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**GOLFDOM** (ISSN 1526-4270) is published monthly by North Coast Media LLC, IMG Center, 1360 East 9th Street, 10th Floor, Cleveland, OH 44114. **Subscription rates:** For US, Canada and Mexico, 1 year \$58.95 print and digital; two years \$88.95 print and digital. All other countries, 1 year print and digital \$109.95, 2 years \$169.95. For air-expedited service, include an additional \$75 per order annually. Single copies (prepaid only) \$10 plus postage and handling. For current single copy or back issues, call 847-513-6030. **Periodicals postage paid** at Cleveland OH 44101-9603 and additional mailing offices.

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“I’ve got some great golf courses nearby, definitely, but time is money, and this humble little course only takes 15 minutes to play for the price of \$5.”

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

## A nickel tour with a \$5 round

**M**y father-in-law recently visited my family here in northeast Kansas. He lives in south Texas (McAllen), so he doesn’t get up this way too often.

I gave him the Seth Jones nickel tour of Lawrence. He’s a fellow Kansas University alumnus, but a lot has changed around town since the days Gale Sayers was running the football for the Jayhawks. Stops included Allen Fieldhouse, home of the original rules of “basket ball,” typed by Dr. James Naismith himself; West Coast Saloon, maker of the best cheeseburger in Lawrence; and Rick’s Place, my bar of choice since the day I turned 21.

It’s the same tour I’ve been giving visitors over the last 20-plus years I’ve lived here, plus or minus a few places, and in my biased opinion it’s pretty solid. Alan from McAllen enjoyed it. It’s nothing too sophisticated, I’m not really the art museum kind of

host, but if that’s your thing I can point you in the right direction. You can meet me at Rick’s when you’re done.

My nickel tour soon will be growing by one stop, a golf facility visit right down the road from our small town of Eudora. I’ve got some great golf courses nearby, definitely, but time is money, and this humble little course only takes 15 minutes to play for the price of \$5.

The Red Bridge Wee Links at Twin Oaks Golf Complex opened for play this summer. It’s a six-hole short course meant for kids, beginners or folks looking to knock the ball around in a quick and easy format. The length of the entire course is 152 yards and can be played in about 15 minutes. The longest hole is

33 yards, the shortest, 14.

The course was designed and constructed by David Axland and Twin Oaks owner Jeff Burey. Axland, a Kansas native and old friend of Burey’s, has done shaping and renovation work at courses like Riviera, Prairie Dunes, Friar’s Head and Sand Hills.

Twin Oaks comprises a driving range, a par-3 course, and now this short course. Before the Red Bridge Wee Links was there, Burey had a rundown putt-putt course on the acre of land next to his clubhouse. Burey ripped all that out and, with donated time and supplies, built the Red Bridge Wee Links for \$10,000. He likes to joke that he took his lemon and made lemonade.

Kids can play the course

with a golf ball, a low-flight soft ball or a SNAG ball. The greens have 6-inch cups and are Meyer zoysiagrass. Burey can mow the whole course in 45 minutes.

Burey is bullish on the activity the course saw this season. It’s mostly been kids getting in some actual golf after their lessons, but he’s also hosted a college golf class there, families and adults working on their short game.

“Throughout my career, and spending a little time with Tom Watson this year, we always talk about how we can get kids from the practice range on to the actual golf course,” Burey told me. “Lots of kids do clinics and camps, but they don’t always get on the course. This is beginner friendly and allows the 5-, 6-, 7-year-olds to learn the game.”

I took my 7-year-old son out for a quick round on the Red Bridge Wee Links. He also likes the par-3 course and he likes hitting range balls... but he told me this new course was his favorite part of the facility. Why? “Because it’s easy.”

Golf and easy are two words I rarely use in the same sentence, but I would agree. It’s the first time I’ve ever shot even par, that’s for sure. We played it twice and it made for a quick and pleasant hour — yes, hour — at the golf course.

It’s not traditional golf, but it’s the right amount to fit into the nickel tour. **G**

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# Starter

NEWS, NOTES AND QUOTES



## // LONG DISTANCE CALL

### USGA, R&A seek distance feedback

➔ A global online questionnaire recently was deployed by the USGA and The R&A, seeking opinions and insights on distance in the game of golf.

Some of the survey questions, offered in 10 different languages, included, “Do you think recreational

golfers are hitting shots farther than they did five years ago?” “What do you think should be most important to success in the game of golf?” and “What do you think makes golf most interesting to watch?”

While the survey closed at the end of October, the USGA and The R&A are also inviting via email until Dec. 20 relevant original or commissioned data and research related to distance. This is all part of the Distance Insights project launched earlier this year, aimed at getting a better understanding of the contributors to and impacts of distance on golf.

“(W)e recognize the topic of distance is one that potentially impacts us all in some capacity,” says Mike Davis, CEO of the USGA. “This is the best opportunity for people to share their thoughts and data with us. We know a final Distance Insights report that reflects a breadth of perspectives will be critical to deepening an understanding of the complex nature and far-reaching implications of this subject matter.”

You may find information on the Distance Insights project at [usga.org/distanceinsights](http://usga.org/distanceinsights).

The final report will be delivered next year.



## // MOVING ON UP

### SIPCAM AGRO USA ADDS TO ROSTER

Sipcam Agro USA, Inc. announced that Todd Mason has joined its team as specialty manager, Southeast accounts and southern region product development within the turf & ornamental (T&O) and material preservation division, and Augie Young has been promoted to specialty manager, Northeast accounts and northern region product development.

Mason previously was the American key account manager for Belchim Crop Protection USA, LLC. Mason also held various roles at John Deere/LESCO and Arysta LifeScience.

Young's responsibilities will include territory sales growth and management for the Northeast plus product development for the northern region. Young is a nine-year veteran of the specialty group at Sipcam Agro USA, Inc.

“With our recent growth and strategic optimism moving forward, we are excited to accelerate our plan to bring in new talent and bolster those within the organization,” said Michael Maravich, vice president, specialty business for Sipcam Agro USA, Inc. “Todd and Augie both are key to our winning culture and possess the experience and competency necessary to help us implement and execute our strategic objectives.”

## // INDUSTRY EVENTS

### IRRIGATION SHOW HITS LONG BEACH

Golf irrigation, landscape and agriculture professionals are readying for the 2018 Irrigation Show & Education Conference, which takes place Dec. 3-7 in Long Beach, Calif.

The Irrigation Show offers the latest products and technologies in the industry, as well as educational sessions and networking events. According to the Irrigation Association, 83 percent of attendees make purchases of new equipment they discover at the show. The Irrigation Conference also hosts an annual best new products contest, which includes golf irrigation as a category. To learn more, visit [irrigation.org](http://irrigation.org).





The alternate *Golfdom* covers from famed illustrator Andrew DeGraff.

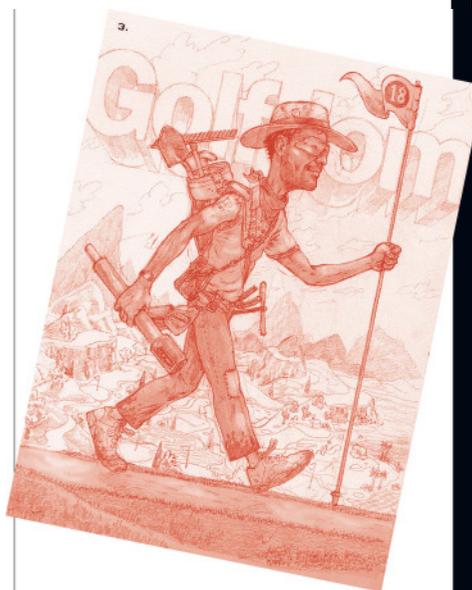
## // ABOUT THE COVER

# YOU GET WHAT YOU ASK FOR

 When *Golfdom* contacted celebrated illustrator Andrew DeGraff, we collectively held our breath. The artist is most well known for his work in *Sports Illustrated*, but also for such publications as the *New York Times*, *Slate* and *Newsweek*. Would he have time for little ol' *Golfdom*?

Not only did he take our call, he also agreed to work with us on this month's cover story, "Distance Education." (DeGraff also did the artwork for the *Sports Illustrated* college football story that inspired our story.) When it came time to create the cover, DeGraff provided these four different covers to choose from.

"The story is about learning from our mentors. I'm glad one of my mentors told me a long time ago to always reach out to work with the best, because the worst they can say is no,"



says *Golfdom* Editor-in-Chief Seth Jones. "We took a shot with Andrew, he said yes, and we're thrilled with how it all came together. Hopefully readers enjoy it as well."

## GO FIGURE

# 10,606

NUMBER OF DAYS JOHNNY MILLER WILL HAVE SERVED AS THE LEAD GOLF ANALYST FOR NBC SPORTS, STARTING WITH THE 1990 BOB HOPE CLASSIC. MILLER IS SET TO RETIRE UPON THE CONCLUSION OF THE 2019 WASTE MANAGEMENT PHOENIX OPEN.

## // BOLDLY4WARD

### RISE REMINDS CHEM COMPANIES: STICK TOGETHER

Nearly 600 manufacturers, formulators, distributors and other industry leaders (including *Golfdom*) attended the Responsible Industry for a Sound Environment (RISE) meeting in Amelia Island, Fla.

The meeting's theme was *boldly4ward* and reflects the idea that in times of change, the specialty pesticide and fertilizer industry must continue to work together and learn from one another.

The association's highest honor, the E. Allen James Award, was presented to Jose Milan of Bayer. For nearly 30 years, Milan has been an industry leader, participating on committees and chairing them.

GCSAA's Michael Lee was honored with the RISE 2018 Grassroots Excellence Award for mobilizing superintendents to support grassroots efforts.

The RISE Governing Board elected new members Katherine Bishop, Lebanon Seaboard Corp., holding a formulator seat; Scott Reasons, Syngenta, holding a manufacturer seat; and Michael Maravich, Sipcarn Agro USA, Inc., filling a formulator seat. Outgoing board members completing their terms were Stephanie Jensen, BASF, and Dan Stahl, OHP, Inc., who served as board chair from 2014-2016.

