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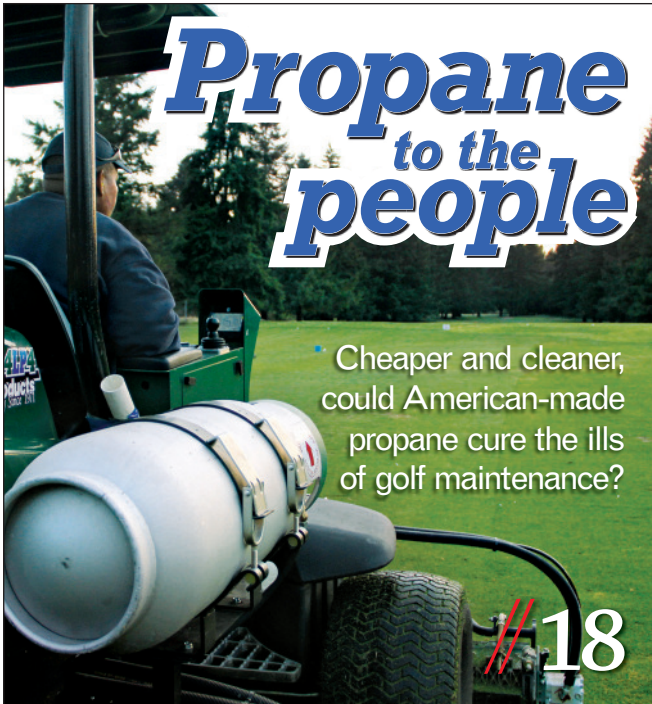
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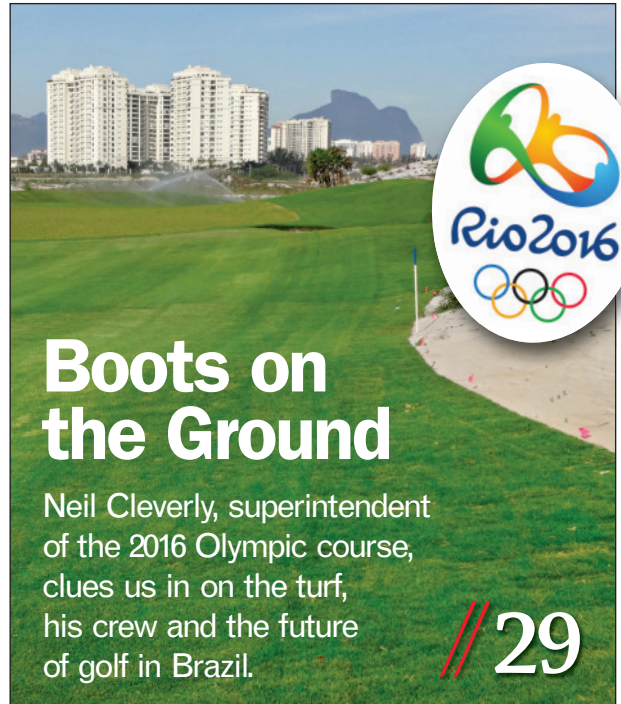
The beginning and end of anthracnose control.



Propane to the people

Cheaper and cleaner, could American-made propane cure the ills of golf maintenance?

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Boots on the Ground

Neil Cleverly, superintendent of the 2016 Olympic course, clues us in on the turf, his crew and the future of golf in Brazil.

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"I'm talking about some crazy idea that could get 20 former fraternity brothers across six states to call in sick tomorrow to get out on the links — even if they haven't teed it up in 10 years."

SETH JONES, *Editor-in-Chief*

breaks through and wins his next major, and he says on live TV, "I just really have to thank Jerry in Terre Haute. He was right... *lima beans*."

#BeatSpieth

Another idea requiring help from one of the game's stars.

Take a random Tour event (the more random the better) and declare the Wednesday of that week "National Beat Spieth Day." Spieth films a commercial challenging the golfing public to tee it up that day and tweet an image of their scorecard with the hashtag #BeatSpieth.

Tee it up from your preferred set of tees. Spieth agrees to give everyone two strokes a side. Play using USGA's handicap system. Play golf that Wednesday, tweet your scorecard, then watch on Thursday and see if you can beat Spieth.

Perhaps Under Armour could select one of the winning scores and invite that golfer to play with Spieth and fellow Under Armour-sponsored golfers Gary Woodland and Hunter Mahan. It'd be a golfer's dream.

I use Spieth, but you could fill in just about any cool golfer, and I could see it creating at least a little one-day bump in rounds. Do it when the season is winding down.

So what's your idea? Tweet at or email me, and we'll see if we can't get the next viral craze to require golf balls instead of ice cubes.

Contact Jones at sjones@northcoastmedia.net or via [Twitter @SethAJones](https://twitter.com/SethAJones).

Finding the next ice bucket

A year ago at this time Americans were joyously dumping buckets of ice water over their heads on video for charity. By the end of the Ice Bucket Challenge, \$115 million was raised for the ALS Association.

I believe the videos were successful for a few reasons: there was a childish fun to dumping ice water over your head; there was a "got ya!" element to challenging friends; and there was an opportunity to be creative by staging a cool ice bucket dump.

The ALS Association reaped the benefit of the Ice Bucket Challenge going viral. So what's the next Ice Bucket Challenge, and who cashes in?

I'm guessing there are marketing people in boardrooms (or bar rooms) right now trying to come up with an idea that can excite even a fraction of the people that the Ice Bucket Challenge did. And this isn't limited to charitable causes. Any industry would love a free, homegrown boost of excitement or revenue.

So yeah, I've been trying to think of how golf might be able to cash in on a new craze.

I know, golf already has great player programs. But I'm not talking about long-term "grow the game" ideas. I'm talking about some crazy idea that could get 20 former fraternity brothers across six states to call in sick tomorrow to get out on the links — even if they haven't teed it up in 10 years.

So here are two ideas I came up with while smoking ribs on a lazy Sunday afternoon. You might accuse me of smoking more than just ribs, but hear me out...

FixTiger.com

Yes, I'm leaning on Tiger's star power.

The story being widely reported lately is that Tiger kills it on the range, then bogeys his first hole and loses all rhythm from there.

So many golfers can relate. I'm assuming some (not me)

have been able to overcome this phenomenon.

So how does Joe Golfer overcome this? Tell Tiger! Go to a website, FixTiger.com (which opens with a 20-second commercial for the Nike Vapor Irons, *natch*) and upload your video suggestion to Tiger.

It could be any suggestion, from more weight on your front foot to kissing a baby at each hole. But here's the catch: the tip must include a successful demonstration on a golf course.

For example, someone could be standing on the No. 3 tee, a long par 5. Our everyman golfer says, "Tiger, check this out! I got a Snake Plissken tattoo of a cobra on my stomach. I haven't missed a fairway since!"

And then he blisters one right down the middle.

The reward is when Tiger



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NEWS, NOTES AND QUOTES



// A WOTUS WALLOP



GOLF ENTERS THE WOTUS ERA

BY GRANT B. GANNON // Associate Editor



Beginning Aug. 28th, Waters of the United States (WOTUS) goes into effect.

There is no grace period, so superintendents need to be prepared.

The rules are sure to have an impact on many golf courses across the U.S. The GCSAA held a webcast on the topic late last month, and it is available as a free download at GCSAA.org. Led by Deidre G. Duncan, who practices environmental, energy and administrative law for the D.C. law firm Hunton & Williams, some of the information she shared sounded ominous for superintendents.

For example, Duncan stated that aeration and topdressing that moves a large amount of material “could” require permits depending on proximity to water. Also, if permits are not acquired in accordance to WOTUS, civilians could file a suit on water quality standards.

“This has the potential to cripple our industry,” Kevin Hicks, superintendent at The Coeur d’Alene (Idaho)

Resort Golf Course, tweeted to *Golf-dom*. “The third-party ability to file suit is the scariest part of this rule. A disgruntled neighbor could shut us down or bankrupt us.”

Golf-dom senior contributing editor Joel Jackson, CGCS-Retired, cried foul on the EPA and WOTUS, stating in his column this month, “You must apply and pay for a permit to spray and protect your turfgrass... it’s once again the little man who gets tangled up in the red tape.” (See page 14 for Jackson’s full reaction to WOTUS.)

For now, Duncan suggested superintendents should:

- assess their golf course for water features that connect to other offsite waters;
- assess whether the water features were constructed in “dry land;”
- determine whether a permit is required to spray pesticides or fertilizers;
- and seek a jurisdictional determination if you are not sure where the water feature stands.

// REGIONAL REUNION

REGIONAL EXPO RETURNING TO THE DEEP SOUTH

The inaugural Deep South Turf Expo (DSTE) will be held Oct. 13-15, 2015 in Biloxi, Miss.

The turf conference and trade show is a collaboration of the Alabama Turfgrass Association, Mississippi Turfgrass Association, Alabama GCSA, Gulf Coast GCSA and the Louisiana-Mississippi GCSA. A regional effort of this size has not happened since the Southern Turfgrass Association disbanded.

The DSTE Conference will be hosted at the Beau Rivage Resort, with a trade show and educational series at the Mississippi Coast Convention Center.

“This will be an excellent opportunity for education, socializing and networking, and I am honored to be working with so many influential industry leaders in our area,” says Stephen Miles, CGCS, director of operations and agronomy at The Preserve Golf Club, and DSTE President.

(Anyone think SEC college football allegiances might come up during the event?)

// GROWING THE GAME

GIRLS GOING OUT FOR PGA SUMMER GOLF CAMPS

Summer is a time for kids to take time off school and relax... until they inevitably get bored and their parents send them to summer camps. This year more and more girls are hitting the golf course and attending PGA Junior Golf Camps.

According to the PGA of America, the typical golf camp enrolls a male to female campers ratio of approximately 10:1, but the PGA Junior Golf Camps is reporting a 4:1 ratio at several camps around the country.

“As recently as 10 years ago, girls did not have any meaningful ‘representation’ at golf camps, but we are definitely seeing more girls enrolled in our camps this summer. We think it is a great thing for the girls themselves and for the game in general,” says Marc Haddad, founder of the PGA Junior Golf Camps.



