a broadleaf weed herbicide as effective as possible?

Use an ester formulation when air temperatures are in the 50s F. Apply the product in 2 gallons of water per 1,000 square feet to achieve good coverage of the leaves. Broadleaf weed herbicides are formulated with the proper adjuvants, and there is almost never a need to add an adjuvant.

## **Q** What is a good strategy to control mouse-ear chickweed, common chickweed and white clover in creeping bentgrass fairways?

First, select a product labeled for use on fairways and that is safe for use on creeping bentgrass. Apply the product by mid-October. Common chickweed will have germinated by then. Make sure both the weeds and turf are in good health, green and growing slowly.

## **Q** Are there any new promising active ingredients for broadleaf weed control that superintendents should consider using?

GameOn (halauxifen-methyl plus 2,4-D choline

plus fluroxypyr, Corteva Agriscience) is extremely effective on wild violet, ground ivy and other broadleaf weeds. Plus, it will control buckhorn plantain that is resistant to 2,4-D.

Sure Power (2,4-D plus triclopyr plus fluroxypyr plus flumioxazin, Nufarm) is effective on ground ivy and other broadleaf weeds. Some people have reported turf phytotoxicity when Sure Power is applied to actively growing turf. To be safe, apply Sure Power in either in midsummer or in October to control ground ivy and other broadleaf weeds.

Vexis (pyrimisulfan, PBI-Gordon) is a granular formulation that controls sedges and kyllinga species along with broadleaf weeds.

## **Q** Is there anything else you would like to add?

Carefully read the label before using any herbicide. Trade names change, and sometimes it can be confusing. There have been unfortunate incidents of an herbicide being applied that damaged turf because of confusion surrounding the name. ☹



Clark Throssell, Ph.D., loves to talk turf. Contact him at [clarkthrossell@bresnan.net](mailto:clarkthrossell@bresnan.net).



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# The Shop

// MUST-HAVE NEW PRODUCTS



## 1 | Turfco WideSpin 1550 Topdresser

With **TURFCO's** WideSpin 1550 Topdresser, golf course superintendents can preset their application parameters just one time, instead of having to reset them every time. Superintendents can reduce greens passes, minimize turf traffic and get a more consistent spread, according to Turfco. The WideSpin technology allows for complete, even, edge-to-edge applications without overlapping. The adjustable spinner design lets users drive material down into the turf canopy to minimize brushing.

[TurfcoDirect.com](http://TurfcoDirect.com)

## 2 | Snake Series 2

Designed specifically for golf and sports turf, the Snake Series 2 by **TRIMAX** provides high cut quality and articulation and is now available in both 10-foot, 7-inch and 13-foot, 1-inch cut widths. The grinder features improvements such as the Trimax LocTEK roller retention system, replaceable axle stubs, a 90-degree rotatable jack stand, maintenance-free pivot bushes, automatic belt tension and increased roller thickness for reduced maintenance.

[TrimaxMowers.com](http://TrimaxMowers.com)

## 3 | 4000 PSI Aluminum Pressure Washer

The 4000-PSI aluminum series cold water pressure washer by **MI-T-M CORP.** is ideal for heavy-duty cleaning required on many golf courses. The product is lightweight, but with 4,000 PSI, it also is powerful enough to tackle big cleaning jobs, the company said. Equipped with either a Kohler or Honda OHV engine, the pressure washer comes with a 48-inch gun and lance, a 50-foot high-pressure hose and a variety of quick-connect nozzles, according to the company.

[Mitm.com](http://Mitm.com)



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### 4 | Toro Outcross 9060

The new **TORO** Outcross 9060, when coupled with the new Toro Groundsmaster 1200 pull-behind rotary mower, provides productivity and utility for superintendents and grounds managers, according to the company. The Outcross 9060 delivers on the benefits of both a tractor and a super-duty utility vehicle while adding ease of operation and consistency. The Groundsmaster 1200 consists of three contour-following cutting decks, each equipped with dual full rollers for a quality aftercut appearance. The 12-foot width of cut, paired with simple height-of-cut adjustment from 0.5 to 4 inches, offers productivity and versatility.

[Toro.com](http://Toro.com)

### 5 | Contend Winter Solution

With **SYNGENTA's** Contend Winter Solutions, superintendents spend less time worrying about disease in the winter, the company said. Contend contains four active ingredients to help protect against pink and gray snow mold for up to 110 days. Instrata, which contains three active ingredients, is assured to provide up to 130 days of control. The Contend Winter Solution can help treat 15 acres of fairways and 3 acres of greens to help safeguard the course for a timely spring opening.

[Syngenta.com](http://Syngenta.com)

### 6 | 653 ACCU-Master Reel Grinder

The 653 hands-free relief system from **FOLEY CO.** does more than just spin grind. Foley's automation of infeeds and the patented autoindex improve productivity, and with a completely enclosed system, it provides maximum sound protection and dust collection, according to the company. The ACCU-Touch 3 control makes grinding easier and faster.

[FoleyCo.com](http://FoleyCo.com)



# The 19<sup>th</sup> Hole



## Kyle Johnson

**SUPERINTENDENT** // Carolina Country Club, Raleigh, N.C.



**What can I get you?** You know me, Miller Lite. I'm classy that way.

**I've got good news for you, Kyle — the Underdogs calendar is back in 2020!** That is good news, bubba, because I want Storm on the cover this year!

**Tell me about your family.** I've got a beautiful 3-year-old girl (Chandler) and a wife (Anna) I've been dating since high school. She supports my career and has moved with me a couple times now. We've been dating since 11th grade.

**What do I need to know about Carolina CC?** The club was first established in 1910. In my opinion, it's a hidden little gem. When you get out on the golf course, you see all our elevation changes. We've got a great membership, and they want it to be the best. And we're the home course to Webb Simpson.

**Why do you think the SEC deserves two spots in the college football playoffs every year?** I can answer that question with a question, buddy. Do you watch ESPN?

**What was the best thing you did this weekend?** I'm fortunate in that I have a lot of good assistants ... I usually work on Saturday but I got most of this weekend off. This weekend I built a playhouse for my little girl, and I smoked



a tri-tip steak on my Big Green Egg smoker.

**Next time I'm in Raleigh, where should we go?** I haven't found any places here yet. But if you're ever back in my hometown of Birmingham, Ala., you have to go to Baumhower's. They have these cheesy fries that they call Spencer's Gooey Fries. They're curly fries. They dump queso blanco and homemade ranch on there ... it's literally the best and worst thing I've ever eaten.



**Who would be in your dream foursome?** Me, my dad, Chipper Jones and Tiger Woods.

### // BEST ADVICE

**"KEN MANGUM TAUGHT ME THAT YOU HAVE TO HAVE PATIENCE — PATIENCE WITH YOUR CREW, WITH YOUR MEMBERS, WITH MOTHER NATURE — OR THE JOB WILL DRIVE YOU CRAZY."**



### So how's Alice Cooper these days?

He's really busy — only comes around when school's out. OK, that's a bad joke. He's a really great golfer for his age. I had to get a photo with him and send it to my dad.

**Your friends tell me that crazy stuff always happens when you're around. Is this truth or rumor?** It's true. Like me walking in on that guy having a heart attack after we got done golfing at Reunion Resort. That is probably the craziest thing that's ever happened to me. Then it turns out the restaurant host was an EMT, and he started doing chest compressions! But most of the time the crazy stories are for the best — I'm glad I was there to find that guy when he needed some help.

As interviewed by Seth Jones, Aug. 19, 2019.



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