## // SPARK THE GRILL

### A FREE LUNCH

Back in August, when most superintendents are at their busiest, *Golfdom* sent out a survey asking for insights on the chemical industry.

Our timing was lousy, but at the same time unavoidable. So we did our best to try to soften the blow by offering to buy lunch for the crew of three randomly chosen golf courses that took the time to submit the survey.

Now it's time to pay up. Congrats to these three readers who were picked from a random draw for lunch for them and their crews:

- Wesley Avance, Woodbridge GC, Wylie, Texas
- David Swift, Minnehaha CC, Sioux Falls, S.D.
- Ralph Kepple, CGCS, East Lake GC, Atlanta

We'll be in touch with those three on how we can make good on our promise... and keep your eyes peeled for another survey out soon, and another couple of fun prizes from your friends at *Golfdom*.



“A good architect can bring extensive knowledge of golf’s history, what they see as important to golfers today, and where the game seems to be trending.”

**JARED NEMITZ**, *superintendent, The Peninsula Club, Cornelius, N.C.*

## The superintendent/ architect relationship

**P**artnerships have the utmost importance in our business, whether it’s with our club managers, assistants, vendors, golfers or others. Partnerships make the good times fun and the bad times just a little bit easier.

In these strong economic times, many courses are renovating to remain competitive and to meet the changing desires of golfers. One important but mostly overlooked partnership is with an architect. Architects can be instrumental in developing short- and long-term master plans, winning support for projects and in implementing those plans.

Superintendents and architects are professionals who bring extremely important aspects of the business to the table, each playing important but different roles that, in turn, make projects and planning more successful.

The superintendent is the club’s representative. He or she must ensure that projects or plans are completed with the club’s best interests in mind. They are entrusted to

make sure that the project is completed on time, on budget and to a high standard. It’s the superintendent with whom the architect is going to spend the most time of anyone at the club.

The architect’s role is to combine the natural beauty of the property with a great layout and routing while enhancing the best features of the property. He or she also ensures the highest level of golfer satisfaction while fostering the game of golf. A good architect can bring extensive knowledge of golf’s history, items they see as important to golfers today, and where the game seems to be trending. Their job is to combine the needs of the club with the expectation level of the golf course maintenance department. It’s important that both the superintendent

and architect work together for success.

It amazes me how often I hear officials of golf courses and clubs considering renovations comment on how they don’t need an architect. One of the biggest pet peeves of superintendents is the golfer who has the best lawn in the neighborhood. This individual has a great looking lawn, therefore they are an “expert” on how to manage a golf course and constantly wants to “help” you do your job.

The same applies to architects. Superintendents are experts in their property and growing grass. However, we are not architects. Just like the aforementioned golfer, the superintendent can have enough knowledge to be dangerous. Key word: dangerous.

I saw firsthand early on the importance of the superinten-

dent/architect relationship. Our golf course needed a full-scale renovation to address many issues stemming from lack of functional drainage, a new irrigation system, “tired” layout, too many trees, etc. The architect brought an outside perspective on the needs of the golf course and the golf course maintenance team, but also on how the club and its golfers would benefit. It sometimes can help the decision makers to have someone other than the superintendent speak to the needs of the golf course.

Having a good architect also can mean daily help. I talk to my architect of record every few months to acquire his insight on changes — big or small — we are thinking about making. It’s always nice to be able to bounce ideas off someone with a different perspective and much more knowledge of architecture.

When looking for an architect, look for one proven in the industry and recognized by the American Society of Golf Course Architects. Most important, find the architect who fits well with you and understands the needs of your current facility. If they can’t understand where you are taking the facility, the best architect in the country won’t be beneficial. This relationship can be long term and needs to fit right. Take your time and make the right decision. **G**

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# Golfdom Gallery



**1 A new kind of air hockey** We spotted a new sport at the recent GIE+Expo show in Louisville, Ky.: air hockey using 20-volt turbine blowers from Worx Tools to move the “pucks.” Word to the wise: Do not try this game if you want to keep your toupee a secret.



**2 Quali-Pros** Some of the Quali-Pro guys were upset that their colleague, Paul Blodorn, made back-to-back issues of *Golfdom* earlier this year. Trying to right the balance are (left to right) Quali-Pro’s John Haguewood and Todd Deitz with *Golfdom* publisher Craig MacGregor, plus Quali-Pro’s Allan Fulcher, Nick Strain and Jeremy Moore. We’ll see you again in the magazine next month, guys.

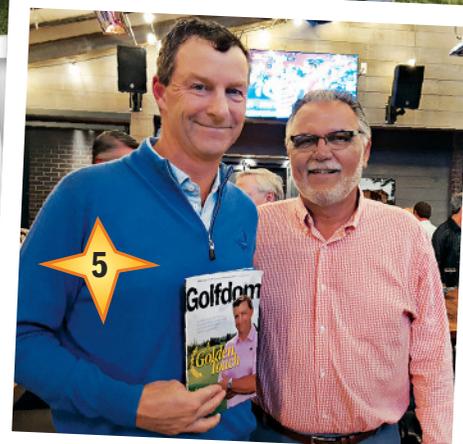


**3 They played “I’m Eighteen,” then they played 18** Kyle Johnson (third from right), superintendent at Carolina CC in Raleigh, N.C., and his team were excited to see legendary shock rocker Alice Cooper (center) and his band out on the course getting in a leisurely 18 holes between gigs.

**4 Media day at No. 4** *Golfdom* was honored to be included on the national media day guest list for the grand re-opening of Course 4 at Pinehurst (N.C.) Resort. And yes, the event included rounds on No. 2, No. 4, and post-round dinner and drinks at the new Pinehurst Brewery.



**5 Back issues** ASGCA member Gil Hanse (left) and Bob Farren, CGCS, Pinehurst Resort, show off a back issue of *Golfdom* that featured Hanse on the cover. Because, you know, we wanted Hanse to remember us so he keeps us on his holiday card list.



PHOTOS BY: SETH JONES (1, 2); TED MEGIEL (3); KELLY LIMPERT (4, 5)



“I started measuring clipping yield to gain a better understanding of the growth rate on putting surfaces.”

**JOE GULOTTI**, *superintendent, Newark (Del.) CC*

## Clipping volume nothing to snicker at

**R**ecently, I listened to a turf-related podcast while completing some turfgrass chores. I was thoroughly enjoying the conversation until it hit on a topic that in all honesty, annoyed me a bit.

The subject of clip volume was plucked from the host’s list of current greenkeeping fads, and the snickers and groans that followed led me to assume the podcast duo regarded this particular practice as total nonsense.

It hit a nerve because I have measured clipping yield for the past couple of seasons, and to paraphrase my boy Darth Vader, I found their lack of faith regarding this useful practice quite disturbing.

I started measuring clipping yield to gain a better understanding of the growth rate on putting surfaces. We began measuring a single green two seasons ago, and have since progressed to measuring yields on eight different putting surfaces.

This practice has provided a wealth of information, some of it being as simple as know-

ing all three reel units on our triplex mower are collecting an even amount, to the more complex ordeal of removal rates being ungodly high, leading to mechanical stress on turf.

If I had gone old school, basing clipping yield off how many times the buckets were chucked, I would have been oblivious to the fact that a single reel mower was a fraction off. And I now have a distinct number correlating yield to turf injury, which in all honesty, I probably would have noticed going with the old-timey method of counting how many times the buckets were emptied.

Even though checking the amount of clippings you have in the buckets or asking the operator how many times they were emptied are methods of gauging growth,

those options certainly aren’t as precise as dumping the buckets into a 20-quart stock bucket and writing down the measured yield in a field guide. It does add a few minutes to the task, but I have not noticed a discernible difference in the amount of time it takes to complete mowing all of our greens.

And despite not being a “desk jockey,” I consider the act of sitting down at the computer and placing this data into a spreadsheet as time well spent. It’s precision-based turf management in its purest form, giving me a distinct number for accurate decision making.

If yields are low, I skip mowing the next day, and roll. If yields are high, we’re definitely going to mow the following day, and might even consider throwing down a

double cut. We adjust nitrogen applications based on this data, as well as the rates and intervals of applying plant growth regulators. We also have an approximate number relating to nutrient use on our putting surfaces. Currently, we have removed just over a pound of nitrogen (in clippings) per thousand square feet on our 18th green. Would I have known this number doing bucket chucks and asking the operator how many times they emptied baskets?

What we’re doing is maximizing our resources by collecting data on growth rate. It’s taking out the guesswork, enabling us to be more precise. We’re no longer mowing and applying nitrogen and plant growth regulators on a schedule. Our operation is small, and time and every dollar spent is extremely valuable. We need to be frugal out of necessity, and measuring clipping volume aids us in achieving maximum efficiency.

I like the two gentlemen who were conversing on this particular podcast and appreciate their contributions to our industry over the years. However, I do disagree with their opinion on the matter of clipping volume, and hope this column gives them a better understanding of why greenkeepers are using it to measure growth rate differently from how they’ve determined it in the past. 🍷

**Joe Gulotti** ([hardg43@gmail.com](mailto:hardg43@gmail.com)) is the superintendent at Newark (Del.) CC. To read his blog, visit [thewalkinggreenkeeper.com](http://thewalkinggreenkeeper.com).



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# Distance Education

WORDS // **Seth Jones**

ART // **Andrew DeGraff**

I have been lucky to have some great mentors in my life... my father, the late Boyd Jones; a college professor who believed in me, Sharon Bass; our editor-at-large, Ed Hiscock, who took me under his wing during my time at GCSAA; and even my local bar owner, Rick Younger, who has treated me like a son for 20 years.

