

# Golfdom

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GIS PREVIEW

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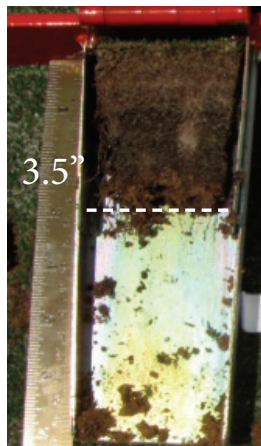
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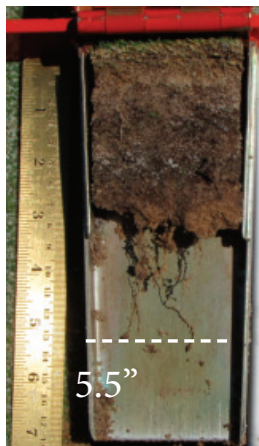
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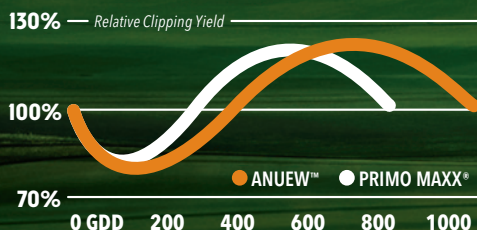
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## EDITORIAL

**EDITOR-IN-CHIEF** Seth Jones

785-690-7047 / [sjones@northcoastmedia.net](mailto:sjones@northcoastmedia.net)

**ASSOCIATE EDITOR** Grant B. Gannon

216-363-7928 / [ggannon@northcoastmedia.net](mailto:ggannon@northcoastmedia.net)

**EDITOR-AT-LARGE** Ed Hiscock

[ehiscock@northcoastmedia.net](mailto:ehiscock@northcoastmedia.net)

**DIGITAL EDITOR** Kelly Limpert

216-363-7933 / [klimpert@northcoastmedia.net](mailto:klimpert@northcoastmedia.net)

**ART DIRECTOR** Pete Seltzer

216-706-3737 / [pseltzer@northcoastmedia.net](mailto:pseltzer@northcoastmedia.net)

## CONTRIBUTING EDITORS

Karl Danneberger (*Science*), Joel Jackson, Matt Neff, Jared Nemitz,  
Clark Throssell (*Research*), Sean Tully, John Walsh,  
Mark Woodward, Steven Wright

## BUSINESS

### CLEVELAND HEADQUARTERS

1360 EAST 9TH ST, SUITE 1070, CLEVELAND, OH 44114

**PUBLISHER** Patrick Roberts

216-706-3736 / [proberts@northcoastmedia.net](mailto:proberts@northcoastmedia.net)

**ASSOCIATE PUBLISHER** Bill Roddy

216-706-3758 / [broddy@northcoastmedia.net](mailto:broddy@northcoastmedia.net)

**ASSOCIATE PUBLISHER** Craig MacGregor

216-706-3787 / [cmacgregor@northcoastmedia.net](mailto:cmacgregor@northcoastmedia.net)

**WESTERN REGIONAL SALES MANAGER** Jake Goodman

216-363-7923 / [jgoodman@northcoastmedia.net](mailto:jgoodman@northcoastmedia.net)

**EASTERN REGIONAL SALES MANAGER** Chris De Cicco

216-337-4417 / [cdccicco@northcoastmedia.net](mailto:cdccicco@northcoastmedia.net)

**EXECUTIVE SALES ASSISTANT** Petra Turko

216-706-3768 / [pturko@northcoastmedia.net](mailto:pturko@northcoastmedia.net)

**MGR., GOLFDOM SUMMIT** Kyle Castro

216-706-3772 / [kcastro@northcoastmedia.net](mailto:kcastro@northcoastmedia.net)

**MARKETING MANAGER** Scott Gebler

216-363-7932 / [sgebler@northcoastmedia.net](mailto:sgebler@northcoastmedia.net)

**MGR., PRODUCTION SERVICES** Rhonda Sande

216-978-9778 / [rsande@northcoastmedia.net](mailto:rsande@northcoastmedia.net)

**SR. AUDIENCE DEVELOPMENT MANAGER**

Antoinette Sanchez-Perkins

216-706-3750 / [asanchez-perkins@northcoastmedia.net](mailto:asanchez-perkins@northcoastmedia.net)