William Crow, Ph.D., discusses test plot results at the University of Florida's Plant Science Research Center in Citra, Fla. Crow has been testing nematicides, specifically fluensulfone, on golf course turf.

// GATORS VS. NEMATODES

Quali-Pro eyes nematodes

➔ Quali-Pro recently hosted about 40 distributors at the University of Florida's Plant Science Research and Education Facility in Citra, Fla., to discuss a new nematicide the company has coming down the pipeline.

The company hopes to receive EPA approval of the product in late February of next year. William T. Crow, Ph.D., has been monitoring test plots of the product at the Citra facility since 2008, and reports seeing favorable results. Quali-Pro entomologist and nematologist Marie Knox has also been heavily involved in the develop-

ment of the product.

"We're educating our potential distributors, and giving them the product characteristics of this nematicide," said Rick Grant, business director for Control Solutions Inc., the parent company of Quali-Pro. "We're also asking them to help us and tell us what we're missing... what can we do to make the superintendent or lawn care operator more successful?"

The nematicide is based on Nimitz, a fluensulfone from CSI's parent company, ADAMA, and currently in use in the agriculture industry.

THEY SAID IT

MIKE YELENOSKY

SUPERINTENDENT, LANCASTER (PA.) CC

Heard by LancasterOnline when Yelenosky was talking to a crew member during preparations for the 2015 U.S. Women's Open.

"Sleep? I don't need sleep, it's overrated."

// DID YOU SEE THAT?

USGA TV CAMPAIGN FEATURES FIRST GREEN

While watching Fox Sports and Fox Sports 1 coverage of this year's U.S. Open at Chambers Bay you might have seen a commercial developed by the USGA showcasing the partnership between First Green and the USGA.

The spot, under the theme "A Lot to Love About Golf," features Steve Kealy, First Green board member and superintendent at Glendale Country Club in Bellevue, Wash. In the spot, Kealy is seen conducting science labs with middle school students on the golf course.

"We are grateful to the USGA for showcasing First Green's programming to such a broad and influential audience," says First Green Executive Director Karen Armstead.

If you used DVR to skip the commercials (another reason we're happy we're in the magazine business), you can still see the 30-second commercial running across the range of 21st Century Fox networks through August.

// TAKING HER TALENTS TO ZELLWOOD

ANUVIA PLANT NUTRIENTS NAMES AMY YODER TO CEO

Anuvia Plant Nutrients, a new plant nutrient company to be headquartered in Zellwood, Fla., recently named Amy Yoder as its CEO.

Yoder, a 20-year veteran of the agricultural industry, comes to Anuvia from Arysta LifeScience North America, where she served as president and CEO.

"Now is a great time to join the Anuvia team, and I couldn't be happier about this opportunity," says Yoder.

Anuvia is focused on a new and patented way of manufacturing an enhanced efficiency fertilizer (EEF) for the turf and agricultural industries, according to the company. Anuvia says it addresses the three pillars of sustainability — social, environmental and economic — simultaneously by providing an avenue for organic materials to be used in a resource-efficient and environmentally friendly manner.

// GOLFDOM WISDOM

The summer has gotten too long not when you start talking to your hose, but when your hose starts talking back. #golfdomwisdom

Golfdom Gallery



1 Expensive tastes We were happy to make some new friends at the Hyde Park Prime Steakhouse bar in Daytona Beach, Fla. (L to R) Jeff Dekle, Bulloch Fertilizer Co.; Walt Strickland, Bulloch Fertilizer Co. and Brad Shaver, Helena Chemical Co., know where to find a good steak, it seems.



2 Of monsters and men We saw this monster truck in the maintenance facility parking lot at the Olympic Club in San Francisco and asked the crew to huddle up for a photo. Thanks to Troy Flanagan, Director of Golf Maintenance (in green), for treating us to those amazing burger dogs.

3 Gators versus nematodes Following a field research tour presented by Dr. Billy Crow (see story on page 9), the group was asked to gather 'round this Florida Gator logo for a group photo, taken from a cherry picker. Oh, those SEC schools.



4 We're on a boat Jeff Dekle, Bulloch Fertilizer Co.; Cameron McDermid, AmeriTurf; Jake Wylie, Quali-Pro; Jason Hart, Univar; Rick Grant, Quali-Pro; Brent Ratcliff, AmeriTurf and Billy Crow, Ph.D., University of Florida, found time to further discuss nematodes while fishing off the Florida coast.



5 Fish story Golfdom EIC Seth Jones (left) couldn't handle Golfdom Gallery going by without his smiling face in it. So we found this photo of him with Dr. Crow. (Seth asked for the photo of him reeling in a 5-foot barracuda — but let's just say we "lost" that one.)



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“...A driven personality, strong observation skills and a passion for their work are pretty much standard issue. I’ve also noticed several other things many turf guys have in common.”

MATT NEFF, *assistant superintendent, Wedgewood G&CC, Powell, Ohio*

You might be a turf guy if...

There are several character traits that are prevalent among people in golf course maintenance. Traits such as a tremendous work ethic, a driven personality, strong observation and problem solving skills, attention to detail and a passion for their work are pretty much standard issue. Along with these admirable qualities, I’ve also noticed several other things over the years that many turf guys have in common. So, to borrow a phrase from Jeff Foxworthy — and this might be the first time anyone has ever wanted to do that — you might be a turf guy if...

...you have two or more weather apps on your phone.

You never know when one of them might say the temp is 90 when it’s really 89. Can you imagine how embarrassing it would be to walk around all day thinking it was 90?

...you sometimes get a little annoyed when people are happy about the umpteenth straight hot, sunny, dry weekend.

They know it’s going to be another good weekend to play golf or go fishing but you know it’s going to be a great weekend to drag a hose... again.

...you’ve actually been angry at the weatherman.

Be it for his audacity to give a forecast that is going to ruin your plans for the next day or, worse, for inexcusably giving an incorrect forecast that ends up ruining your plans after said plans have already been enacted.

...you almost cause traffic accidents while rubbernecking as you drive by other golf courses.

I do this all the time and I really need to stop, especially when my kids are riding with me. The problem is I can’t. I’ve tried but it’s an involuntary reflex. I am also easily distracted by really good mowing stripes. I take solace in knowing I’m not alone in my struggle.

...you frequently find yourself driving your car like you do your cart.

Which is to say you’re not completely focused on what’s in front of you. Instead you’re looking in all directions checking everything out as if the DOT or the property owners are awaiting your input on any roadside maintenance or landscaping issues. Moral of the last two points: it’s not safe to ride with me.

...you’ve dreamed of finding a pair of boots that will actually keep your feet dry for an entire season.

They’re made of unicorn skin. They don’t exist — at least not for what I’m willing

to pay for them.

...your home lawn is either awesome or terrible.

You have the knowledge, skills and access to the “good stuff,” so why wouldn’t it look good. On the other hand, due to your lack of time, energy or desire to mess with it when you get home, you may have just accepted the fact that your lawn is far from the best on the block. However, I suspect that a lot of turf guys who would tell you that their lawn looks bad are probably being too critical.

...you’ve been asked what you do in the winter approximately 1,000 times.

I realize many of you southern guys don’t often get asked this but those of us up north spend a lot of time at Christmas parties answering this question. People often seemed surprised to hear how much work goes on in the off season to make sure everything will be as good as it can be when it’s time to tee it up again.

Most importantly, you might be a turf guy if you can’t imagine doing anything else.

Despite all of the challenges that come with maintaining turf at a high level, there isn’t anything else you’d rather do. If there’s one thing that the vast majority of people in this business seem to have, it’s the belief that this might be the greatest profession on earth.

Matt Neff (mneff4@yahoo.com) is assistant superintendent at Wedgewood G&CC in Powell, Ohio.

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“You must apply and pay for a permit to spray and protect your turfgrass! Meanwhile, sitting on dock of the bay, sewage keeps flowing along. It’s enough to make a grown person cry.”

JOEL JACKSON, *Senior Contributing Editor*

WOTUS is really “Woe Unto Us!”

The new Waters of the U.S. regulatory effort by the Environmental Protection Agency and the Army Corps of Engineers, known as WOTUS, is so far reaching it is more of a PR project to give the appearance of protecting the environment rather than contributing to real progress in preventing direct dumping of pollutants into our nation’s water bodies.

The direct dumping of treated sewage by municipal and private water treatment plants into rivers, bays and oceans that goes on 24/7/365 is ripe for intervention.

But the EPA and the Corps seem to want to generate permit fee dollars by designating as dangerous seasonally wet ditches, swales, wetlands, ponds and lakes on golf courses and other remote locations. They say these areas “might” overflow into a creek that connects to a stream that makes its way to a bay that might carry “possible pollutants” to the ocean on an outgoing tide.

So a pesticide that has been federally licensed, EPA tested and approved, is applied occasionally to turfgrass “pos-

sibly” near one of these newly regulated ditches and is theorized to pollute a “water body of the U.S.” somehow, somewhere. Therefore you must apply and pay for a permit to spray and protect your turfgrass! Meanwhile, sitting on dock of the bay, sewage keeps flowing along. It’s enough to make a grown person cry.

Pretty soon, seagulls pooping on the beach will be trapped and relocated to where, another beach? More ocean and lake side beaches are closed annually for bacterial pollution than for chemical pollution. Where does the bacteria come from? Can you say sewage treatment plants?

It’s once again the little man who gets tangled up in the red tape. Most golf

courses are small businesses and work off small profit margins. All the “do-gooders” see are the ultra-private clubs and resorts featured on TV. They forget about the other daily fee courses that contribute the bulk of play across the U.S. The industry tries, through the GCSAA, to give Congress and EPA a real feel for the environmental stewardship efforts by serious golf course owners and operators.

But the headline-grabbing vultures continuously gain top billing in the media by spewing imaginary scenarios of gloom and doom. Tell me even one — or combined — incidents on a golf course that warrants the WOTUS action. Especially when compared to the Exxon Valdez, the BP oil

spill or the most recent Santa Barbara pipeline failure, on top of the daily dumping of treated sewage into our sacred “Waters of the U.S.”

If the EPA and the Corps want to regulate direct inputs into navigable waters, so be it. Golf courses along any of these waters can employ setback, and research shows that nutrients and chemicals are not extremely mobile when applied properly. With the infrequency of such applications and the small amount of sensitive acreage affected, the chances of any statistically significant effect are miniscule. In addition, pest outbreaks and infestations can be disastrous in a short time and often need immediate attention and treatment with no room for permit-filing delays.