A *Sports Illustrated* story came out a year ago that inspired me. The story was “The Ultimate College Football Road Trip.” The premise was this: If you had unlimited funds, a nice RV and a entire fall season off work... where would you go for a once-in-a-lifetime road trip to see as many great games as possible? Where would you start, where would you finish?

I wanted to spin the idea for *Golfdom*. But instead of college football games, my thought was, “If you had unlimited funds, a nice RV and a entire fall season off work, which superintendents would you visit to sharpen your skills... and what would you learn?”

I wrote down the names of four superintendents I’ve come to know over the years whom I admire, and I reached out to their apprentices to glean some of what makes those superintendents special.

The stories I heard were both fun and inspirational. Arron McCurdy, whom I met when I worked the 2013 U.S. Open at Merion, spoke candidly with me about the importance of his

mentor, Matt Shaffer.

“Mentors are extremely important, especially how I grew up,” McCurdy told me. “I was a product of the ’80s. Everyone I knew, their families were broken by divorce. Some were better than others... mine, not so much. I was a street kid, to be honest. Matt is a mentor to me but he’s also a father figure.”

I understood what McCurdy was talking about, and it made me even more excited for the story. So I got on the road to learn about some of the people who I consider to be the best in the business.

## **DICK BATOR**

I first met Mike McCormick at Oakmont during the 2016 U.S. Open. He was an assistant superintendent then working for John Zimmers (now at Inverness Club in Toledo) and current Oakmont superintendent David Delsandro. Mike now is superintendent at the Apawamis Club in Rye, N.Y.

*Continued on page 16*





## ULTIMATE SUPERINTENDENT MENTOR ROAD TRIP

*Continued from page 15*

McCormick is proud to consider himself the last of the true Bator disciples... he worked for the legendary superintendent (stints at Pine Valley, Merion, Oak Hill) at his final course, The International Club in Bolton, Mass., before Bator retired and became a consultant.

McCormick is happy to share stories of his time with Bator, who he says has had a monumental impact on his life and career.

"All due respect to the men and women who work in our armed forces, I believe working for (Bator) is the closest thing to going into the military you can find in our industry," McCormick says. "The summer I interned for him I worked seven days a week, 90-hour work weeks, and I lost 30 pounds. On my last day, he told me I was his biggest disappointment he'd had in his 40 years as a superintendent."

Wait, *what?*

"It was 100 percent to motivate me," McCormick explains. "When I worked for him I was 19, and he lit a fire under my ass. He motivated me to be the best. He's grateful for the guys who work their asses off, but he's also hardest on those guys. When he called me a week later to check in on me and see how I was doing, it blew my mind — I didn't think he cared. But then he went to work for me, setting me up with internships, calling me two or three times a week... he's my original mentor."

McCormick says high-pressure situations don't bother him much after being in so many of those situations with Bator. If McCormick took one thing away from his experience with Bator, he says it's his dedication to the industry.

"His sense of urgency, his attention to detail... he just attacks any agronomic program with 100 percent of what he has. I've never seen anything like it," McCormick says. "He's 74 now and he still consults, and he writes 100-page

reports. I have a book in my office called 'The Bator Bible.' It's all his notes from the '80s and his time at Pine Valley, hosting the '85 Walker Cup, to his time at Merion. Every spray program, notes on employees, grounds committee meetings... it's a 400-page book!"

That's just Volume 1. McCormick has multiple volumes on his bookshelf, which include magazine articles with Bator's hand-scribbled notes alongside the stories.

"The other day he called me and said, 'Mike, do you have my 17-point fairway texture maintenance program? I can't find it.' So I faxed it to him — he doesn't have email," McCormick laughs. "He'd make for a great reality show. He pushed all his guys to the breaking point... but if you made it? He returns it by being a thousand times more loyal to you."

### MATT SHAFFER

McCormick could tell Bator stories all day, but I had to get moving to my next superintendent.

I knew Matt Shaffer prior to the 2013 U.S. Open at Merion, but it was leading into the tournament that I got to know him and his crew better.

To get some information on Shaffer, who is now enjoying semi-retirement, I contacted two guys who were working on the crew during the '13 U.S. Open — Arron McCurdy, now superintendent at Metedeconk National GC, Jackson, N.J., and Pat Maher, now superintendent at Parkersburg CC, Vienna, W.Va.

"It was challenging working for him," McCurdy told me, "and at the same time it was rewarding and fun. My time at Merion was more rewarding than any other time in my career. He would tell us, it's not about you... (Merion) has history and you chose to work here. If you want to work at this level, this is what it entails.

"We worked a lot of hours... but the friend-

**"His sense of urgency, his attention to detail...  
he just attacks any agronomic program  
with 100 percent of what he has.  
I've never seen anything like it."**

**MIKE MCCORMICK (on DICK BATOR)**





**“His ability to build his supporting cast is phenomenal. He was able to find the right people who could spend ridiculous hours around each other. Every week we were all there, and every week he chose the right people to put on a job.”**

**PAT MAHER (on MATT SHAFFER)**

ships I made there will last a lifetime,” McCurdy continues. “My friends from Merion are closer to me than my friends from high school or college.”

Mahe echoes those comments, and says getting people to work together is Shaffer’s greatest talent.

“His ability to build his supporting cast is phenomenal,” Maher says. “He was able to find the right people who could spend ridiculous hours around each other. Every

week we were all there, and every week he chose the right people to put on a job.”

Mahe also says that despite the long hours, Shaffer ultimately put family first.

“During the week of the U.S. Open, my mom got real sick,” Maher recalls. “I didn’t tell Matt. This was the biggest tournament of our lives, I didn’t want to mess it up. He found out and he told me, ‘You need to leave. Our personal lives matter more

*Continued on page 18*

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## ULTIMATE SUPERINTENDENT MENTOR ROAD TRIP

*Continued from page 17*

than even the biggest tournaments.” (Maher’s mom recovered.)

If McCurdy could absorb one attribute from Shaffer, it would be his ability to defuse situations with a sense of humor and brutal honesty.

“Prior to the U.S. Open, we were riding with the folks from John Deere, we were talking about their role in the tournament, the equipment we would be getting, etc.,” McCurdy recalls. “We came up on a member, and the member said something derogatory to Matt. Matt says, ‘You know what? I’m sure there is someone who would love to have your parking spot.’ Anyone else would have been escorted to the parking lot if they said that! But he instantly defused the situation.”

### **BILL LARSON**

Leaving behind the Merion guys, my journey took me to Minnesota to learn about Bill Larson, CGCS at Town & Country Club of St. Paul. I profiled Larson in the February 2015 issue — he was the winner of that year’s Herb Graffis Businessperson of the Year Award.

I talked to Aaron Johnson, CGCS at Dacotah Ridge GC in Morton, Minn., and Ryan Browning, superintendent at Valleywood GC in St. Paul, Minn. Both men were given good advice early in their careers: Go work for Larson if you want to succeed in the Minnesota golf market.

“Having a good mentor is extremely important,” Johnson says. “Even just getting that interview is so hard these days... Bill went above and beyond for all of his assistants.”

Browning firmly believes he wouldn’t be where he is today if he had not worked for Larson.

“You can learn anything you want to from a book at turf school. Being able to apply it is different,” Browning says. “The majority of

my experience and knowledge comes directly from Bill.”

Both Johnson and Browning were given multiple opportunities to lead while they worked for Larson.

“When it came to managing the crew, he gave me free rein,” Johnson recalls. “We had to install a bunker, he gave me some direction and four different things he wanted me to be sure I accomplished... then he said, ‘Run with it.’ He was both hands-off and hands-on... it was a nice balance of allowing me to run without the risk of getting into too much trouble.”

Browning recalls Larson asking him a blunt question that marked a turning point in his career.

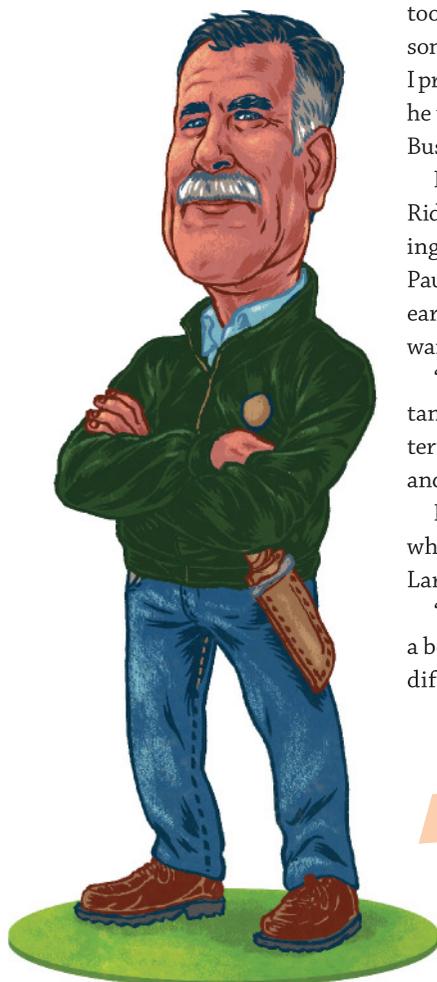
“We’d take these little field trips on Saturday mornings, following morning tasks,” Browning says. “He looked me in the eye and he asked me flat out, ‘Are you a leader?’ He told me that was the main quality he was looking for... he wanted to surround himself with good people and he wanted to know if I felt like I was up to the task. Apparently, I gave the right answer, because not much later I was promoted to first assistant.”

Johnson still leans on Larson today as a sounding board on topics from agronomic practices to personnel decisions. He says if he could reflect one attribute of Larson’s, it would be his salesmanship.

“Not just projects or purchasing equipment... but also the things we were doing on the golf course,” Johnson says. “Some areas of the course were really good, some areas needed some work, and he recognized that and talked to the membership about it. And if I could get one more, it would be his personality. He has a sense of humor, and it made it never feel like work — it was always fun and interesting working with Bill.”