**DIGITAL OPERATIONS MGR.** Bethany Chambers

216-706-3771 / [bchambers@northcoastmedia.net](mailto:bchambers@northcoastmedia.net)

**WEB DEVELOPER** Jesse Malmacher

216-363-7925 / [jmalmacher@northcoastmedia.net](mailto:jmalmacher@northcoastmedia.net)

## MARKETING/MAGAZINE SERVICES

**REPRINTS & PERMISSIONS** Brett Petillo

877-652-5295 / [bpetillo@wrightsmedia.com](mailto:bpetillo@wrightsmedia.com)

**SUBSCRIBER, CUSTOMER SERVICE**

847-513-6030 / [golfdom@nmedia.com](mailto:golfdom@nmedia.com)

**LIST RENTAL** Brahm Schenkman

800-529-9020 / [bschenkman@infoenergy.com](mailto:bschenkman@infoenergy.com)

## CORPORATE

**PRESIDENT & CEO** Kevin Stoltman

**VP OF FINANCE & OPERATIONS** Steve Galperin

**VP OF GRAPHIC DESIGN & PRODUCTION** Pete Seltzer

**EDITORIAL DIRECTORS** Marty Whitford, Marisa Palmieri

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“A vehicle manufacturer was unveiling a new cargo vehicle, and somehow my name got on the invite list for the fancy press event in Sanibel Island, Fla.”

**SETH JONES**, *Editor-in-Chief*

# Ready for liftoff

**T**he Golf Industry Show is here, which means a return trip to Florida and warmer weather. Consider this your invitation to visit us at the *Golfdom* booth (2753). Please come by and say hello, and if you're feeling salty, come over ready to be interviewed on *Golfdom* TV.

I'm actually in sunny Florida (West Palm Beach) as I'm writing this. My friends at the Palm Beach GCSA asked me to MC their meeting, which meant less responsibility for your pal Seth, which always is a good thing. The keynote speaker duties were in the capable hands of 2016 U.S. Open host superintendent John Zimmers, Oakmont (Pa.) CC. It was a great event and I'm excited to report that they had an excellent turnout at the Breakers Rees Jones Golf Course, which looked fantastic, and it just was a great event all around.

I'll tell you what I told the attendees of the meeting. When I jumped in the truck

back in Kansas, I had some hesitation about driving to the airport. It wasn't the thought of leaving the snow behind, but the magazine. See, this issue will go to press at the same time I'll be at 30,000 feet, flying back to the Land of Oz. Not ideal timing.

But then, when is it ideal timing? The calendar is never completely free and clear.

I looked around the banquet room at the Breakers Rees Jones Course and saw a bunch of guys who were in situations like mine. But we all entrusted our capable co-workers, left our keys with someone else and made a commitment to spend some time together for the purpose

of sharing ideas and learning.

I told the story of one of my first trips to south Florida, some 15 years ago. A vehicle manufacturer was unveiling a new cargo vehicle, and somehow my name got on the invite list for the fancy press event in Sanibel Island, Fla. The event planner nagged me for a week by phone to attend. I tried to convince him that he didn't need me there — that the vehicle wasn't applicable to the golf industry and it would be a waste of my time and their money. Finally he said, “Seth, when someone invites you to south Florida in the winter, you go.”

So I went. And it was one of the most rewarding trips of

my career.

For a couple days I got to rub elbows with journalists in the automotive industry and see the way they work in that industry. I got to enjoy the fine weather, the food and the resort. And I got to see something I never would have guessed a Kansas kid would see.

As I was boarding the plane for the flight back home, the pilot came over the intercom and told everyone that if we hustled we could get in the air before a scheduled shuttle launch from Cape Canaveral. And if we pulled that off we could see the launch from the air.

For once, people actually got their butts in the airplane seats quickly. People weren't fumbling trying to pack the overhead bin space. And we were airborne.

Even better, I had a window seat on the right-hand side of the plane. We took off, and a few minutes into the flight the shuttle launched, and I had a bird's eye view watching it disappear into space. And I thought to myself, “Man, I'm glad I came on this trip!”

We're all busy, and we seem collectively to be getting busier. But don't let all the clutter keep you from putting trust in your co-workers, leaving the golf course for a few hours (or days) to meet with your peers, learning from your colleagues and just unplugging for a bit. Who knows what you'll learn... or see.