We failed thus far via the GCSAA Government Relations efforts to postpone WOTUS pending further review and discussion, along with sensible, fact-based amendments.

So unfortunately, to keep you and your club out of legal trouble you will have to abide by the law of the land, and you’d better do so or become labeled a polluter on the local TV news. If you don’t, “Woe Unto All of Us!”

Note: The GCSAA had a WOTUS workshop online on July 28, 2015. You can contact GCSAA for a transcript or other information that can help you understand your responsibilities and how to comply with new regulations.

Joel Jackson, CGCS-Ret., is senior contributing editor for *Golfdom*. Email him at flrjn@aol.com.

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Karen Rumohr

ASSISTANT SUPERINTENDENT

Edmonton Petroleum Golf and Country Club,
Spruce Grove, Alberta, Canada

It's not always where you start but where you finish. That's a lesson to be learned from Karen Rumohr. She earned one non-turf college degree, but she loved being on a golf course and had a desire to maintain turf. So Rumohr went back to school to get a degree in turf.

Now she is the assistant superintendent at the Edmonton Petroleum Golf and Country Club and continuing to develop the skills she'll need to become a superintendent someday. If you ask her, that will probably happen sooner rather than later.

WHERE DID YOU GO

TO SCHOOL? I have a degree from the University of Alberta that isn't related to turf and I have a turf certificate from Olds College.

WHAT DID YOU ORIGINALLY

STUDY AT SCHOOL? My first degree is in geology, and while I was in school I worked at the golf course during the summers. I didn't know turfgrass was an option but when I finished school I realized that was where I wanted to be. I continued on to a different golf course and basically worked my way into the assistant position.

WHO ARE YOUR MENTORS

IN THE INDUSTRY? I have two mentors. The first one is Jen Peckham. She was my first

superintendent and gave me a shot as an assistant at Pioneer Meadows in Edmonton, Alberta, Canada. I learned most of the technical skills I have from her. The other is my current superintendent, Keith Blayney. He's taught me a lot as far as managing staff and building a team that works for you.

WHY DID YOU CHOOSE THIS

PROFESSION? I love the outside. The outdoors is a huge part of my life. I love being on the golf course. My dad's a huge golfer, so it's kind of a bond for the two of us. And I just love the environment that this profession creates.

HAVE YOU HAD ANY BIG

SURPRISES ABOUT THE INDUSTRY? I am constantly

surprised as to the low numbers of women in the industry. In Canada I could probably name the dozen or two dozen females in the industry. In Alberta specifically, there's probably less than a handful.

FILL IN THE BLANK: IF THERE IS ONE THING AT MY JOB I'M REALLY GOOD AT, IT'S

_____? People. I'm a people person. I'm an extrovert. I like to make bonds with people that help them further their personal lives or career lives.

IN 10 YEARS YOU WOULD LIKE TO BE _____? A

superintendent with about 5 years of experience under my belt.

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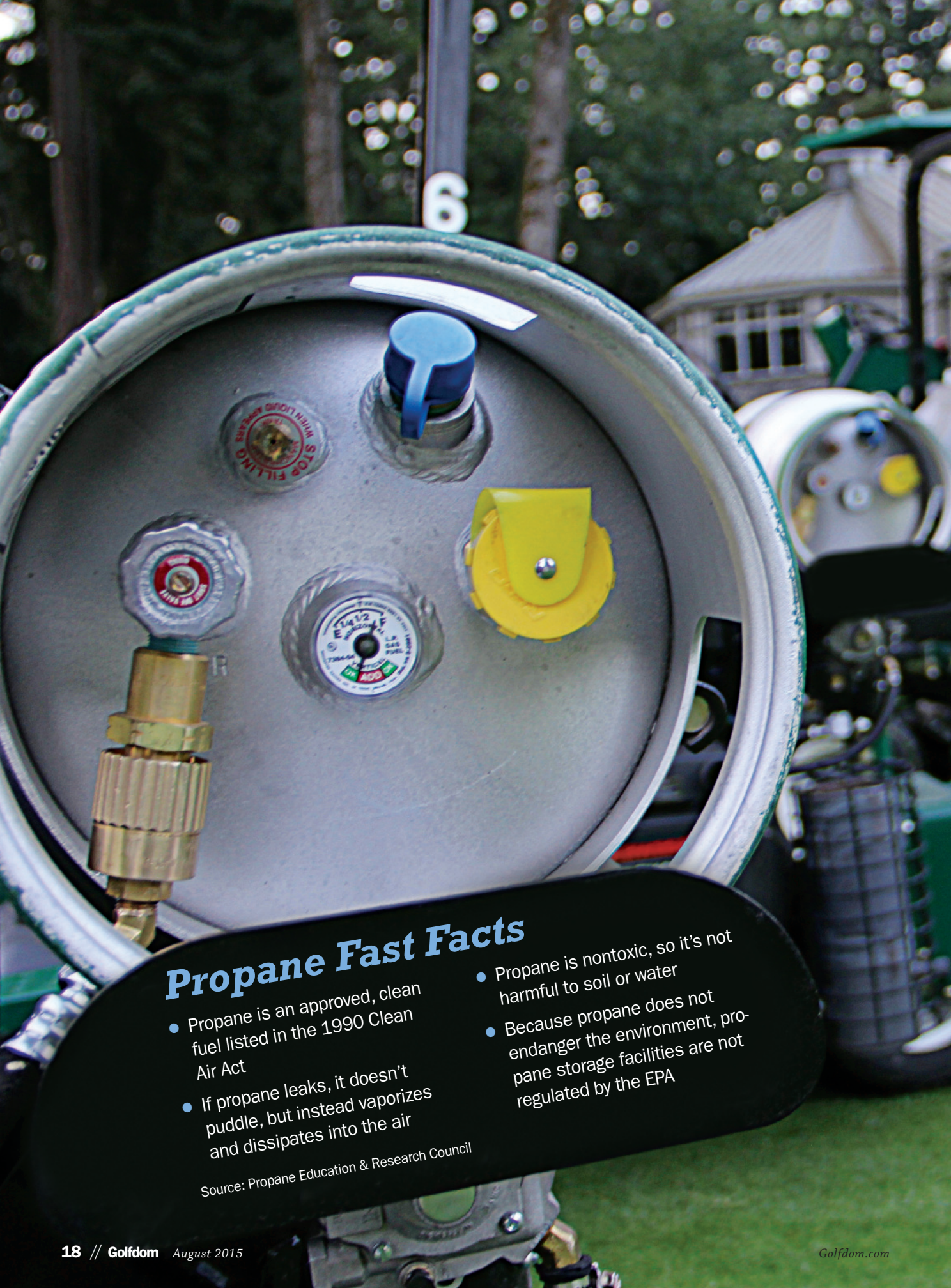


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Propane Fast Facts

- Propane is an approved, clean fuel listed in the 1990 Clean Air Act
- If propane leaks, it doesn't puddle, but instead vaporizes and dissipates into the air

- Propane is nontoxic, so it's not harmful to soil or water
- Because propane does not endanger the environment, propane storage facilities are not regulated by the EPA

Source: Propane Education & Research Council

Propane to the people

BY SETH JONES

Like dad used to say, "It's not bragging if it's a fact."

So the people at the Propane Education & Research Council (PERC) aren't bragging when they say that the U.S. recently became the No. 1 oil and gas producer in the world (take a backseat, Russia), or that mowers running on propane emit less carbon monoxide than mowers burning diesel or gas. And they're not bragging when they say propane is about 30 percent cheaper than gasoline and 50 percent cheaper than diesel.

So forgive them if they brag a little when they say it's not a matter of *if* the golf course maintenance industry adopts propane-powered mowers, but *when*.

After all, they have history on their side.

"We're looking at this as a 5- to 7-year market development phase," says Jeremy Wishart, PERC's deputy director of business development, while sitting over a plate of biscuits and gravy at a golf course restaurant in Tacoma, Wash. "We have previous experience with this in the commercial mowing market.

Ten years ago there was really only one manufacturer (making propane-powered mowers); now we have 17 of the top 20 manufacturers with propane models, with 4,600 units sold last year... and that number is growing exponentially."

That sounds like some good gravy.



Jeremy Wishart

Cheaper and cleaner, could American-made propane cure the ills of golf maintenance?

Environmental and economical

This journey for propane in the golf market began a year ago when PERC formed a partnership with Audubon International, Marriott Golf, Billy Casper Golf, and included R&R Products Inc. as the principal contractor.

Golfdom was the first to report that PERC, a non-profit that invests in research and development of new propane-

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powered technologies, had approved a \$900,000 investment with their new partners to place propane-powered golf equipment at eight golf courses around the country (see sidebar, page 24). Those participating courses currently are recording performance data such as fuel savings throughout this trial period.

Expect site-specific data in the coming months. In the meantime, at least one course already has decided that it is propane, and that the non-toxic, colorless and virtually odorless gas is good for more than just heating delicious sausage gravy.

Eagles Pride Golf Course, located on Joint Base Lewis-McChord in Tacoma, Wash., was the second Army golf course in the world to achieve Audubon International's Cooperative Sanctuary certification. It also was one of the first eight golf courses to receive PERC's propane-powered R&R mowers, acquiring them on a year-long loan shortly after the conclusion of the

2015 Golf Industry Show in February.

John Ford has been the superintendent there for 25 years. He says the propane-powered mowers fit right in with what



John Ford

they're doing at the 27-hole course. "They're much better for the environment, and the cost of operations is largely reduced," Ford says. "Gas is \$2.60 a gallon here, propane is \$1.88, and they run on pretty much the same miles per gallon. The R&R equipment is comparable to (other mower brands) in terms of quality of cut and durability. I can't see why folks wouldn't change (to propane)."

Those comments are echoed by Dave Wienecke, Eagles Pride's sustainability manager. Wienecke, a former USGA Greens Section agronomist for the Southwest Region as well as the original super-

intendent at nearby U.S. Open host Chambers Bay, is especially excited about the environmental benefits of the mowers, but doesn't ignore the economic upside.