**“When it came to managing the crew, he gave me free rein. He was both hands-off and hands-on... it was a nice balance of allowing me to run without the risk of getting into too much trouble.”**

**AARON JOHNSON (on BILL LARSON)**





**DAVID HAY**

Full disclosure: David Hay, longtime superintendent and currently CGCS at the 54-hole Mission Hills CC in Rancho Mirage, Calif., is a mentor of mine. He calls me “son” and celebrates my career achievements with me. No way was I leaving him out of this story. So that’s why I bothered John Leistikio in the middle of aerification.

Leistikio has been at Bear’s Best in Las Vegas since 2001, and he’s been the superintendent there since 2007. John started

working on golf courses right out of high school. He moved up in the Las Vegas golf market the old fashioned way — hard work.

“David trusted me and he gave me my shot,” Leistikio says. “So if you see anything you don’t like out here, it’s his fault!”

Hay was a regional superintendent overseeing several courses in Las Vegas for ClubCorp when he first started advising Leistikio. The two remain close today.

“He’s obviously a great grass grower, but

*Continued on page 20*

**“He’s obviously a great grass grower, but his skill is telling you to do something without making it sound like an order. He’s a relaxed guy... He’s great at having a low-key approach.”**

**JOHN LEISTIKO (on DAVID HAY)**

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## ULTIMATE SUPERINTENDENT MENTOR ROAD TRIP

Continued from page 19

his skill is telling you to do something without making it sound like an order,” Leistikio says. “He’s a relaxed guy... in this business, many of us are high-tension people. He’s great at having a low-key approach.”

I asked Leistikio for a Hay story. This one came to mind:

“He sees things you don’t think he sees. One time we were driving the course and I drove by something I didn’t want him to see. He didn’t say anything. Two holes later he says to me, ‘How’s that project coming along on No. 9? You know, when you start a project, you also need to finish a project.’”

I asked Leistikio if he’s been able to adopt David’s low-key attitude. He says he’s working on it, but admits he’s not been successful.

“I’ve gotten a lot better, but I am high strung,” he says. “You want things to be

**“I wrote down four of the superintendents I’ve come to know over the years whom I admire, and I reached out to their apprentices to glean some of what makes those superintendents special.”**

### SETH JONES

perfect. In this environment — expectations high, budgets low — it’s tough. Labor is so difficult here... it took us six months to find two guys. We’ve been running on a skeleton crew for going on two years now.”

Leistikio says if he could mimic one skill of Hay’s, it would be the way he handles people and gets the best out of them. He stays positive, even in bad situations.

“Don’t get me wrong, I take my career seriously, but some guys act like they’re curing cancer,” Leistikio says as he laughs. “It’s growing grass! David has been around

for 40 years. He can see what you’re doing, and he’ll help you do it better. If you have a tight budget, he’ll make it look good. If you have a big budget, he’ll make it look great.”

I could have talked to Leistikio all day, but the aerifer was calling him and I knew it was time to wrap up the road trip and file my story. I only made it as far west as Las Vegas. A valiant effort, but the project made me want more.

So I ask you: Who is your mentor? Who should I visit in 2019, and when are we going? 



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# Fantastic No. 4

Stunning work from Hanse Golf Course Design, LaBar Golf and the crew at Pinehurst Resort results in another feather in the legendary venue's cap

BY SETH JONES & KELLY LIMPERT

**W**hen a course gets updated, management can get touchy about what to call the work — a renovation, a restoration, maybe a reimagining.

Alan Owen knows what he calls the work he and his colleagues did to Pinehurst (N.C.) Resort's No. 4 course, for which he was lead superintendent.

"It's a brand-new golf course," he excitedly says in his English accent. "It's visually dramatic. There's an intimidation factor. But once you play it, you really enjoy it."

"It's not a Donald Ross restoration because the Donald Ross Course No. 4 doesn't exist any more... some of it is housing, some of it is course No. 2," says Gil Hanse, ASGCA. "It's kind of a hodge-podge, but we looked at the old aerial photographs and we tried to take some of Ross' bunker placements and some of what we've

gleaned to be his strategies and thoughts and we implemented some of those on our golf course. So it was a tiny bit of restoration wrapped around a giant renovation and a couple new golf holes. It's hard to describe what Course 4 is, but we look at it as a new golf course in our minds."

## Play in the sand

Hanse, designer of the 2016 Olympic Golf Course in Rio de Janeiro, envisioned No. 4 as a "companion course" to its famed sibling, No. 2. Recognizing the seamless connection, the United States Golf Association named the two courses hosts of the 2019 U.S. Amateur.

Although No. 4 will be a natural counterpart to No. 2, it is not a duplicate. In fact, Hanse believes No. 4 features the most interest-

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ing topography on the entire property.

“It is a companion in the landscape, but it is not a tribute in the features. The greens are different, the approaches are different and we wanted to take advantage of the landforms, which are much more dramatic than those on No. 2,” says Hanse.

“It’s an incredible piece of property that had a good golf course on it,” says Bob Farren, CGCS, Pinehurst Resort’s director of golf course maintenance. “Now when you see it, you can see so much

Hole No. 5 on Course 4, a par 4. “We looked at old aerial photographs and tried to... take some of (Donald Ross’) strategy and implement it on our course,” Hanse says.

more natural topography. The vistas and views are much better than what they used to be. There were some trees taken down, but not a significant amount. Gil and his team took advantage of the natural landscape.”

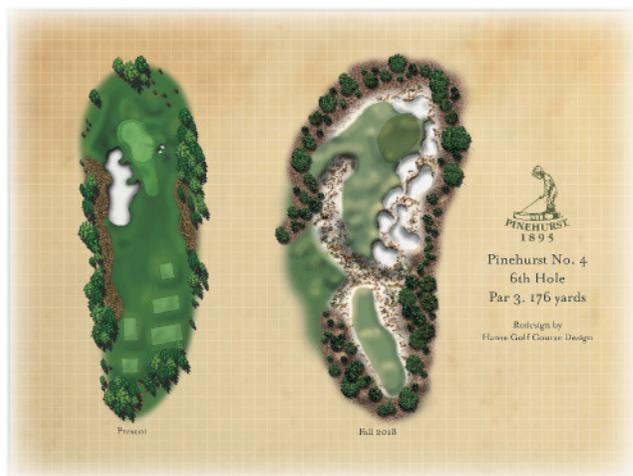
Hanse equated redesigning No. 4 as a chance to “play in the sand,” as nothing in golf compares to the Sandhills region of North Carolina and its underlying soil. His team restored No. 4 to its original landforms by recreating the hole corridors and reconnecting the elevations and natural features.



**Gil Hanse**

No. 4 closed in October 2017. The first stage was all in-house work: tree removal, cart path removal, trying to salvage as much fairway grass as possible, mowing down rough. Beginning last November, Hanse Design came in, along with LaBar Construction, a small crew just to get work started. In January 2018, everything ramped up. Work was completed just last month.

“Gil’s design concept was to return the golf course to what he imagined the original landform was,” Owen says. “There was a considerable amount of earthmoving, with the objective of getting back to the original landforms. A lot of times Gil would tell the dozer operator to look at the bottom of the trees on the left side and look at the bottom of the trees on the right side, and



On the left, a rendering of hole No. 6 previously, and how it looks today on the right. “There was a considerable amount of earthmoving,” Owen says.

**“It’s a brand-new golf course,” (Owen) excitedly says in his English accent. “It’s visually dramatic. There’s an intimidation factor. But once you play it, you really enjoy it.”**

connect them. No cuts, hollows or swails, just even from tree line to tree line.”

Hanse told the assembled media at Course 4’s national media day event that this was inspired by Course 2. Hanse encouraged his team to visit No. 2 every day and appreciate the subtleties of the course — how fairways bleed into wire grass, and wire grass then bleeds into trees.

“With that template to restore the landscape, we set about one of the biggest earthmoving projects we’ve ever had,” Hanse says. “Hopefully (golfers) won’t notice. We did it to put the ridges back where they should go, to put the valleys back where they should go and to tie into the tree lines. We wanted to make it feel seamless as it transitions from No. 2 to No. 4.”

### Washed away

There were some challenges along the way, of course. Material movement was the biggest headache.

“Back (in England) we get 40 to 50 inches of rain annually, but it is soft and steady, a little at a time all year long,” Owen says. “We get the same amount of rain here in Pinehurst, but it’s a different kind of rain — a quick 2-inch afternoon frog-choker. It can be heartbreaking when you’re on top of things, there’s a big storm, and then you’re back to square one.”

After these “frog-chokers,” the crew would return and do a little choking themselves... they’d see their hard work washed downhill.

“No. 2 is a unique piece of property, there’s nothing like it, the sand there and its ability to drain naturally,” Owen says. “Since 1920, Course 4 has been tweaked many times, and it’s lost that natural ability (to drain.) With the elevation changes and the slopes, it would not be an exaggeration to say the sand would move and we’d have 18 inches to 2 feet of sand in low areas. That’s not the look you want.”

Hanse, who Owen calls “superintendent friendly,” didn’t want to leave the crew with a monster to maintain. So they did some recontouring and incorporated Centipedegrass into the layout.

“(Centipedegrass) is lazy and slow-growing, and it won’t out-compete other natural grasses that we desire,” Owen says. “It was never mentioned, it just evolved. Course 8 has Centipede on a little area, so I’m familiar with it. It doesn’t need to be managed, it just needs to stabilize... we ended up using almost 15 acres.”

### Honored and impressed

The result is a spectacular course that looks daunting but plays fair. The fairways are generous, like No. 2. There are some spectacular vistas. From the 6th green, golfers probably can see 70 to 80 percent of the golf course.

Owen’s parents came stateside from Southampton, England, for a visit. But despite their son’s hard work on No. 4, they elected

*Continued on page 24*

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*Continued from page 23*

to play The Cradle, a 789-yard short course built by Hanse Golf Course Design last year. That's more their pace, he laughs.

Owen, who was the superintendent on No. 6 and No. 8 before being pulled off those courses to lead the No. 4 work, came away from the whole experience honored and impressed by his co-workers.