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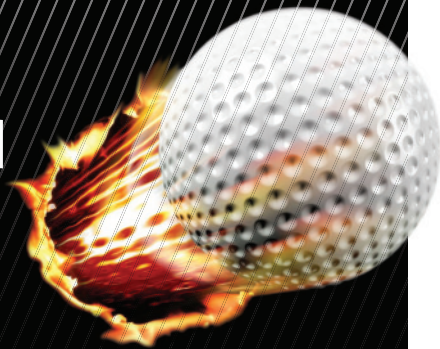
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# Starter

NEWS, NOTES AND QUOTES



## // Q&A

### AFTER 24 YEARS, WITHERS DEPARTS JACOBSEN

WHY DID HE LEAVE, AND WHAT'S NEXT FOR THE FORMER JACOBSEN PRESIDENT?

**Golfdom:** What prompted you leaving Jacobsen?

**David Withers:** Textron announced the merger of Jacobsen with Textron Specialized Vehicles. This included moving all activities out of Charlotte and into Augusta. As such, my role would have moved to Augusta. I decided this was not something I wanted to do. I also think that the merger of the two brands will work better if it is truly integrated, and I think that integration will be easier and more complete without there being an incumbent president of Jacobsen in place.

**Golfdom:** How do you feel about the state of the company from the moment you last walked out the door?

**Withers:** It's a few days since I left, and in all honesty, it hasn't sunk in yet. I do know that Jacobsen is in good shape, the work we have done over the last few years has put us back on the map.

**Golfdom:** What does the future hold for you professionally?

**Withers:** I am hopeful that I can stay in this industry as I have so many friends and relationships that it would seem sad not to continue to build them in the future, albeit with another



"I am hopeful that I can stay in this industry," says Withers, Jacobsen's former president

company. I am planning to take a few months to consider what opportunities I wish to explore.

**Golfdom:** Do you think the reorganization of Jacobsen/TSV will strengthen the Jacobsen brand?

**Withers:** I think if the new company stays close to the philosophy of putting customers first that we have followed over these last years, then there will be additional opportunities to strengthen the position in the marketplace by leveraging the combined volume and strength that comes from E-Z-Go and Jacobsen being together. The keys to success in this industry are relationships, great products and excellence in customer support. Staying true to these will allow Jacobsen to continue to grow and strengthen its position in the market.

For the complete interview, visit [Golfdom.com](http://Golfdom.com).

## // IN MEMORIAM

### LEGENDARY SUPERINTENDENT TADGE PASSES

Legendary superintendent Charles Tadge, CGCS, passed away in late December at the age of 85.

A Korean War veteran and president of GCSAA in 1978, Tadge lived a full golf life, proudly having teed it up in all 50 states and having played 70 of the top 100 courses in America.



Charles Tadge

A longtime superintendent in Ohio, Tadge worked as superintendent at such courses as Miami Valley GC and Mayfield CC among others, before retiring in 2002 from Vineyard GC. In the September 2013 issue of *Golfdom*, we asked Tadge for his advice to the young superintendents of today. He advised, "Keep your eyes and ears open and do the best job you can... I still think there are opportunities for the young superintendent."

## // FRIENDS IN HIGH PLACES

### WILLIAMS TO TPC FOUR SEASONS DALLAS

Decorated turf professional Anthony Williams, CGCS, is back in the superintendent game.



Anthony Williams

Early this month he was named the director of golf course and landscape maintenance at TPC Four Seasons Resort Dallas at Las Colinas. The course hosts the 2017 AT&T

Byron Nelson in May.

"What a great opportunity to work with a great team at a great facility," Williams tells *Golfdom*. "This is going to be the highlight of my career."

Among his many honors, Williams was named "Superintendent of the Year" by the Georgia GCSA in 2015 and won the GCSAA's President's Award for Environmental Stewardship in 2010.





The John Deere 9009A launched early last year, and was recently awarded an AE50 Award.

## // GREEN DAY

# Rough mower recognized



Good news for the guys in green: The American Society of Agricultural and Biological Engineers (ASABE) has honored the John Deere 9009A TerrainCut Rotary Rough Mower with an AE50 Award. AE50 celebrates the year's most innovative designs in engineering products, as chosen by a panel of international engineering experts. This is

the second consecutive AE50 win for the John Deere A Model family of fairway, rough, trim and surrounds mowers.

Launched early last year, Deere says the 9009A maximizes productivity and cut quality while giving turf managers more control of performance on the course. Its five-gang, 27-inch independent rotary deck mower has a 9-foot cutting width.