"(The propane-powered mowers) are really exciting for me because of the environmental push and the stewardship the Army focuses on. Joint Base Lewis-McChord is one of the leaders in all of the Department of Defense," he says. "(The propane mowers) use less energy, create less air pollution, are quieter and cheaper."

Wienecke already is thinking about how the course could go all-in on propane.

"The engineering quality has been quite good. The support we're getting from R&R has been good," he says. "If it was possible to do, it would be worth switching all of our equipment over to propane."



Dave Wienecke

Ford agrees that he'd like to see a complete switch to propane mowers. The proud Oregon State alumnus first heard of the program from his local R&R dealer. He knew his course would be a great fit for the program because it is Audubon certified, and was told that PERC was looking to put the equipment on a military course.

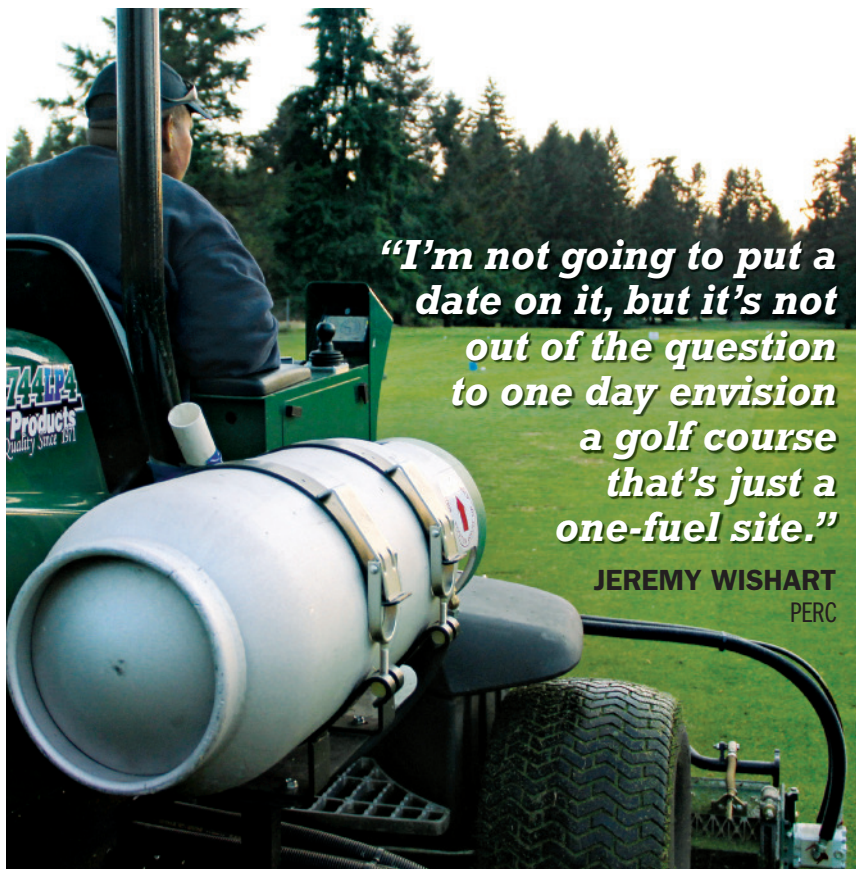
He met with R&R Products at the GIS and convinced them to ship their mowers to his course rather than the then-snowy Northeast so they could get started right away. Ford knew he wanted to give the equipment a chance because of his forklift.

"We have a propane-powered forklift. That forklift lifts thousands and thousands of pounds," Ford says. "I thought, 'If that forklift can run on propane, a greens mower or fairway mower isn't as stressed as that.'"

Power of propane

Ford's equipment technician, Al Slayter, had a concern, though, regarding the power of the machines. Eagles Pride is in the rugged mountains of Washington, where it's

Continued on page 22



"I'm not going to put a date on it, but it's not out of the question to one day envision a golf course that's just a one-fuel site."

JEREMY WISHART
PERC



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Since propane is a cleaner burning fuel, less burnt hydrocarbons enter the engine oil. Propane fuel does not go stale and will not clog carburetors or fuel lines and eliminates the need for fuel filters.

•Reduce Cost

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Continued from page 20

not uncommon to see black bears.

His concerns were assuaged once the equipment was on-site in February of this year.



Al Slayter

"The power level is equal to that of the diesels," Slayter says. "If we can get the same amount of power using propane, it's a win/win. I can run the thing in my shop and still breathe."

Slayter's favorite thing about the mowers, he's quick to point out, is that there's one less chemical on his greens. "As a mechanic, I'm meticulous about my greens, because if the greens are no good, the mechanic's no good," he says.

Specifically Slayter has a fear of gas spills. It's happened to him before and he's hopeful that maybe someday it will never

happen again — an operator forgetting to put a gas cap back on, allowing gas to splash out.

"Diesel splatters and spills and it kills grass as fast as you can," Slayter says. "With propane, you can't. You can't leave the cap off."

Added bonus

Additionally, operators can't mix up propane with another fuel, a common concern for courses running gas and diesel equipment. Propane doesn't go bad and is "virtually" spill-proof, Wishart says. And the tanks, made of aluminum or steel, are 20 times more crash resistant than plastic gas tanks.

And as Kevin Cobb, national accounts and sales manager for Suburban Propane, points out, it also can't easily be stolen.

"It's unspoken, but there are a lot of opportunities for gasoline and diesel to... well, your crew member is a little short

on gas, and you're not around," he says. "That's a big economic factor."

Suburban Propane is based in New Jersey and has been in business for 85 years. Most of their business is residential heating, but Cobb says golf course operations are attractive dollars to his company.

"For us, so much of the business is driven by the weather," he says. "Golf courses could be year-round because they're always mowing. Golf is attractive because it's not seasonal gallons."

All-American fuel

As mentioned earlier, according to *Bloomberg Business*, the U.S. became the leader in oil and natural gas production in the world this year. This is because of what energy experts call America's "shale revolution."

More than 97 percent of the propane used in the United States comes from U.S. soil.

Continued on page 24



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Continued from page 22

"There's various projections out there, but we have somewhere in the neighborhood of 75 to 100 years of a constant supply of propane," Wishart says. "This has really driven the price down. Now we just have to find something to do with it."

It's Jim Coker's hope that the "something" is fueling R&R Products' Reel Max



Jim Coker

331LP finish cut reel mower, Reel Max 744LP 5-gang fairway mower, Versa Green 2200 riding greens mower and Sand Max 521LP utility vehicle at golf courses across America. As director of propane applications for R&R Products, it means good business. A third-generation Tennessean (his two grandfathers fought on opposite sides of the Civil War), it's also good for the

Courses Researching Propane-Fueled Mowers

- Stone Mountain (Ga.) Golf Club
- Fernandina Beach (Fla.) Golf Club
- Marriott Desert Springs, Palm Desert, Calif.
- Renaissance Vinoy, St. Petersburg, Fla.
- Columbus (Ohio) Municipal Golf Course
- Reston (Va.) National Golf Course
- George W. Dunne National, Oak Forest, Ill.
- Eagles Pride Golf Course, Tacoma, Wash.

country he loves.

"This is a passionate thing for me. We

need to use what we have in this country," Coker says. "We're producing so much propane that we're shipping 50 percent of it out of the country, and yet we're still bringing in foreign oil. Why not use what we have here?"

Coker, who recently attained his commercial driver's license so he could personally deliver R&R mowers around the country, is an expert on propane applications and converting equipment to the fuel. The complaint he hears most often about propane is that courses don't want to add a third fuel. He tells them that he doesn't want that at all — he wants to get them down to one fuel, an American-made one.

"We can replace all their diesel, and really we could replace all their gasoline, because the two-cycles are the only thing we aren't looking at, and battery technology can replace the two-cycles," he says.

"T. Boone Pickens says we send a billion

Continued on page 26

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Continued from page 24

dollars a day overseas to people who hate our guts. So ultimately, yes, you could turn over to one fuel; propane.”

PERC's commitment

As the year-long demo winds down, next steps for the Propane Education & Research Council loom. Wishart says discussions have begun, and while the answer isn't clear, it probably won't be in another eight-course demo. It will most likely be in incentives, he says, or simply sharing the results of the courses already using the mowers.

“We put together a program where we worked with eight different golf courses throughout the United States that, for lack of a better word, ‘got it,’” Wishart says. “They understood that this is a new product, a new tool... let's see what it means to your business as a whole.”

The program is in its infancy, he says, but the groundswell has already started. Superintendents talk to other superintendents. Word spreads quickly.

“The environmental message we can bring, that means a lot to guys trying to meet sustainability requirements,” he says. “But we're also hitting them with an economic message. They can take that money and move it to another area in the budget — a seasonal employee, maybe. It's a one-two punch. I guess it depends on the superintendent and the owner, what makes more sense... the environmental message or the economic message? But we're hitting them



“We have 4,000 propane retailers nationwide,” Wishart says about propane availability. “I can almost guarantee that service network covers every square inch of golf country.”

with both.

“We'll see what the future holds. I think it's a 5- to 7-year investment,” Wishart continues. “We're in for just over \$1 million by the time we do this demo program, the marketing and the business case development. We're not in this for cheap, and we're not going anywhere soon.”



“Changing perceptions is difficult,” Coker says. “That's part of the reason (R&R) joined with PERC — to show that (courses) can change and be sustainable. We're proving they can be sustainable and environmental for less money.”



“THEY ARE DEDICATED TO MY COURSE, MY EQUIPMENT, MY TEAM.”

A superintendent discusses his switch to John Deere Golf

Tradition is rooted deep in Alabama, the “Heart of Dixie” state, so when Owen Coulson, Vestavia Country Club superintendent, sought new turf management equipment, breaking tradition required thorough research. “I was apprehensive about changing equipment,” said Coulson, who has been a superintendent with Vestavia for 11 years. “For me to make a change, I needed to find a significant differentiating factor.”

Like all decisions to invest in new equipment, many variables are in play including trust, durability, price and customer service. For Coulson, the dealer relationship and price were the primary factors as he approached his decision.

Coulson began contacting his peers for referrals to an equipment dealer that was committed to post-purchase service.

During his research, Coulson kept hearing positive comments about Greenville Turf and Tractor – a full line John Deere dealer with multiple locations in the southeast. “Greenville’s

name kept coming up. The more I heard the more I became comfortable about making a switch to John Deere, knowing that the product was great and I had a dealer that would be able to provide the service I expect.”