"(Hanse's) role was more than directing his team. He spent many hours on a dozer himself, designing many of the green complex placements and final shape. Between him and his partner, Jim Wagner, the two of them were responsible for all green construction by being equipment operators alongside their fellow shapers," Owen says. "Gil also lived on-site for a few months during the project."

A fond memory of the project for Owen will be how Hanse built camaraderie among the team. Hanse held an afternoon

golf outing on No. 4 for Owen, Golf Maintenance Manager Kevin Robinson, CGCS, and Assistant Superintendent Daniel Whisenant, along with the lead men from LaBar and the Hanse design/shaping team during construction. Afterward, Hanse invited everyone back to his house for a cookout and cold beer.

Now that the course is open for play and receiving positive reviews, the cast of characters is happy — yet relieved — that the project is complete.

"This was a huge team effort here, nine or 10 guys put their hearts and souls into

this, and it shows out there in their creativity," Hanse says. "It allowed Jim (Wagner) and I to be editors of their work, as opposed to authors. We just had to point them in the right direction."

"Daniel, Kevin and I have spent more time with each other working on No. 4 over the past year than with our significant others," Owen says. "To find co-workers that you get on so well with and have respect for one another made being part of the project a touch easier and definitely more enjoyable." ©

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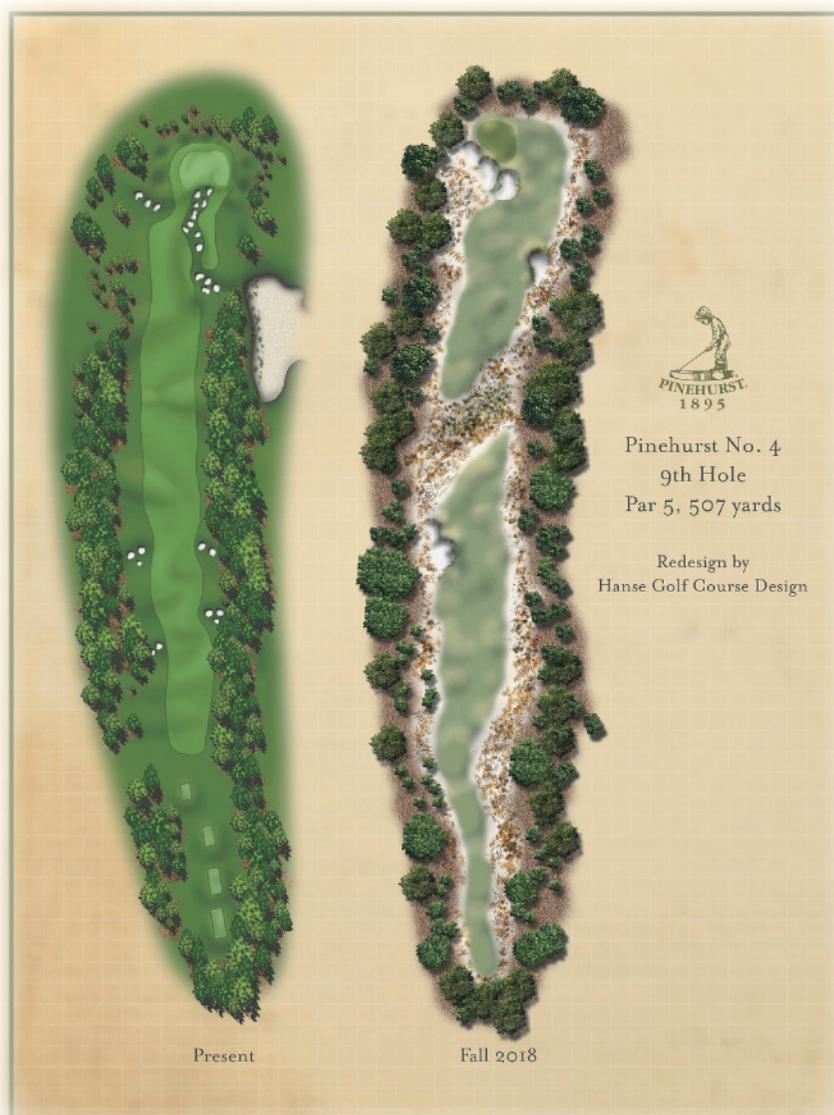
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A rendering of No. 9 on Course 4, showing how the hole looked last year compared to how the hole looks today.



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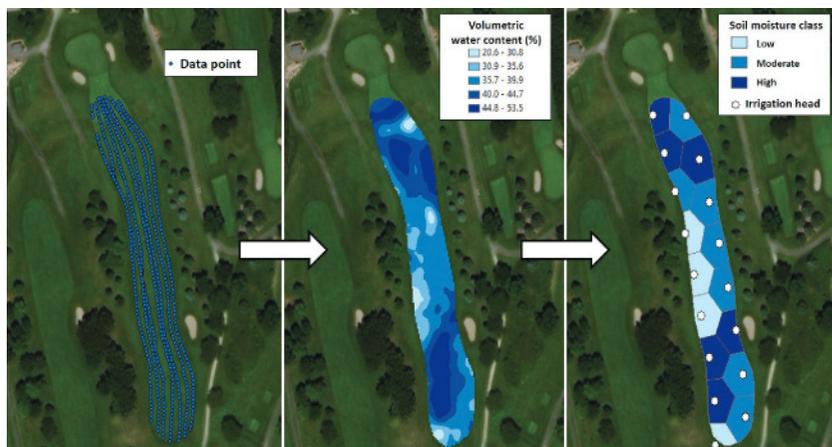
By Chase Straw, Ph.D., and Brian Horgan, Ph.D.

A study was initiated at Brackett's Crossing CC (Lakeville, Minn.) to encourage adoption of site-specific irrigation using in-ground soil moisture sensors and mapping technologies. We conducted course surveys to map soil moisture and place nine fairways into similar groups of three, in which each group is a replication in the study. One of three irrigation treatments will be applied in 2019 and 2020 to fairways within each group: soil moisture sensor-based, evapotranspiration (ET)-based or traditional.

For soil moisture sensor-based treatments, irrigation management zones have been delineated around heads within the fairways. We used soil moisture maps to create classes within delineated zones, and heads within each class will be programmed to run together. One Toro Turf Guard sensor has been installed within each soil-moisture class. Irrigation will be allowed within a class once plant-available water has been reduced 50 percent. For ET-based treatments, 70 percent of reference ET will be replaced every three days. For traditional treatments, we will ask the superintendents to irrigate normally. Total depth of irrigation applied will be recorded for each treatment, and totals will be quantified and compared on an area basis.

Normalized difference vegetation index (NDVI) will be used to evaluate turfgrass quality between treatments. Long-term goals of this research are to encourage adoption, acceptance and regular application of sensor and mapping technologies to reduce irrigation in the turfgrass industry. ©

Chase Straw, Ph.D., and Brian Horgan, Ph.D., are turfgrass scientists at the University of Minnesota. Chase Straw can be reached at [cstraw@umn.edu](mailto:cstraw@umn.edu) for more information.



Soil moisture classification process within delineated irrigation management zones.

### NEWS UPDATES

#### SIPCAM AGRO RECEIVES FEDERAL REGISTRATION FOR ENDOW GRANULAR FUNGICIDE

Sipcam Agro has received federal registration for Endow Granular (Endow G) fungicide.

"We are excited to add a granular fungicide, expanding the number of solutions we can offer our customers,"

said Michael Maravich, vice president of specialty for Sipcam.



**SIPCAM AGRO**  
USA, INC.

Packaged

in 30-pound bags, Endow G is registered for use on all turf types and use sites, including golf courses, commercial turf and residential lawns.

Azoxystrobin, the active ingredient in Endow G, is a quinone outside inhibitor. It offers broad spectrum control of multiple diseases — such as anthracnose, brown patch, *Pythium* blight, take-all patch, gray leaf spot, spring dead spot and gray and pink snow mold — by impeding the fungus cells' ability to produce energy, causing the fungus to die.

... SEEDHEAD COVERAGE IN PLOTS TREATED WITH PROXY IN EARLY FALL WAS 5 PERCENT TO 6 PERCENT, A GREATER THAN 90-PERCENT DECREASE FROM NONTREATED PLOTS."

Aaron Patton, Ph.D.

(see story on page 26)

// LOSE YOUR HEAD

# Suppressing Meyer zoysiagrass seedheads

By Aaron Patton, Ph.D., Jared Hoyle, Ph.D., Mike Harrell, Ph.D., and Zac Reicher, Ph.D.

**Z**oysiagrass (*Zoysia* spp.) is on about 25,000 acres of golf course turf in the United States. It provides golfers with an excellent ball lie when used in fairways, and its wear and divot tolerance, low nutritional requirement and tolerance to abiotic stresses makes it cost effective to maintain. Several newer cultivars have entered the marketplace in the past 30 years and are used in the Southeast, but Meyer zoysiagrass (*Zoysia japonica* Steud.) is the most common cultivar used in the Transition Zone.

Most zoysiagrass cultivars produce seedheads (inflorescences) in the spring and fall under short-day conditions, while others, such as Meyer zoysiagrass, only produce seedheads in spring. Zoysiagrass seedheads are tough and fibrous, making them tough to cut cleanly, causing excess wear on mowing equipment and increased equipment technician labor costs.

Further, zoysiagrass fairways look less than ideal during seedhead production. Meyer zoysiagrass appears dark purple-colored before mowing (Figures 1 and 2) because of pigments in the seedhead, and white-colored after mowing because of shredded seed stems (Figures 3 and 4).