"The 9009A was designed with our customer's needs for productivity and cut quality in mind," said Tracy Lanier, manager, product marketing, John Deere Golf. "It's this customer-driven approach to product design that inspired many of the advancements featured in this machine and the entire A Model line, and we're honored to be recognized."

## // SURVEY SAYS

*Golfdom* would like to thank the more than 500 participants in our annual *Golfdom* Report survey, and congratulate our three randomly selected **\$100 gift card winners**; **Brian Roth**, Oquirrh Hills Golf Course, Tooele City, Utah, **John Cooler**, Old South Golf Links, Bluffton, S.C., and **John Shampeny**, Headwaters Golf Course, Three Forks, Mont.

## // EMPLOYEE-OWNED

# HARRELL'S EMPLOYEES NOW ALSO OWNERS

Harrell's, one of the nation's largest distributors of branded fungicides, herbicides and insecticides, and producer of custom-blended fertilizers, specialty liquids and wetting agents, celebrated its 75th anniversary by announcing the formation of the Harrell's Employee Stock Ownership Plan (Harrell's ESOP).

Harrell's ESOP has been vested as the sole owner of Harrell's, LLC. The Harrell and Schermerhorn families, previous Harrell's owners, are confident that the Harrell's ESOP will be the catalyst for sustained growth and heightened employee morale, while providing the foundation for the future of the company.

The decision to form the Harrell's ESOP was made in large part because of Harrell's belief that its employees are the company's greatest asset.

## // SELFISH FOR SELFIES

# ATTENTION ASSISTANTS: WE WANT YOUR PHOTOS!

We're working on a major assistant superintendent project here at *Golfdom* that we'll unveil in the next couple of months. If you would like to potentially have your photo featured in *Golfdom*, email a selfie of yourself at work to [sjones@northcoastmedia.net](mailto:sjones@northcoastmedia.net) or [ggannon@northcoastmedia.net](mailto:ggannon@northcoastmedia.net). Title the email "Golfdom Assistants" and tell us your full name, course and years working there.

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STEVEN WRIGHT, CGCS, Pine Tree GC, Boynton Beach, Fla.

## How to do Florida: Step 1, get out of your hotel room

I often hear this complaint when the Golf Industry Show rotation returns to Florida: “There isn’t much to do in Florida.” As a longtime resident, I disagree. And I’m not talking about theme parks. I have nothing against them. In raising three children I’ve spent my fair share of time and money at them.

I’m talking about the great outdoors.

Everyone knows that you can play a lot of golf in and around the conference and show, so there’s that. Within an hour’s drive in any direction you can find quality golf courses at a variety of prices. If you’re planning on doing that, adventure out and away a little bit. You’ll be happy you did. Most superintendents in the state know you are coming and make plans to accommodate extra play. Just call ahead and plan accordingly. Drop me a note and I’ll give you some good ideas on where to play.

How about a day trip, though? Here are some ideas.

Florida has more than 250 state parks, lots of them with trails and no mountains. I

suggest any of the parks with springs. Blue Springs State Park just north of Orlando is easy to find and loaded with manatees this time of year. Many of these parks offer kayak or canoe rentals. Outfitters offer the same adventures on several lakes, streams or rivers located just north of Orlando. Many are easy to find and all the gear is right there. One good resource is [floridasprings.org](http://floridasprings.org).

There are good hiking/biking trails in and around Orlando, too. For example, the West Orange Trail, which gets a top 10 rating from *Bike Florida*. Old, abandoned railroad tracks have been converted to bike trails. The West Orange Trail has urban and rural settings, and the paths are both paved and natural,

so biking is easy and good exercise. And obviously, you can find rentals.

Hiking in Florida is also a big deal. Not as scenic as Montana or the Appalachian Trail, but darn fun. A good resource for this is [FloridaHikes.com](http://FloridaHikes.com). One trail near the convention center is the Tibet Butler Preserve. Short and sweet in the Florida woods.

Sport fishing is a big deal in Florida and is one of my passions. You can choose East Coast or West Coast action. GIS ’17 will be in the state’s center, so both coasts are about the same distance away. I would suggest the East Coast. You can reach the Cape Canaveral or Daytona Beach areas in about an hour and be on a drift boat (\$) in the Atlantic shortly. Or head

a couple hours south to the Ft. Pierce/Stuart area to go sport fishing on a charter boat (\$\$\$). February is always a good time to catch sailfish. Chances are you’ll catch more than one. Plan ahead for this adventure — I highly recommend it.