Price was the other obvious factor for Coulson. “The pricing was where I needed it to be, considering

“Greenville’s name kept coming up and the more I heard the more I became comfortable about making a switch to John Deere...”

the additional rebate I received through our VGM Club membership. The quotes were similar as far as price was concerned, and then you throw in the rebate check from VGM and that was a big deciding factor - it tipped the scales and made it easier to differentiate John Deere from the others.”

Post-purchase service proved to be another driving force for Coulson to renew his lease through Greenville Turf and Tractor. “The relationship has been great. They make themselves available.”

As Coulson pointed towards the window of his office he continued. “Prime example: their mobile mechanic is under our Gator working with my team on installing a sprayer right now. They are dedicated to my course, my equipment and my team. That level of service puts me at ease.”

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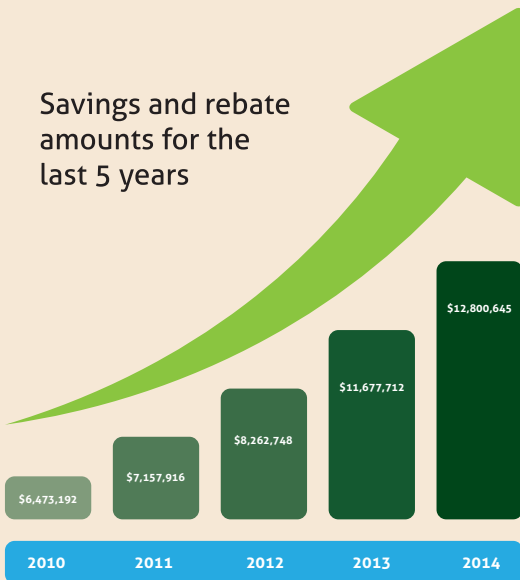
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"I wonder if superintendents don't really understand the benefit of VGM like club managers do. The membership is a benefit to superintendents when purchasing everything from turf equipment to smaller items like flags and cups."

Owen Coulson, Superintendent
Vestavia Country Club, Birmingham, AL

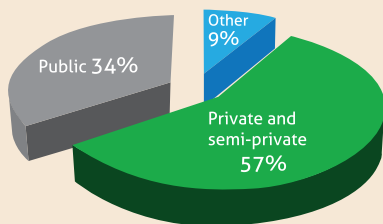
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The Golfdom Conversation

Boots ON THE ground

BY GRANT B. GANNON

Sun, sand and tourists.

That's the culture surrounding Neil Cleverly, superintendent of the 2016 Olympic golf course, in his temporary home, Rio de Janeiro, Brazil. Cleverly's stay in the South American nation is focusing on two things; getting the course ready for the return of golf to the Olympics after a 112-year absence, and spreading the goodwill of golf to the people of Brazil.

Both are demanding, but if anyone can handle the tasks it's Cleverly. The ex-military man exudes poise that comes from experience working on golf courses from the U.S. and Mexico to Europe, Egypt and the Caribbean.

We sat down with Cleverly at the 2015 Golf Industry Show in San Antonio and talked about the course, the politics of the region, his staffing challenges and the legacy of the Olympic golf course.

GOLFDOM How are preparations going in Brazil?

CLEVERLY The weather's great, but flying from 100 degrees down to 32 at night is no fun.

Plus, there are politics involved; there always will be, no matter the site. It just happens to be the Rio Olympic golf course. Obviously people are interested, and they are entitled to be. Golf not (being) in the Olympics for 100-odd years is a big deal.

GOLFDOM The course is made up of zoysia with *paspalum* greens. How is that combination coming together?

CLEVERLY It's an interesting choice; it's never mixed before as far as I know. Zoysia Zeon is different physiologically to *paspalum*. I've worked with *paspalum* for the past 14 years. I've done other Zoysia Diamond projects and Emerald projects, but this is a new variety

Continued on page 30



Neil Cleverly, superintendent of the 2016 Olympic course, clues us in on the turf, his crew and the future of golf in Brazil.



Cleverly sat down with Associate Editor Grant B. Gannon at Golfdom's booth during the 2015 Golf Industry Show.

PHOTO BY: SETH JONES



Neil Cleverly hits the first shot on the course — on No. 17.

Continued from page 29 for me.

Generally zoysia is a good grass, but it's not the magic bullet grass. Grasses on this planet Earth are designed to be placed in or grown in climates that are conducive to good growing conditions. It happens to be one of the better grasses in that particular area. There's no question about that, it shows, with very little input.

GOLFDOM What kind of chemical program are you using out there?

CLEVERLY There's no excessive use of chemicals. I'm not allowed to use herbicides, so there's a lot of handpicking of weeds.

There are ways and means of growing grass beyond what you learned in school. You have to experiment sometimes. On this particular project I experimented a lot and I've come up with a formula for that. I mix and match some of my own 'juju juice.'

Another challenge for me is the products that are available locally. It's not an area for companies to stock and supply what I require for golf maintenance.

GOLFDOM When tournament time comes, what kind of course will the players and audience see? A lush and green course or brown, fast and firm?

CLEVERLY Eventually we are probably going to go for a block-mow look. We are not going to be overly green but we aren't going

"There are ways and means of growing grass beyond what you learned in school. You have to experiment. On this particular project I've experimented a lot."

to be overly brown.

At some point someone will encourage me to do what they want to do but it has to be a collective responsibility as to how we are going to present it. No matter what, we will present a golf course that will be worthy of 112 years of missed golf.

GOLFDOM What kind of local crew have you hired to work on the course?

CLEVERLY The crew that I employ, sometimes they don't last because they don't like weedpicking 24/7. The attrition rate is about 30 percent a month, and you have to keep training these guys. The ones who do last look at me like I'm crazy when I arrive at 4 a.m. or 5 a.m. or when I'm doing experimental things.

I get a kick out of it in the morning when I look at them strolling in, and it's like a deer in the headlights when I've written things on the board but they really don't know why we are doing it. I'm trying to create a whole new turf school for them in terms of understand-

Continued on page 32



David Doguet, Bladerunner Farms, and Rich Brogan, PGA Golf Course Properties, during grow-in.



The Zeon Zoysia turf was designed to grow in a climate like Brazil's and requires minimal input, according to Cleverly.

PHOTOS COURTESY: MARCELO MATTE, GREEN GRASS BRAZIL



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BOB FARREN, CGCS
Director of Grounds and Golf Course Maintenance
Pinehurst® Resort





A recent shot of the course shows the turf progressing nicely, on track for the Olympics' arrival in 12 months.

Continued from page 30

ing turf and why we do things at certain times of year.

GOLFDOM So the whole process is a culture shock for them?

CLEVERLY When I told them that we would be sleeping at the course they kind of looked at each other, asking “why?” I had to explain to them that we aren’t mowing at 7 a.m., people are playing at 7 a.m.

It’s a massive culture shock for them, but I’m very humbled by the group I have. Some of my crew travels 4 hours on a bus to come

to work and take the same trip home that evening.

And my key staff — Fabian (Espinola, deputy superintendent), Sofia (Urrets, senior irrigation tech) and Suelen (Santos, administrative assistant) — are vital to the success of the project.

GOLFDOM Will there be any upcoming events to prepare the crew for tournament play?

CLEVERLY We will have a test event before the Olympics. It will test the golf course and probably my sanity at that point. You really start to stress because I’ve got a bunch of guys and

Continued on page 34

PHOTO BY: NEIL CLEVERLY

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Continued from page 32
all they've done is weed pick or pick grass or shave things with bunker rakes. Now I've got to introduce them to the entirely new concept of tournament preparation.

GOLFDOM Where on the course do you think the professionals will struggle the most?

CLEVERLY We have our "Amen Corner" that starts at Nos. 2, 3, 4 and 5. It circumvents the lake that feeds the irrigation.

On the 2nd hole you have a long tee shot to a skinny landing area. No. 3, you drive across the water, and it's a teaser hole — that's a short par 4. So they can drive it, but if they hook it left they're in the water and if they slice or fade it right they are in the jungle.

I think the pros are going to love it, I really do. You're never going to please everybody in this business, but these guys are



"I think the pros are going to love (the course). You're never going to please everybody... but these guys are going to love it," says Cleverly.

going to love it.

GOLFDOM What is the culture of golf in Brazil and how do the locals view the sport?

CLEVERLY Brazil has a quiet pedigree of wealthy businessmen who play golf. They don't have a pedigree of anything like public golf. Some people don't even think it is a sport in Brazil. That's the mentality we have to change. I can't do it on my own.

There are people within Brazil who don't want the Olympic

Continued on page 36

PHOTO BY: NEIL CLEVERLY



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- » **Writing, Product Information Article:** "What's the next big idea at GIE+Expo?," Seth Jones
- » **Writing, General Feature Article:** "True romance," Seth Jones
- » **Writing, Series:** "Winterkill in the crosshairs; Working undercover," Sam Bauer, Brian Horgan, Ph.D., Lindsay Hoffman, Ph.D.



Gardner Award, New Media, for The Golfdom Daily

A "best in show" award was presented to Golfdom's blog. Check it out by visiting Golfdom.com.



Continued from page 34

golf course to be a success and, unfortunately, social media allows them to mobilize quicker than they ever would have done before.

GOLFDOM That being said, what do you think the future of golf can be in Brazil? How will the Olympics impact the sport in the country?

CLEVERLY That's what I like when I talk to people. It's not just about the golf course; it's what's going to happen afterward.

Will we get golf tourism beyond this or before this? Yes, but

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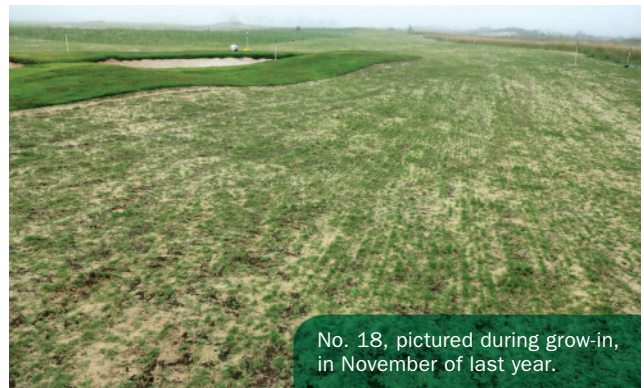
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No. 10 gets planted late last year.