Previous research on zoysiagrass seedhead suppression with plant growth regulators or herbicides has yielded few effective or safe solutions. Spring applications of certain herbicides effectively suppress zoysiagrass seedheads, but not without causing unacceptable injury. Ethephon, a plant growth regulator, is known to inhibit

**FIGURE 1**



Meyer zoysiagrass inflorescences (seedheads) appear dark purple-colored because of anthocyanin in the spikelet florets.

seedhead production by releasing ethylene. Two spring applications of Proxy (ethephon from Bayer) provided 60 percent to 89 percent Meyer zoysiagrass seedhead suppression with little zoysiagrass injury in Indiana and Tennessee research, but two applications of Proxy to achieve 60-percent or greater seedhead production would be cost and labor prohibitive for most golf courses.

Recent research on annual bluegrass (*Poa annua*) management discovered that superintendents could improve conventional spring Proxy application programs by adding a late winter application. The researcher hypothesized that annual bluegrass seedhead initiation begins in winter prior to conventional early spring Proxy applications.

Similarly, our hypothesis was that we could suppress zoysiagrass seedheads if we applied Proxy in the fall prior to winter dormancy.

## ASSESSING PROXY APPLICATION TIMING

We conducted experiments in 2016-2017 in West Lafayette, Ind. at Purdue University, Manhattan, Kan. at Kansas State University and in Lexington, Ky. at the Southeastern Turfgrass Research Center in Lexington. Each site maintained a mature Meyer zoysiagrass fairway area with a cutting height of 0.5 inch to 0.625 inch. Onsite weather stations monitored the soil and air temperatures in degrees Celsius. We calculated cooling degree days (CDD) daily starting on Aug. 1 as

PHOTO BY AARON PATTON

$T_{\text{base}} - [(T_{\text{max}} + T_{\text{min}}) / 2] = \text{CDD}$  using onsite weather stations. In this equation,  $T_{\text{max}}$  is the daily maximum air temperature,  $T_{\text{min}}$  is the daily minimum air temperature, and  $T_{\text{base}}$  is the lowest temperature in which plant growth occurs. We calculated cooling degree days in late summer and fall using 20 degrees C as  $T_{\text{base}}$  because little zoysiagrass growth occurs below this temperature. Negative CDD values were set to zero prior to summing their accumulation.

We treated plots with Proxy plant growth regulator at 5 fl. oz./1,000 ft<sup>2</sup> at one of four different initial application timings. The four initial Proxy application timings we tested were (A) early fall application to 100-percent green turf concurrent with when large patch fungicides are recommended, (B) 28 days after the early-fall application A, (C) spring application at 50-percent zoysiagrass green up and (D) 28 days after the spring application C when the turf was 99 percent or more green (Table 1). Additionally, three different sequential application timings were evaluated that included timings C+D, A+C+D, and B+C+D. We included a nontreated control plot for comparison, and eight treatments were evaluated in total. We applied the treatments at spray volumes of 1 gal./1,000 ft<sup>2</sup> in Kansas and 2 gal./1,000 ft<sup>2</sup> in Indiana and Kentucky.

### SUPPRESSION OF ZOYSIAGRASS SEEDHEADS

While all application timings of Proxy suppressed zoysiagrass seedheads compared with the nontreated plots, the early fall application timing was the only timing to provide acceptable levels of suppression (Table 2, Figure 5). Averaged over all three locations, seedhead coverage in plots treated with Proxy in early fall was 5 percent to 6 percent, a greater than 90-percent decrease from nontreated plots (Table 2). Suppression of Meyer zoysiagrass seedheads by an early fall (timing A)

**FIGURE 2**



An entire golf course fairway such as this one in Jasper, Ind. may appear dark purple colored during peak Meyer zoysiagrass seedhead production.

**FIGURE 3**



Meyer zoysiagrass fairway (Kansas City, Kan.) showing poor mowing quality and whitish overall color of the turf following mowing of seedheads.

application of Proxy was not enhanced by follow-up applications in spring (timings A+C+D). Additionally, late fall applications of Proxy (timing B) 28 days after early fall (timing A) applications only marginally reduced seedheads, indicating that there is a narrow application window for best results (Table 2).

Minor zoysiagrass injury was present in spring from the early fall (timing A) application and noticeable during green up as yellowing turf. However, we noted only 5-percent to 9-percent injury. No injury from any treatment was visible in the fall before winter dormancy.

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Continued from page 27

Additionally, there was no visible injury from any treatment after spring green up. This short-lived and minor injury on zoysiagrass is consistent with previous reports and consistent

with findings that zoysiagrass is among the turfgrass species least injured by ethephon. Turf quality largely was unaffected by the treatments, although quality was improved after green up in some plots because of reduced

seedheads and subsequently improved mowing quality (Figure 6).

## THEORY OF SEEDHEAD SUPPRESSION

Some grasses, especially those adapted to high altitudes or latitudes, are capable of initiating inflorescence development in the fall, with inflorescences emerging after winter. Meyer zoysiagrass is adapted to cold winters and was selected from high latitude, while many other zoysiagrass cultivars used in the Southeast are less winter hardy and were collected from lower latitudes.

We theorize that Meyer zoysiagrasses' flowering induction requirements are met by decreasing daylength and temperature in autumn and winter (vernalization), while secondary induction requirements of increasing daylength and temperature are met in spring. Other zoysiagrass cultivars such as Diamond [*Zoysia matrella* (L.) Merr.] that have both spring and fall seedhead

**FIGURE 4**



Closeup of Meyer zoysiagrass after mowing, showing shredded whitish seed stalks.

**TABLE 1**

### Site and application information for experiment locations.

Site information	Locations		
	West Lafayette, Ind.	Manhattan, Kan.	Lexington, Ky.
Proxy application date A	23 Sep. 2016	27 Sep. 2016	29 Sep. 2016
Proxy application date B	14 Oct. 2016	25 Oct. 2016	31 Oct. 2016
Proxy application date C	18 Apr. 2017	11 Apr. 2017	31 Mar. 2017
Proxy application date D	12 May 2017	9 May 2017	28 Apr. 2017
Total daylight hours date A	12.1 <sup>†</sup>	11.9	11.9
Total daylight hours date B	11.2	10.8	10.6
Total daylight hours date C	13.4	13.1	12.6
Total daylight hours date D	14.4	14.2	13.7
Accumulated cooling degree days (CDD) on date A	7	13	8
Accumulated cooling degree days (CDD) on date B	92	133	115
Accumulated growing degree days (GDD) on date C	109	98	115
Accumulated growing degree days (GDD) on date D	190	223	295

<sup>†</sup> from <https://www.timeanddate.com>

flushes and a subtropical origin may lack a vernalization requirement for floral induction.

**OBSERVATIONS AND RECOMMENDATIONS**

Prediction models for seedhead emergence currently are imperfect, but zoysiagrass seedhead emergence is correlated to growing degree days, day length and calendar date. The early fall application timing that successfully suppressed Meyer zoysiagrass seedheads in our experiment was applied under these conditions: 1) application dates of Sept. 23 to Sept. 29 to 100-percent green zoysiagrass; 2) daylength of 11.9 hours to 12.1 hours; and 3) accumulated cooling degree days less than 14 (20 degrees C base temperature). We theorize the application window for effective Meyer

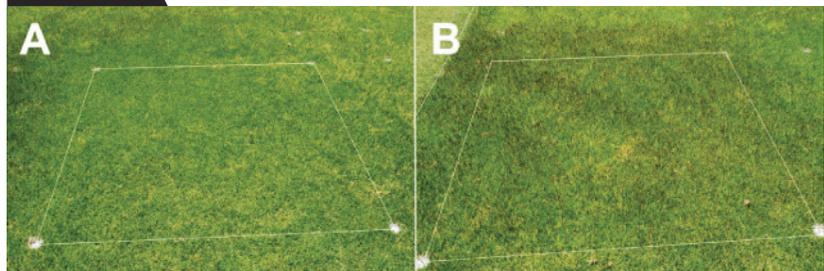
zoysiagrass seedhead suppression is wider than these specific data reflect, and we have started additional experiments to refine this fall application window. Much of the research on the timing of plant growth regulator applications is based on the accumulation of GDD. This is the first attempt to relate zoysiagrass development to cooling

degree days, but it may be a useful metric as cooling temperatures are necessary for floral induction.

The timing of effective Proxy applications to zoysiagrass also corresponds with the recommended application timing for the treatment of large patch disease (*Rhizoctonia solani*) in the

Continued on page 30

**FIGURE 5**



A research plot in West Lafayette, Ind. treated with Proxy on Sept. 23, 2016 and photographed on June 1, 2017 (A) next to the nontreated plot (B).

**TABLE 2**

**The influence of Proxy (ethephon) application timing and application programs on zoysiagrass injury, quality and seedhead production. Data were combined across three locations (W. Lafayette, Ind., Manhattan, Kan., Lexington, Ky.).**

Treatment	Application timing †	Zoysiagrass injury during green up	Turf quality in spring				Zoysiagrass seedhead coverage in spring
			2 WAA‡ timing C	4 WAA timing C	2 WAA timing D	4 WAA timing D	
		%	1-9				%
Proxy	early fall (A)	9 a	6.1	6.9	6.8 a#	7.1	5 c
Proxy	late fall (B)	3 bc	5.4	6.4	6.3 ab	7.1	40 b
Proxy	spring green up (C)	—††	5.6	6.5	6.0 b	7.1	42 b
Proxy	late spring (D)	—	—	—	6.1 b	6.9	45 b
Proxy	C + D	—	6.1	6.6	5.9 b	6.7	38 b
Proxy	A + C + D	5 ab	6.0	7.1	6.3 ab	6.7	6 c
Proxy	B + C + D	2 bc	5.6	6.4	5.7 b	6.7	39 b
Nontreated		0 c	5.9	6.5	6.1 b	7.3	66 a
P-value		<0.0001	0.5169	0.0897	0.0401	0.1061	<0.0001

† (A) early fall application to 100-percent green turf concurrent with when large-patch fungicides are applied, (B) 28 days after the early fall application A, (C) spring application when 50-percent zoysiagrass green up occurred, and (D) 28 days after the spring application C when the turf was 99 percent or more green (Table 1).