For more great fishing, you only have to go about 30 minutes to Lake Toho in Kissimmee. Lots of guides here will put you onto the best largemouth bass fishing to be found anywhere. This is close by, and again highly recommended.

The more adventurous can always go paddle boarding on either coast. Surfing on Florida’s coasts is quite popular, too. The Atlantic coast in Cocoa Beach is the closest beach to GIS ’17. Water temps in February might be a deterrent — or sharks — but what the heck, you only live once.

Those of you inclined to stay in your hotel room can always check out “How to do Florida” on YouTube. You can experience all the fun us Floridians have without all that extra work.

Start now and plan ahead. Whatever your passion, Florida’s got it. Well, except for snow skiing, but there is Mount Dora. Oh, and crap, I forgot to mention the Keys. That’s another world and another story. #justsaying.

Steven Wright, CGCS, is golf course superintendent at Pine Tree GC in Boynton Beach, Fla. He can be reached at [steven\\_wrightcgcs@pinetreegolfclub.net](mailto:steven_wrightcgcs@pinetreegolfclub.net) or followed at [@wrightsteve19](https://twitter.com/wrightsteve19).





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"I sent dozens of résumés out to superintendents in the region in which I wanted to work, hoping to at least find a full-time crew position. The vast majority of these inquiries never received a response."

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

## Lasting impressions

**L**et me set the scene for you. It was late fall of 2005. I was nearing completion of my turf degree and was feverishly looking for a job. Keep in mind that this was the mid-2000s, when there weren't even remotely the number of available assistant, AIT and tech positions that have become the norm over the last five years or so. You might remember those halcyon days of yore when the turf schools were still cranking out 10 to 20 graduates per year, interns grew on trees and budgets still increased (or at least weren't getting cut) every year.

Because of the surplus labor supply, I sent dozens of résumés out to superintendents in the region in which I wanted to work, hoping to find at least a full-time crew position. The vast majority of these inquiries never received a response. This was understandable because they were unsolicited and not sent in response to a job posting.

However, I never will forget two responses I received. Both were from respected superintendents at well-known Ohio clubs. At the time, both of these men had been at the helm of their respective

operations for 20-plus years. One has since retired and the other is still going strong after more than 50 years at the same club. That's not a typo — *more than 50 years at the same club*.

What struck me about their responses was that both took the time to call me and have a substantial conversation with me even though neither one had an available position. They seemed genuinely interested in my career plans and offered their advice and encouragement on my job search and my career going forward. These gentlemen

had absolutely no reason to take time out of their schedules to talk to me, yet they still did.

In fact, both men thanked me for thinking highly enough of their clubs to contact them. That's class. Both guys were legendary superintendents at highly regarded clubs, and they were thanking me for sending them a résumé — that was pretty thin at the time — they hadn't even asked for. The fact that I'm writing about it 12 years later probably indicates how much of an impression it made on me.

As I thought about those conversations in the following days, I realized that one of the main reasons these men are so respected in this business is because they take the time to do things like that. If they were willing to reach out to some kid they didn't even need and who basically was carpet-bombing Ohio with résumés, you can imagine how they interact with their staffs, co-workers and members. More to the point, it demonstrated how they approach their jobs in general. They routinely go the proverbial extra mile. The key to their incredible longevity and success in this business became crystal clear.

Even though I have never worked a day for either of these superintendents, they both played a role in shaping how I have approached my career ever since. I'm quite certain I have yet to have a similar impact on anyone I've interacted with who's just entering the business. After all, I'm still an assistant and no one is likely going to be terribly impressed with what I have to say.

On the other hand, I would bet that neither of these two men thought they were doing anything outstanding by contacting me. They were just handling their business the way they always did and, in so doing, set a great example for some random kid that he will remember and emulate for his entire career.

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



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# Golfdom Gallery

**1 Major players** John Zimmers, Oakmont (Pa.) CC (left) and Richard Bator, international golf course agronomist, share a laugh on the last evening of the 2016 *Golfdom* Summit.