No. 18, pictured during grow-in, in November of last year.

they will come once and they won't come again.

There has to be repeat business, and your locals are your repeat business. That doesn't mean it's a private club, it means that it's open to the public at a reasonable fee that they can pay, but (they need to) target the kids to encourage a progressive learning curve for the game of golf.

If it is made available in terms of finance, education and equipment, there shouldn't be any reason why there couldn't be a Brazilian major champion inside of 25 years. It would take that long because it is a juvenile sport in a very well-known country.

GOLFDOM Looking into the future, what kind of legacy do you want to leave behind for this course after the Olympics have gone?

CLEVERLY It would be a crying shame if the legacy of this golf course gets to the point where the Olympic Games are played on it successfully but (the course) goes to rack and ruin. If that happens, a lot of hard work would be wasted. I think it would be harmful for the country, definitely harmful for golf.

This will be a legacy golf course, which will be handed over to the city of Rio de Janeiro, and we need to promote it that way from this point forward. The only way we can do that is to provide education and equipment to the junior level free of charge. I openly say that, I don't mince my words.

It needs to be given free and provided free of charge. We are not going to get anywhere, now or in the future, on this golf course or with golf, if we don't provide that kind of education. **G**

PHOTOS COURTESY: MARCELO MATTE, GREEN GRASS BRAZIL



Super Science

// TOUGH TURFS

BUFFALOGRASS TOLERANCE TO SIMULATED GOLF CART TRAFFIC

By Jared Hoyle, Ph.D. and Evan Alderman

Buffalograss is known for its low maintenance and drought-tolerance. Current research at Kansas State University is looking into what impact management practices and golfers have on buffalograss under reduced irrigation.

Field studies were initiated in the summers of 2014 and 2015 to investigate the influence of simulated golf cart traffic on buffalograss' traffic tolerance and recovery at different nitrogen rates. The objectives of this study are to determine the influence



Golf cart traffic simulator used to apply traffic treatments to buffalograss at the KSU Turfgrass Research Facility in Manhattan, Kan.

of nitrogen fertilizer on buffalograss color, quality and percent of turf cover when subjected to simulated golf cart traffic. Fertilizer treatments consisted of 0, 1, 2 and 3 pounds of nitrogen per 1,000 square feet of a 46-0-0 (N-P-K) urea product applied in two half-rate applications at trial initiation and 8 weeks after initiation. Simulated golf cart traffic treatments were applied twice per week, totaling 0, two, four, eight and 16 passes/week.

Research also was conducted during the winter of 2014-2015 to determine how turfgrass colorants combined with simulated golf cart traffic affected buffalograss density during winter dormancy. The objectives of this study were to investigate the longevity of turf colorants when subjected to simulated golf cart traffic, explore the effects of turf colorants on buffalograss at fairway height (0.625 inch) and to evaluate the effects of simulated golf cart traffic on dormant buffalograss. Three turfgrass colorants and an overseeded treatment (perennial ryegrass seeded at 10 pounds per 1,000 square feet) were investigated. Colorants were applied at 43 gallons of spray solution per acre at a 1:6 dilution (colorant to water). Traffic was applied weekly at 0, two, four or eight passes with a golf cart traffic simulator.

This research will give superintendents a better understanding of how golf cart traffic and different management practices influence the growth and appearance of buffalograss during different seasons under minimal irrigation.

Jared Hoyle, Ph.D., is a turfgrass scientist at Kansas State University. Hoyle can be reached at jahoyle@ksu.edu for more information. Evan Alderman is a graduate research assistant at Kansas State University and can be reached at ejalderman@ksu.edu.

NEWS UPDATES

UGA NAMES THE TURFGRASS GROUP LICENSE HOLDER FOR TIFTUF

The Turfgrass Group has been named the exclusive licensing and marketing agent for TifTuf Certified Bermudagrass (experimental name DT-1).

The new drought-tolerant turfgrass was developed by a team of researchers led by Wayne Hanna, Ph.D., and Brian Schwartz, Ph.D., at the University of Georgia (UGA). TifTuf has been in testing at UGA since 1993, and was selected for release from a pool of more than 27,700 potential cultivars because of its extreme drought tolerance and high turf quality, according to a news release.

"I've seen the potential in this grass since 2009," Schwartz says, which was the year he came to UGA as a turfgrass breeder. "That was a dry year, and I remember TifTuf keeping its green color while a lot of the other grasses were turning brown."

The Turfgrass Group is an affiliated company of New Concept Turf and is owned by turfgrass industry professionals Ken Morrow, Ben Copeland Jr. and Aaron McWhorter.

TifTuf is available now for sod production license with limited foundation material ready for planting this summer.

“SINGLE ACTIVE INGREDIENTS DO NOT PROVIDE EFFECTIVE SNOW MOLD CONTROL UNDER HEAVY PRESSURES, EVEN WHEN A SINGLE SNOW MOLD SPECIES PREDOMINATES.”

Paul Koch, Ph.D.

(see story on page 38)

// SNOW MOLD

One snow mold fungicide to rule them all?

Controlling multiple snow mold species with one application can be done, but not every product mixture provides the same results.

By Paul Koch, Ph.D.

People like certainty, and whether it's the daily weather forecast or a 30-year mortgage interest rate, it helps us plan effectively for the future.

For many superintendents in temperate climates this is especially true about snow mold. Being certain that a fungicide applied in the fall will provide snow mold protection through snowmelt in the spring, no matter how nasty the winter, provides peace of mind and the ability to use the crucial spring period for improving the golf course, not repairing areas damaged by snow mold.

So why isn't snow mold control more certain, at least relative to summer diseases like dollar spot and brown patch?

To start, we expect more from snow mold fungicides. Whereas summer

fungicides are expected to provide 14 to 28 days of control, snow mold fungicides are expected to provide control for upward of 150 days in some locations. Second, a lot can happen to those fungicides over 150 days. Research recently completed at the University of Wisconsin showed that winter rainfall and snowmelt events quickly can deplete snow mold fungicides. If that depletion occurs early in the winter the turf will be susceptible to disease development for several months. Third, it's important to remember when talking about snow mold that we're talking primarily about three distinct diseases; pink snow mold (*Microdochium nivale*), gray snow mold (*Typhula incarnata*) and speckled snow mold (*Typhula ishikariensis*). While it's not uncommon to see multiple snow mold diseases within close proximity of each other (Figure 1), each disease also has distinct environments where

it causes the most damage. In addition, previous research has demonstrated that fungicides don't equally control each snow mold effectively (Table 1). Choosing the wrong fungicide for the type of snow mold typically observed can lead to significant disease breakthrough come snowmelt in the spring.

WHY DON'T WE JUST CONTROL ALL SNOW MOLDS?

Fungicide manufacturers in recent years have released mixtures of multiple active ingredients from various chemical classes to improve the chances of controlling multiple snow mold diseases.

In addition, research at Wisconsin and elsewhere has demonstrated that single active ingredients do not provide effective snow mold control under heavy pressures, even when a single snow mold species predominates (Figure 2).

Multiple active ingredient products are presumably more effective because they control a broad range of snow mold pathogens and/or provide increased control of individual pathogens relative to a single active ingredient. While it's clear that multiple active ingredients are required for effective snow mold suppression in northern climates, the exact impact that multiple active ingredients have on the fungus itself remains poorly understood.

Wisconsin conducts one of the largest snow mold research programs in the country, and in the winter of 2014-2015 research was conducted on more than 100 treatments at six sites across Wisconsin, Minnesota and Michigan. The full research report for each site can be accessed at the University of Wisconsin's Fungicide Research Results page (tdl.wisc.edu/results). In particular, the sites at Wausau CC in Schofield, Wis., (Figure 3) and Marquette (Mich.) CC (Figure 4) provided an excellent test of the treatments.

FIGURE 1



Speckled snow mold (red pen) and pink snow mold (black pen) growing in close proximity to each other on a golf course putting green in the spring of 2014.

PHOTOS COURTESY PAUL KOCH

Though both sites experienced heavy disease pressure (Table 2), it was clear from looking at the results and the surface temperature that the disease pressure at Marquette CC was considerably higher than Wausau CC (Figure 5). In addition, the primary snow mold at Wausau was pink snow mold, while at Marquette it was speckled snow mold. Because many of the same products were tested at each site we can observe how the treatments performed against pink snow mold versus speckled snow mold and under high pressure (Wausau) versus extreme pressure (Marquette.)

The results of both trials once again reveal the sheer number of fungicide combinations that provide effective snow mold suppression. At Wausau, 77 of 119 treatments provided greater than 98 percent control, while at Marquette, 62 of 101 treatments provided greater than 90 percent control. Table 2 provides a list of treatments that performed exceptionally well at both courses against both pink and speckled snow mold that followed disease pressure that was both high and extremely high. Most of the treatments on this list have been around and tested in our research and used by superintendents around the world for a number of years. These include Instrata, QP Enclave, Torque + 26/36, Turfcide and Concert + Turfcide. However, a few newer products and product combinations that previously had not been tested in our snow mold research program also performed exceptionally well at both sites, most notably Disarm T, Tourney + 26/36 and Interface + Mirage.

While many treatments performed exceptionally well, two treatments performed surprisingly poorly given a past history of success. Interface + Triton Flo performed exceptionally well in our trials dating back years and has become one of the standard treatments used in locations that experience heavy snow mold pressure. Lexicon + Trinity +

Continued on page 40

TABLE 1

Fungicides providing greater than 80 percent control of three snow mold diseases over a 3-year period*

Snow mold	Products providing > 80 percent control
Pink snow mold (<i>Microdochium nivale</i>)	PCNB, Compass
Gray snow mold (<i>Typhula incarnata</i>)	Heritage, Daconil WeatherStik, Prostar, PCNB, Banner MAXX, Insignia, Bayleton
Speckled snow mold (<i>Typhula ishikariensis</i>)	Banner MAXX

*At Land O'Lakes GC in Land O'Lakes, Wis. Table reproduced from Jung et al. (2007)

FIGURE 2



Combining Torque with 26/36 provided nearly complete snow mold protection, while removing either one of the two products leads to a near complete loss of protection. Photo originally published in August 2014 issue of *Golfdom*.