‡ WAA, weeks after application

# Within columns, means followed by the same letter are not significantly different ( $\alpha=0.05$ ).

†† Treatments not yet applied on this rating date and were excluded from analysis.

PHOTO BY: AARON PATTON

Continued from page 29

Transition Zone. Research done in 2017 recommended applying large patch fungicides when a seven-day average of thatch temperatures cooled to 64.0 degrees F to 73.8 degrees F in fall.

Thatch temperature data were not recorded in our study, but soil temperature averages at a 4-inch depth ranged from 69.8 degrees F to 73.2 degrees F for the seven days prior to application (timing A) at our locations.

We recommend tank-mixtures of Proxy and fungicides for large patch control to reduce application labor and equipment costs. However, applicators should use a jar test to test for compatibility when adding other products to the mixture. Further, avoid applications before heavy rainfall is anticipated. Rain reduces efficacy.

This research provides turf managers with insight on how to suppress Meyer zoysiagrass seedhead production.

Proxy applications were effective when applied in early fall about one month prior to winter dormancy and six months prior to peak zoysiagrass seedhead production. These findings on Proxy application timing should apply to the majority of the Transition Zone. However, we need more research and practical experience to help refine recommendations for zoysiagrass seedhead suppression. **©**

## Acknowledgements

*Thanks to Bayer Environmental Science for supporting this research.*

Aaron Patton, Ph.D., is a turfgrass scientist at Purdue University, Jared Hoyle, Ph.D., is a turfgrass scientist at Kansas State University, Mike Harrell, Ph.D., is a turfgrass scientist at the Southeastern Turfgrass Research Center and Zac Reicher, Ph.D., is a turfgrass scientist with Bayer CropScience. You may reach Aaron Patton at [ajpatton@purdue.edu](mailto:ajpatton@purdue.edu) for more information.

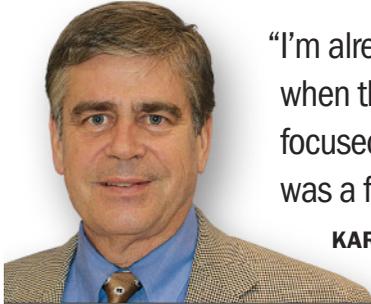
**FIGURE 6**



Green rectangles without seedheads and white-colored shredded seed stalks on April 28, 2017 illustrate successful seedhead inhibition from a Sept. 29, 2016 Proxy (ethephon) application in Lexington, Ky.

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“I’m already starting to miss the days when the majority of my ‘weed thoughts’ focused on *Poa annua* and whether it was a friend or foe.”

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

## November: Time to forget?

**N**ovember is a unique month because we have forgotten most of what happened the previous year. Martha Gellhorn, the famous war correspondent and one of the wives of Ernest Hemingway, said, “In November you begin to know how long the winter will be.” This weekend while raking leaves, I was thinking for the first time about this past season.

Golf courses in the past year faced a range of extreme challenges, from excessive heat throughout the Southwest, extended heat duration through September in the Midwest; heat, flooding and extensive rain through the Midwest and Southeast, the hurricane in the Carolinas and the Southwest tropical storm. Given that weather extremes are more the norm than the exception, I was not thinking of these events.

What I pondered was a few weeds and an insect. What popped into my mind were weeds — spotted spurge, yellow nutsedge, Virginia buttonweed — and ticks. Hardly what I would expect to be thinking about.

Spotted spurge isn’t exactly a glamorous weed. Most of the time I don’t think much about it. This year, however, I continually observed this weed invading turf stands throughout the summer. Granted, spotted spurge is a yearly problem in ornamental beds and

within cracks on patios, but this year I continually saw spotted spurge colonizing weak turf areas, and amazingly, growing over the top of turf canopies. Superintendents can control spotted spurge by hand pulling and through (what I think is) a limited number of herbicide options. The thing that stuck with me was the continual need for control practices through the year.

Yellow nutsedge, given its perennial lifecycle and affinity for wet or moist areas, seems to be everywhere. In areas where humid hot conditions have persisted over the last several summers, this weed appears in thinning or damaged turf areas. In the Midwest, it generally germinates in April/May and persists through the first frost, only to overwinter as tubers. Yellow nutsedge spreads by underground rhizomes, so it seems to just “pop up” in the turf.

Whether I was on a home lawn or on a golf course, I found myself bending down to pull out the weed. Unfortu-

nately, hand pulling works only temporarily until a new plant is generated by the rhizome or from tubers. Herbicides are effective, but if not controlled early in the spring the weed becomes a continual problem through the summer — and a major concern becomes which areas to treat.

What would a look back on this summer be without something new occurring? My colleague David Gardner, Ph.D., identified Virginia buttonweed for the first time along the Ohio River.

Virginia buttonweed is considered the most invasive weed infesting turf in the Southeastern United States. I’m already starting to miss the days when the majority of my “weed thoughts” focused on *Poa annua* and whether it was a friend or foe.

My other thought was the increase in tick populations this year. I saw golf course superintendents come out of native areas with ticks on their legs and golfers brushing them off and complaining about them, so ticks increasingly are seen as a problem.

Why are we seeing the presence of ticks in these numbers? Climate change. Milder winters have allowed for increases in tick populations. What we need this winter — and for maybe a few more — is a full frontal hit of freezing cold temperatures from November to March. Maybe a return of the Vortex. And if that happens, maybe I should head to Florida.

As I mentioned previously, November is a month when the past year should be and often is forgotten. So I dropped my rake and headed inside to watch college football.

In November, every football game takes on a larger-than-life importance, while those games played in September, whether won or lost, are not even remembered.

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).

# The dollars (and temps) of greens covers

Mike Richardson, Ph.D., is a turfgrass scientist at the University of Arkansas. Mike and his colleagues have been studying the air temperature at which temporary covers should be used on ultradwarf bermudagrass greens. Mike can be reached at [mricha@uark.edu](mailto:mricha@uark.edu) for more information.

## Q What is the low air temperature threshold at which ultradwarf bermudagrass greens should be covered?

There is no answer that works well for every golf course. Traffic, shade, organic matter accumulation, management practices and root zone characteristics are different on every course. Therefore, superintendents should decide for themselves the air temperature at which they apply covers.

The traditional answer is that whenever the forecast low air temperature is 25 degrees F or lower, superintendents should apply covers. In our research, we examined covering TifEagle, MiniVerde and Champion ultradwarf bermudagrass (*Cynodon dactylon* x. *C. transvaalensis*) at forecast air temperatures of 25, 22, 18 and 15 degrees F for three years and found no differences in winter survival, regardless of covering temperature. We had cold winters in two of the three research years. In both of those years, 100 percent of ultradwarf bermudagrass that wasn't covered died

during the winter.

The temperature at which covers are applied often is determined by the expectations of the course's management. For example, an elite golf course that receives little play in the winter and has extremely high expectations for turf performance in the golfing season should apply covers at 25 degrees F. A moderate golf course where revenue from winter

**WE FOUND THERE WAS A REDUCTION OF EIGHT TO 10 COVERINGS PER YEAR BY COVERING AT AN AIR TEMPERATURE OF 15 DEGREES F VERSUS 25 DEGREES F. THAT TRANSLATES TO A SAVINGS OF \$5,000 OR MORE PER YEAR.**

play is important for economic survival should apply covers at 15 degrees F.

If a superintendent is interested in applying covers at a temperature lower than 25 degrees F, try covering at 22 degrees F and see what happens for a winter or two. If there is no damage with covering at 22 degrees F, try covering at 18 degrees F for a winter or two and adjust as needed based on turf survival.

## Q Describe the benefits of covering ultradwarf bermudagrass greens at a lower threshold air temperature?

The primary benefit is economic. A superintendent in North Carolina has determined that it costs \$750 in labor to cover and uncover 20 greens on the golf course. In our research, we found there was a reduction of eight to 10 coverings per year by covering at an air temperature of 15 degrees F versus 25 degrees F. That translates to a savings of \$5,000 or more per year.

There also is an increase in revenue because the greens aren't covered for as many days during the winter golf season. That increase in revenue is harder to quantify because of differences among golf courses.

We observed no differences in winter survival by covering at 25, 22, 18 and 15 degrees F air temperature and no practical differences in spring green-up among covering temperatures. We saw no differences in sum-

mer turf performance among covering temperatures.

## Q What are the guidelines for removing covers?

There are no accepted guidelines for removing covers. It depends on the air temperature at which golfers want to play, and each golf course has a unique set of golfers. Superintendents should consider the long-range forecast in order to minimize the number of times they apply and remove covers.

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

Of the three cultivars tested, TifEagle and MiniVerde had the greatest winter survival, while Champion was injured the most.

We also tested applying a wetting agent in early December. The results were inconsistent. However, when we observed differences, they were always positive, which leads us to suggest an application of a wetting agent to ultradwarf bermudagrass greens in early December. Symptoms of localized dry spot can't be seen at that time of year because the grass is dormant. **G**



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

# The Golfdom

## F I L E S

FROM THE ARCHIVE

At an Atlanta GCSAA meeting in February 1979, *Golf Business* (*Golfdom* changed its name to *Golf Business* from August 1976 to the June/July 1981 issue) editor Dave Slayburgh gathered together six superintendents for an enlightening and controversial conversation about the state of the modern superintendent. A generation and a half later, many of their concerns have improved, while some remain. In the March 1979 issue of *Golf Business*, these superintendents sounded off about what they had learned in 50 years of GCSAA conferences, their impressions of the young talent coming out of turfgrass schools and getting the public recognition they deserve. To read the full article, visit [golfdom.com/exclusive](http://golfdom.com/exclusive).