**2 Barbecue buddies** This group might include guys from five different states, but they can all agree that nothing beats good barbecue. (From left to right) Brent Bentley, Pikewood National GC, Morgantown, W.Va., Zimmers, *Golfdom* Publisher Pat Roberts, Paul B. Latshaw, CGCS, Muirfield Village GC, Dublin, Ohio, Dave Delsandro, Oakmont, *Golfdom* Editor-in-Chief Seth Jones, and Robert Guerra, Reunion Resort, Orlando.



**3 Brother from another mother** Chris Di Cicco, North Coast Media, and Thad Thompson, Terry Hills GC, Batavia, N.Y., look like they could be long lost brothers... or maybe it was just their lack of a haircut.

**4 Looking sharp at the Summit** For fear of leaving anyone out of the magazine, here's a group shot of everyone who attended the 2016 *Golfdom* Summit. Well, minus Associate Editor Grant "Buddy" Gannon, who was behind the camera.



**5 Ted talks** Ted Bishop (second from left), former president of the PGA of America and general manager/superintendent at the Legends Club in Franklin, Ind., gave a compelling and heartfelt keynote speech at the '16 Summit. Pictured with Bishop are North Coast Media President and CEO Kevin Stoltman, Roberts and Jones.



**6 Can I get your John Hancock?** Following his speech, Bishop signed copies of his book, "Unfriended," for *Golfdom* Summit attendees.







7



8



9



10



11



**7 A lot of hot air** Thanks to our friends at Turfco, *Golfdom* Summit attendees were welcomed to the practice range by the sweet sounds of bagpipes.

**8 Storytellers** Rick Mooney, White-tail Club, McCall, Idaho, and R. Sean Reehorn, Aldarra GC, Sammamish, Wash., have known each other a long time — which meant they had plenty of stories to entertain Jones with.

**9 C-Mac and Tony G** North Coast Media's Craig MacGregor and Tony Gustaitis, CGCS, Whitemarsh Valley CC, Lafayette Hill, Pa., share a laugh after C-Mac tells his classic "Seth Jones is an elderly man" story.

**10 Shattering course records** Jon Canavan, Milwaukee County Parks, Don Ferreri, Seven Bridges GC, Woodridge, Ill., David Radaj, CGCS, Green Acres CC, Northbrook, Ill., Scottie Waltz, BASF and Bob Kane, CGCS, Rolling Hills GC, Godfrey, Ill., try to track how many course records they just broke — both good and bad.

**11 Southern gentlemen** The Carolinas were well represented at the *Golfdom* Summit thanks to Alan Owen, Pinehurst (N.C.) Resort, Chuck Connolly, The Club at Brookstone, Anderson, S.C. and Keith Wood, Quail Hollow Club, Charlotte, N.C.

**12 Mr. Zero Waste on *Golfdom* TV** Josh Heptig, director of golf course operations at San Luis Obispo County Parks and the winner of the 2017 GCSAA President's Award for Environmental Stewardship, takes time to be interviewed on *Golfdom* TV.

**13 Superintendent's revenge** Everyone had a laugh about the difficult pin placements, including Ron Sharps, Reunion Resort, Gina Putnam, Jacobsen and Damon Di Giorgio, Fieldstone GC, Wilmington, Del.



12



13





2017  
Golfdom  
Report

# BURSTING INTO 2017!

More than 500 readers  
tell us their thoughts on Donald Trump  
and the future of the industry

BY SETH JONES  
— AND —  
GRANT B. GANNON

## *Timing is everything.*

For the 2017 *Golfdom* Report survey, we waited until after the results of what many consider a surprise election to gauge the attitude of our readers. It was with the knowledge that Donald Trump would be the next president that readers told us of their mood and expectations for the golf industry in 2017.

This year, 524 readers participated in our survey, telling us such things as their expectations for the golf economy in 2017 (69 percent believe it will improve) to the likelihood that they will use a drone for agronomic reasons on their course (only 39

percent of readers believe they might give it a try).

We even learned what reader opinions are on how President Trump – a bombastic multi-course owner with a penchant for spouting off on Twitter – will impact the golf business (see the next page for the results and reader responses.)

While we couldn't fit all the results of the 2017 *Golfdom* Report survey in this issue, we will revisit the survey throughout the year. And of course, our thanks to the 500-plus readers who took time to participate in the survey. See page 9 for the three randomly selected participants who received a \$100 gift card as a thank you for taking the survey.



# Talking Trump

With the benefit of two months of introspection as a guide, readers say Trump will have some benefit for the business.