FIGURE 3



Overhead view of the 119 treatments at the snow mold research trial at Wausau Country Club in Schofield, Wis., during the spring of 2015.

Continued from page 39

Daconil Ultrex has also been successful in past trials under heavy disease pressure. Yet both performed poorly at our Marquette site this past year. This is not to demean these products, but rather to illustrate that even when an excellent product is applied at the proper time using the proper rate, you sometimes still get snow mold and you can't really explain why. This same thing occurred in the winter of 2013-2014 when Instrata inexplicably performed poorly under the heavy disease pressure observed at Marquette.

I have been involved in testing snow mold products at Wisconsin in some form since 2005, and unfortunately, inconsistent results from year to year is the most certain thing about snow mold control. If you typically experience heavy disease pressure, you can improve your odds of excellent suppression by using one of the mixtures listed in Table 2.

Acknowledgments

Special thanks to the six superintendents who hosted snow mold research sites this year: Mike Lemke at Nakoma CC, Randy Slavik at Wausau CC, Craig Moore at Marquette CC, Norma O'Leary at Silver Bay CC, Matt McKimmon at Cragun's Resort and Tim Johnson at Spring Hill GC.

Author's note

Listing of specific products in this article is based on research conducted at the University of Wisconsin and is not intended to be an endorsement of the product or of the manufacturer.

Paul Koch, Ph.D., is an assistant professor in the Department of Plant Pathology at the University of Wisconsin-Madison. Email Koch (pkoch@wisc.edu) with any questions, comments or concerns.

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FIGURE 4



Snow mold research at Marquette Country Club in Marquette, Mich. in the spring of 2015.

TABLE 2

Select treatments that performed exceptionally well at both Wausau Country Club and Marquette Country Club during the winter of 2014-2015*

Treatment	Disease severity (% disease)		
	Wausau	Marquette	Average
Non-treated Control	90.0	94.0	92.0
Instrata	0.5	1.3	0.9
Turfcide	0.0	5.0	2.5
Concert + Turfcide	0.0	0.0	0.0
Torque + 26/36	0.5	2.5	1.5
Disarm T	0.0	0.0	0.0
Tourney + 26/36	0.5	3.0	1.75
QP Enclave	0.0	0.0	0.0
Interface + Mirage	1.8	2.5	2.15

*The full report can be accessed at tdl.wisc.edu/results.

FIGURE 5



The most effective treatments provided excellent snow mold control under intense pressure at Marquette CC in 2014-2015. However, less effective treatments had significant disease breakthrough.

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“It isn’t a surprise to me that anthracnose is, across the board, the most difficult disease to control because it is so closely tied to stress, whether environmental or management.”

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

Anthracnose: a chronic problem

An article appeared in the June issue of *Golfdom* entitled, “The 2015 Fungicide Survey.” The survey asked superintendents, “What is the most difficult disease to control?” The answer by far was anthracnose.

It isn’t a surprise to me that anthracnose is, across the board, the most difficult disease to control because it is so closely tied to stress, whether environmental or management. Anthracnose (pathogen: *Colletotrichum cereale*, or back in the day what I knew as *C. graminicola*) first came to the attention of golf course superintendents back in the 1970s as a foliar disease on *Poa annua* fairways.

At the time, anthracnose was a polarizing topic in the golf course industry. Joseph M. Vargas, Jr., Ph.D., was reporting that the major cause of *Poa annua* decline in the summer was caused by anthracnose. An opposing view was that anthracnose was a saprophyte (a fungus that colonizes dead tissue), and the real cause of *Poa annua* decline was high summertime temperatures. The opposing views of anthracnose split golf course superintendents into two groups; those who would spray and maintain *Poa annua* and those who would try to kill *Poa*. I think

the ability to control anthracnose and reduce the severity of summertime *Poa* decline illuminated to many in the golf industry the philosophy that *Poa* could be managed as a desirable turf and not just something to kill.

From the 1980s on, the most serious anthracnose disease has been basal rot. Basal rot anthracnose, as the name implies, attacks the lower sheaths of the turf plant, including the crown. The pathogen produces small black bumps, known as acervuli. It was originally thought the basal rot anthracnose did not produce setae — hair-like appendages that protrude from acervuli — but under severe infection setae do appear. A serious problem on *Poa annua*, it also occurs on creeping bentgrass greens primarily in the mid-Atlantic and southeastern United States.

Anthracnose is so difficult to control because it can occur under a wide range of environmental conditions. Basal rot anthracnose can occur from early spring through late fall, although it

often seems like it is there year-round. A key management practice in reducing the likelihood of anthracnose, or at least an early arrival of anthracnose in the spring, is to clean up infected turf areas from the previous fall. Make sure your greens are healthy prior to winter and that diseased areas have recovered. If this is not done you are almost guaranteed an early arrival of anthracnose in the spring.

The wide range of conditions under which anthracnose can occur makes it difficult to predict. Several years ago I was playing a links course in England with a colleague. It was November, and as I walked up onto the *Poa annua* greens I noticed a characteristic of anthracnose. Upon closer examination I confirmed that the orangish-yellow areas were anthracnose. I asked my colleague how this could be, anthracnose on greens maintained at 6 mm (~0.25 inches) in November. His reply was, “It’s been wet.”

June and July in the Great Lakes region this year have been nothing short of depressing. It seems like it has rained every day. Even with what I would consider moderate temperatures in Ohio, anthracnose has been active. Too much of anything can cause stress. So it should come as no surprise that anthracnose has appeared where too much water has accumulated.

Because anthracnose can occur under stress, management practices become extremely important in enhancing or reducing the likelihood or severity of the disease. As most superintendents know, intensive management (such as lower heights and fertility) can enhance the disease. Successful anthracnose management programs have been developed from research at several universities, including Rutgers. A key to having success with these programs is to adhere to them.

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

Is a cool-season grass, unmown playable rough a reality?

Tom Voigt, Ph.D., is a turfgrass scientist at the University of Illinois. He has conducted numerous research projects on unmown, playable rough on golf courses and at research stations. He can be reached at tvoigt@illinois.edu for more information.

Q So, is a cool-season grass, unmown, playable rough a reality?

In the Midwest, so far, the answer is no. To achieve an acceptable cool-season grass, unmown, playable rough, the stand must have a low density and a low growth rate so golfers easily can find their golf ball and have an opportunity to make a successful shot. In the Midwest, cool-season grasses have the good fortune of many resources (precipitation and fertile soils) and as a result, form dense stands of grass that grow throughout the season. This means golfers have a difficult time finding their golf ball, and playing a shot becomes extremely challenging even for good golfers.

In short, cool-season grasses performed too well in our field plots. They were too dense and grew too fast to make an acceptable unmown, playable rough. We tried warm-season grasses, like buffalograss and blue grama. While they were closer to providing an unmown, playable rough, they greened up so late in spring/early summer that golfers would not accept a warm-

season grass rough.

In some parts of the country and the world, like Ireland, Scotland and England, an unmown, play-

BEING SUCCESSFUL TAKES THE RIGHT COMBINATION OF WATER TO SUSTAIN THE GRASS, BUT NOT ENOUGH WATER FOR ACTIVE GROWTH DURING A MAJORITY OF THE GROWING SEASON...

able rough may be possible. Being successful takes the right combination of enough water to sustain the grass, but not enough water for active growth during a majority of the growing season, together with soils that will support growth, but not lush growth. This is a difficult balance to find naturally or recreate. Grasses on these courses are often subjected to windy conditions, salt spray and highly drained sandy soils.

Q What about fine fescue for an unmown, playable rough in the Midwest?

Fine fescue in our research in Illinois under non-irrigated conditions was still too dense and grew too

much to make an acceptable unmown, playable rough. In addition, after fine fescue produced seedheads it tended to fall over and make a dense mat. This dense mat of grass was not attractive, and golfers had a difficult time finding their golf ball and playing a shot.

Perhaps at ultra-low seeding rates, possibly 5 pounds per acre, it may be possible to develop a thin stand of fine fescue that would work as an unmown, playable rough. It is an idea that needs more research. At an ultra-low seeding rate, however, weeds would likely present greater problems.

Q What options are there for unmown, cool-season grass, out-of-play areas?

We have had success with a mixture of the cool-season grasses orchardgrass, timothy, redtop and tall fescue for unmown, out-of-play areas. Advantages to this mixture are that it greens up early in spring, looks presentable from a distance,

the seedheads are attractive, broadleaf weeds are relatively easy to control and the height of the grass provides a nice visual contrast to the short-mowed turf. In addition, this grass mixture is a faster and cheaper way to define a golf course than planting trees and waiting for them to mature, and the unmown grass areas increase biodiversity.

The downside to these unmown, unplayable areas is a decrease in the pace of play unless they are truly located where nobody hits a golf ball, and perhaps the creation of habitat for nuisance animals.

Q What maintenance is required for unmown, cool-season grass, out-of-play areas?

A minimum of one mowing per year, in September, with removal of the "hay" that is cut is essential. If desired, a second mowing in April, again removing the hay that is cut, is fine. Broadleaf weed control, either hand removal or herbicide application or both, will be needed.



Clark Throssell, Ph.D., loves to talk turf. Contact him at clarkthrossell@bresnan.net.

Professional Grade

NEW PRODUCT HIGHLIGHTS // AERATORS, SEEDS AND FAIRY RING PRODUCTS

KEEP THE RING OFF IT

DESPITE WHAT BEYONCE SAYS, IF YOU LIKE IT THEN YOU SHOULDN'T HAVE A RING ON IT

BY GRANT B. GANNON // Associate Editor

1. Focus creeping bentgrass

For a creeping bentgrass that demonstrates dollar spot resistance, summer stress tolerance and performance in hot and cold temperatures, look for Focus from **PICKSEED**. It has an aggressive, dense growth and is tolerant of many cutting heights from low green heights to fairways. The growth form was selected to not get "puffy." Focus' early spring green-up, dense growth and fast recovery from aeration makes it resistant to invasion by *Poa annua*. Focus can be used alone or with other creeping bentgrasses and can be used to improve the performance of existing stands.