## GCSAA roundtable: Six superintendents discuss the golf business

**GOLF BUSINESS:** *Do you think superintendents today get the recognition and respect that they deserve, particularly among other people in the golf business — course owners, golf professionals, general managers?*

**David C. Harmon, superintendent, Golden Horseshoe Golf Course, Williamsburg, Va.:**

It's obvious as far as the PGA Tour goes, there is practically zero recognition on tournament telecasts. I talked with the national GCSAA staff, and they said they send out letters and information on the superintendents for each of those tournaments, but very seldom do we ever hear on television who takes care of the golf course. It's always "the pro did an excellent job." Without the superintendent, they wouldn't have the golf course in the first place!

**Gene Burress, CGCS, City of Cincinnati, Ohio:** I approached Pat Summerall a few years ago at Inverrary during the Jackie Gleason Classic, and I also approached Chris Schenkel down at the New Orleans convention on the same subject that Dave is talking about. They frankly don't care. They look at that guy as a



greenskeeper. I did hear a positive note in watching the Phoenix tournament, after they had floods out there. They did mention the man's name and did give him credit for the fine job he did in turning that golf course around. But you rarely hear that. I'm not sure that the GCSAA has really done the job that they should do in terms of public relations with the networks.

**Gene Palrud, Playboy Resort & Country Club:** Superintendents who do get recognition on televised tournaments have done it on their own. They've made themselves known in the press tents. They have projected themselves and received the recognition. You have to be able to project yourself — almost push yourself right into the limelight. I think this is one area where superintendents are lacking, and this is where some strength should come from the national. I would like to see more from the national on public relations, on personnel relations, on projecting ourselves.

**GOLF BUSINESS:** *As far as upgrading the superintendent's image in general, I believe part of the public relations function of the GCSAA office is to go to tournament sites and talk to the press to play up the superintendent's role. Has this really been done in the past?*

**Tom Wolff, superintendent, Manito Golf & Country Club, Spokane, Wash.:** I think so. I've been to five out of the last seven Opens, and Doug Fender did a lot and so did Dick Hale. They did a lot to promote the superintendents and what they were doing. They tried to get letters or articles out to the media in all cases. A lot of times it's the superintendent that doesn't present himself. I've seen it at Medinah when Jackman wouldn't even go out on the green to collect a plaque. A couple of times superintendents have been asked to write articles for the tournament program, and they won't even do that. A PR department is fine, but if the superintendent isn't motivated to do something for himself or his own image, then there's no way I can tell him to change, or that the GCSAA is going to come in and do the job for him.

# The Shop

// MUST-HAVE NEW EQUIPMENT



1



2



3

## 1 PB-8010 backpack blower

The new PB-8010 backpack blower from **ECHO** includes a new 79.9cc engine, which delivers a performance of 1,071 cubic feet per minute and 211 miles per hour, with 44 newtons of force, according to the American National Standards Institute (ANSI) B175.2 standard. The blower features 3.6-inch diameter tubes with a wear ring on the end. The PB-8010 also comes with a carbon fiber plastic frame and fan case. Additionally, the vented backpack frame draws air across the user's back, and includes a block-off plate for use in cooler weather.

[Echo-usa.com](http://Echo-usa.com)

## 2 Square club washer

**MILTONA's** square club washer is one of the newest additions to its complete line of recycled products. The new club washer features a beautiful routed full-panel design and is made of sturdy recycled, maintenance-free plastic for years of use. The low-profile interior bucket is easily accessible and has attached brushes that quickly and effectively clean any club. It is available in black, brown or green.

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

## 3 Prudent40Plus fertilizer

**PERFORMANCE NUTRITION's** new Prudent 40Plus is a highly concentrated phosphite fertilizer fortified with 17 free L-amino acids. It's formulated with urea phosphite and pennamin amino acids, which are immediately plant-available, and features a lower usage rate than other common potassium phosphite fertilizers, the company says. Additionally, the PO3 stays stable in the jug because of its lower water content. Prudent 40Plus also was developed to increase the integrity of plant cell walls, improve plant pollen fertility and increase chlorophyll synthesis and concentration for improved light energy absorption.

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



4



6



5

Above left is a close-up of one of the more severe infestations of dollar spot. Above right is a close-up of the Declaration bentgrass portion.

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**4 Soteria fungicide**

**SEPRO CORP.**'s new Soteria fungicide provides preventative and curative control of dollar spot, brown patch, anthracnose and several other diseases. The Soteria formulation is a water-based suspension concentrate that demonstrates excellent turf safety and readily mixes into solution. Soteria is a featured component of the 2018-2019 SePRO Pinnacle Program. With the purchase of Soteria, golf course partners can earn an additional 2 percent rebate on all purchases of SePRO's line of turf plant growth regulators. [Sepro.com](http://Sepro.com)

**5 Declaration Creeping Bentgrass**

Declaration Creeping Bentgrass is a creeping bentgrass developed by **LEBANONTURF**. It is an aggressively growing, highly disease-resistant bentgrass bred to reduce fungicide costs and benefit the environment while delivering top playing conditions. Declaration exhibits top-rated overall turf quality and dollar spot resistance. In the 2004-2007 Final NTEP Greens trial, Declaration tied for No. 1 overall for turf quality and ranked No. 1 for dollar spot resistance. [Lebanonturf.com](http://Lebanonturf.com)

**6 Magnum Harvester ball picker**

**STANDARD GOLF** has added two new products to its Magnum Harvester line of ball pickers. New in 2019, the company will release a larger push-behind ball collector, the Magnum Senior Harvest, and a new smaller utility-cart connected ball picker, the in-line Magnum Harvester. Both products use Standard Golf's patented split-gang technology to allow it to pick up balls in a forward or backward direction. The Senior Harvester is a push-ball collector with a 600-ball capacity. The in-line harvester is 5 feet wide, offers a 900-ball capacity and easily connects to any utility vehicle. [Standardgolf.com](http://Standardgolf.com)

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



## Rick Hathaway

**SUPERINTENDENT** // Rock Creek Cattle Co., Deer Lodge, Mont.



**Rick, what can I get you?** I'll have a light pilsner to start, but I like craft beers... I'll switch to something higher octane once I cool off.

### What's your favorite craft beer?



There's a brewery in Deer Lodge called Elk Ridge Brewery. They have a Cow in Heat Jalapeno Cream Ale that's my favorite.

### Hunting season just opened, what's your goal?

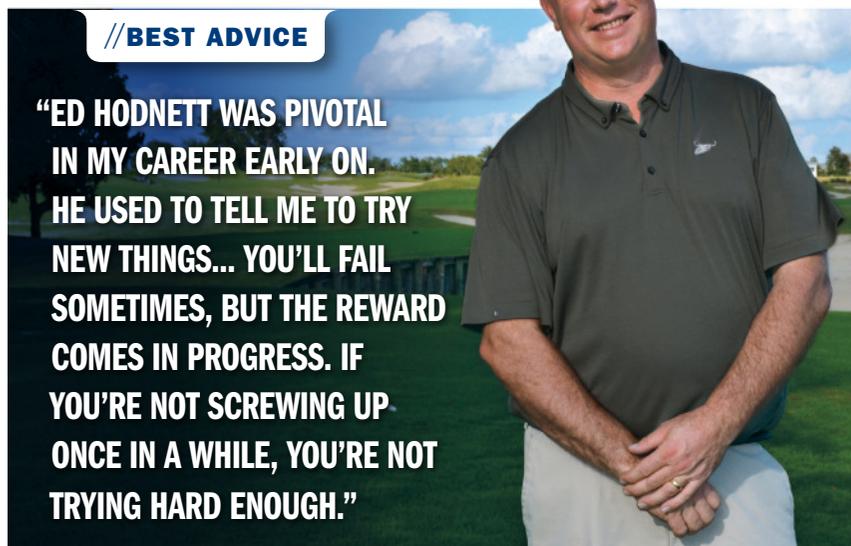
We hunt elk here in southwest Montana. My son got a bull on opening day. That's the first time we've ever got one on day one. He's a sophomore at Montana State University, so to him that means more meat and less Top Ramen.

### If you could borrow the keys to Marty McFly's DeLorean, what event in history would you visit?

I would go be a fly on the wall at the Constitutional Convention. That's always intrigued me, how that unfolded.

### Thanksgiving is around the corner, any Hathaway family traditions?

Our tradition is that I don't think we've ever had a turkey prepared the same way from one year to the next. I like to dabble in cooking. I'll read something or see something, and that's what we're going to try. We've had deep fried turkey, smoked



### //BEST ADVICE

**"ED HODNETT WAS PIVOTAL IN MY CAREER EARLY ON. HE USED TO TELL ME TO TRY NEW THINGS... YOU'LL FAIL SOMETIMES, BUT THE REWARD COMES IN PROGRESS. IF YOU'RE NOT SCREWING UP ONCE IN A WHILE, YOU'RE NOT TRYING HARD ENOUGH."**

turkey, an upside-down turkey... I sound like Forrest Gump. But my wife and kids never know what they're going to get.

**What teams do you root for?** Lately it's been the Las Vegas Golden Knights. Bill Foley, who owns the Knights, also owns Rock Creek Cattle Co. That team has demonstrated how a new franchise can immediately be successful.



**Tell me about Rock Creek Cattle Co.** It is what the name implies. It's a 30,000-acre cattle ranch with 2,500 head of cattle. The golf course is a Tom Doak design, and it shares characteristics of other Doak layouts with vast grassy native areas, except our distinguishing feature is boulders in the rough.

### What's your favorite tool in the shop?

I'm old school. I like my aerifiers, my verticutters, my topdressers. Basic agronomy 101. It's tough to screw up a golf course if you take good care of those tools.

### What are your biggest challenges there?

We're in God's country for growing grass in the summers. Our biggest challenge is elk damage. They trample the course, they urinate on it.

### What is something you're always saying to the crew?

I'm always telling them to work hard and be safe, but also have fun. It's why a lot of us got into this business. Use your head, but it's OK to have fun while you're at work.

As interviewed by Seth Jones, Oct. 23, 2018.

MAIN PHOTO BY: ABBY HART, WIKI COMMONS (SIGNING OF CONSTITUTION);  
ISTOCK.COM: JODIACOBSON (TURKEY)

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