Pickseed.com

2. My Holiday Lawn Kentucky bluegrass

My Holiday Lawn Kentucky bluegrass is a patent-pending lawn grass developed over 14 years by **JACKLIN SEED**. This stand of Kentucky bluegrass lowers costs because it can be mowed as little as once a month. This product is different because of its low-grow-

ing canopy, and the grass maintains green leaves below the mowing height even when left unmown for weeks. Leaf growth is only partially removed by mowing, keeping your turf looking fresh and green, not brown and stemmy like ordinary lawn grass.

Jacklin.com

3. Renovaire aerator

This hardworking tow-behind commercial aerator is at its best on large, undulating turf areas like fairways, tees, surrounds and roughs. With each pair of tine wheels mounted independently from the others, aeration follows the contour of the landscape, providing precise coring. With 6 feet of aerating width and an operating speed of 4 mph, **RYAN**'s Renovaire is capable of finishing three acres in a single hour. Choose between coring, spoon or slicing tines to penetrate to a depth of about 4 inches.

Ryanurf.com

4. Verti-Drain 2220 and 2216

The **REDEXIM** Verti-Drain 2220 and 2216 (also called

SUMMERTIME TURF STRESS is at its maximum, and superintendents across the country are seeing the signs of fairy ring. If you were unlucky enough to receive a visit from the ring fairy (*shhhh...* don't ruin the fun for the new intern) you will want to take a look at some of the products featured below. Are you in the market for dense, affordable new grass seed or a speedy aerator? We've got those covered, too.

the Bullet) are the fastest Verti-Drains yet. The Bullet gives the superintendent the ability to aerate fast and deep, penetrating 9 inches into the soil at speeds up to 3.5 mph. The Bullet's hydraulic option allows adjustments to be made from the tractor chair by adjusting the front and rear rollers. Additionally, the offset three-point hitch on the Bullet reduces the chance of tracking over previous passes, and it's one of the toughest Verti-Drains ever built.

Redexim.com

5. Velista fungicide

The broad-spectrum succinate dehydrogenase inhibitor (SDHI) Velista fungicide from **SYNGENTA** is for use on turf and controls fairy ring. It is formulated as a water-dispersible granular, allowing for easy mixing and application to turf. Additionally, Velista also controls diseases such as dollar spot, large patch, brown patch, rapid blight and anthracnose. It's recommended Velista be alternated with fungicides from a different FRAC mode-of-action group.

Syngenta.com

6. Lexicon Intrinsic brand fungicide

BASF's Lexicon Intrinsic brand fungicide is a new combination product for control of turfgrass diseases on greens, including fairy ring, *Pythium*, snow mold, summer patch and 22 other diseases. Combining the enhanced systemic properties of Xemium fungicide with Insignia Intrinsic brand fungicide, Lexicon Intrinsic provides turfgrass professionals with a cornerstone product for fungicide programs. In addition to disease control, Lexicon Intrinsic aids plant health by allowing increased photosynthesis, stronger roots and improved resilience to stress.

betterturf.basf.us

CONTINUED ONLINE

For more listings of top fairy ring, seed and aerator products, go to golfdom.com/category/



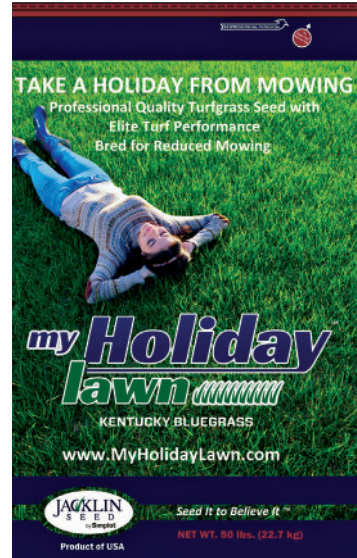
FOCUS

CREeping BENTGRASS

1



3



2



4



5



6

The 19th Hole



Steve Rabideau

CGCS // Winged Foot Golf Club, Mamaroneck, N.Y.



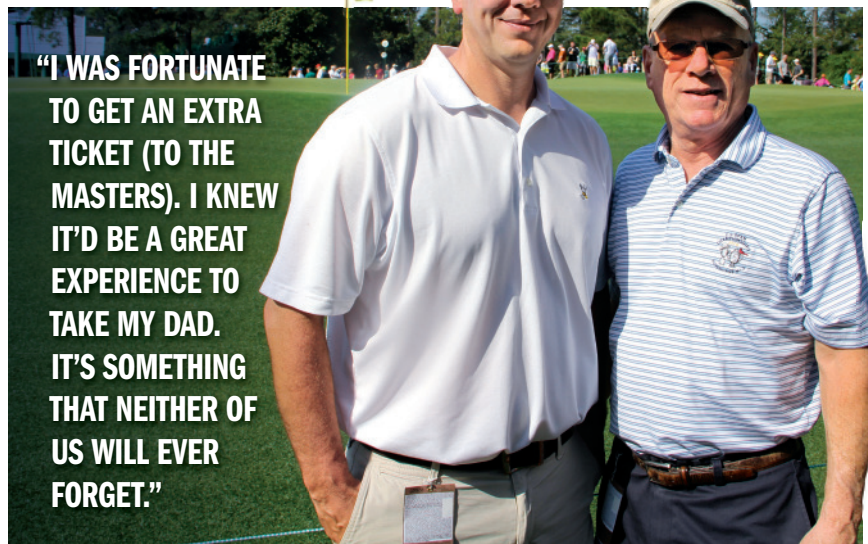
After 18 holes, what's your drink of choice? A seltzer water and a cigar.



What's one thing you make sure is always stocked in the breakroom fridge? Ice cream, any kind.

What are your teams? All Boston. "Title Town." We call it that because we win all the time. I'm from Massachusetts. I have season tickets for the Patriots. When football season rolls around, that's the time of the year you can get the time off, so I go to most of the games.

So what's your take on Tom Brady and "deflategate?" He's innocent! I think so many people don't like the Patriots because they win... and (Roger) Goodell thinks if he didn't do something they would have accused him of playing favorites. If it was really such a big deal, the NFL, with all their money, they



"I WAS FORTUNATE TO GET AN EXTRA TICKET (TO THE MASTERS). I KNEW IT'D BE A GREAT EXPERIENCE TO TAKE MY DAD. IT'S SOMETHING THAT NEITHER OF US WILL EVER FORGET."

would have thought about that a long time ago and given everyone the same football, you know?

You and your crew have been busy lately with a big renovation, right?

We just finished completely rebuilding the East Course. We rebuilt all the greens on the East, USGA spec, put SubAir on them. We put the greens back exactly the same way. To get them back exact was the most (time-consuming) process... that took a six-man crew 12 to 30 hours to get it back perfect. There were a lot of long days in this project.

Winged Foot will play host to the 2020 U.S. Open. Does that seem like forever away, or is time going by fast? It's going by fast here. When we started doing the restoration, that went

fast; (next we'll) rebuild the West Course, that'll go by fast, before you know, it'll be two years away. I've been here four years already and that went by like nothing. We're busy here day in, day out, it goes by fast. I guess it's a part of getting older, eh?

What's the ideal week off? I'm planning a golf trip right now for this fall. We're going to Scotland. Since we've been here we've been doing nothing but construction, for three and a half years. This is the first year I don't have it, so I'm going on a golf trip.

What's the key to being successful in this business? You got to be a baby stitter. That's what I tell my guys. You've just got to be here. The grass doesn't know what day it is.

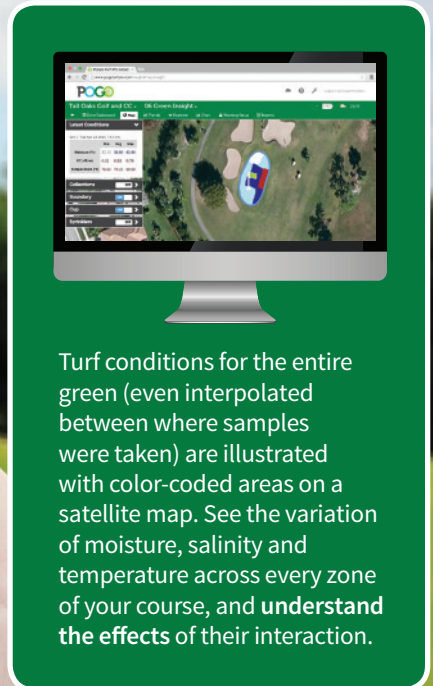
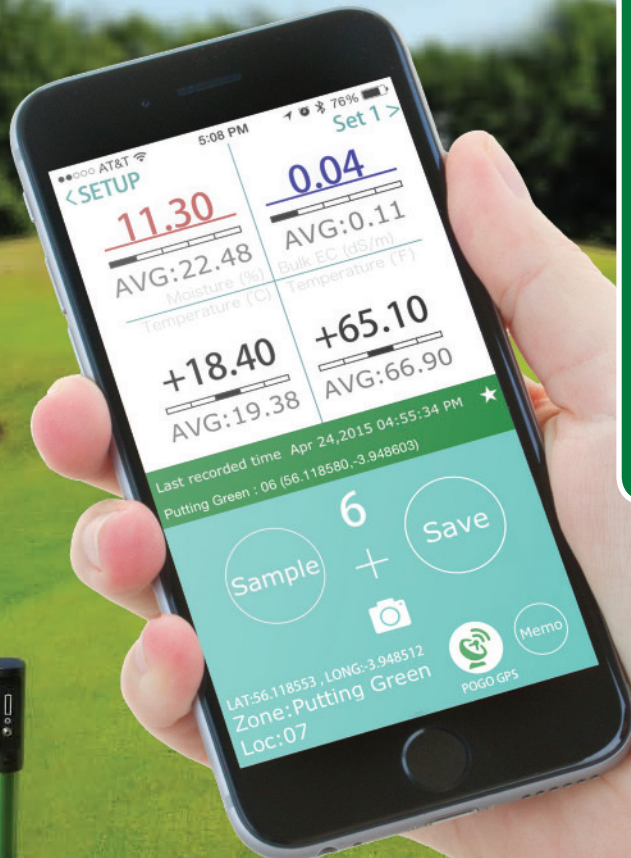
As interviewed by Seth Jones, June 29th, 2015.

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- Turf conditions
- GPS coordinates
- Key course setup variables



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