We were in panic mode two months ago, trying to wrap our minds around Donald Trump's surprise victory. We were on the phone trying to get quotes, thoughts and insights on what Trump means for the industry.

This month, we're better prepared — to the tune of 500-plus reader votes and a dozen one-on-one interviews with superintendents.

So, what do readers think Trump's win means for the industry? Call it cautious optimism.

"I think he'll be a positive, and in a couple different arenas," says Ralph Kepple, CGCS, longtime superintendent at East Lake GC in Atlanta, host course of the Tour Championship. "(Trump's) Environmental Protection Agency administrator choice (Oklahoma Attorney General Scott Pruitt) is going to change (the EPA's) direction, which honestly needed to be changed. That can only be good."



Ralph Kepple

More than 40 percent of *Golfdom* readers agree with Kepple, stating that "things will improve" for the golf industry under Trump's regime. Most readers, 55 percent,

believe it will not change the business, with only 4 percent (the equivalent of 20 of the 500-plus respondents) stating they believe Trump will have a negative effect on the industry.

Kepple says that besides an improved EPA, he believes Trump will go further to support small business. Chuck Connolly, superintendent at the Club at Brookstone in Anderson, S.C., believes Trump brings good things and bad things to the office, but agrees that his dedication to small business will be a positive for golf.

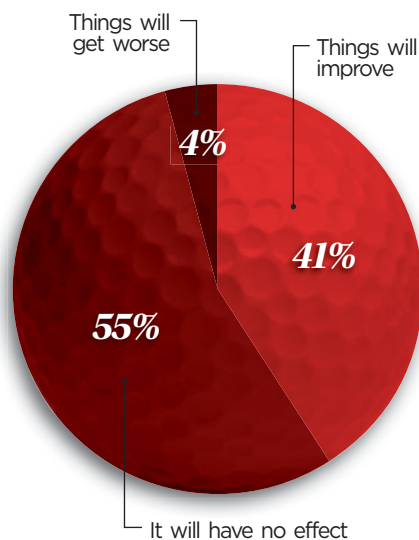
"Overall, I do think he's going to be good for the golf business. He's a smart businessman — especially small business — he looks out for those small business owners," Connolly says. "That's probably the one thing that's hurt golf on the national scale. We're really running small businesses. I think if he can help the small business owners, I think he's going to help golf in general."



Chuck Connolly

California superintendent Josh Heptig, who recently won GCSAA's President's Award for Environmental Stewardship, says he will keep an open mind but is

## DONALD TRUMP WILL BE OUR NEXT PRESIDENT. WHAT DOES THAT MEAN FOR THE GOLF INDUSTRY?



doubtful Trump can accomplish all he promised.

"For me, it's a wait and see," says Heptig, superintendent at Morro Bay GC, Chalk Mountain GC and Dairy Creek GC in San Luis Obispo, Calif. "I'm not sure the things he ran on, the agendas he was talking about... I will be curious to see if any of them actually come to fruition. I think he could be beneficial in some regard because there are a lot of regulations, particularly in my neck of the woods in California — EPA issues, regulatory issues, labor laws — that could change depending upon his agenda and cabinet members he puts into place."



Josh Heptig

*Only 4 percent — the equivalent of 20 of the 500-plus respondents — stated they believe Trump will have a negative effect on the golf industry.*

*Continued on page 20*

# Climbing up the mountain

With rounds up, open-minded superintendents see the potential for gains in 2017.

When it comes to expectations for the economy of the golf industry, numbers have remained relatively steady over the last four years, with the only major change coming in the percentage of readers who are “very optimistic.” More readers (24 percent in 2014 and 25 percent in 2015) said they are “very optimistic” compared with 9 percent in 2016 and 11.5 percent this year.

“I’m optimistic that it’s a little bit on the rise. I’m hopeful we finally bottomed out, and I think it’s going to be a slow climb back up the mountain,” says David Radaj, CGCS at Green Acres CC in Northbrook, Ill. “It seems like there’s some golf course construction again, guys are buying more equipment, irrigation systems are going in, golf is picking up.”

It was a good year for rounds played for survey respondents, with 49 percent reporting rounds were up at their courses and only 19 percent saying they were down (32 percent reported rounds played

were “level.”)

Rick Mooney, superintendent at White-tail Club in McCall, Idaho, believes that golf’s grow-the-game initiatives are taking hold. While he doesn’t expect a big jump in golfers, he thinks there will be growth because clubs are being proactive to get customers.



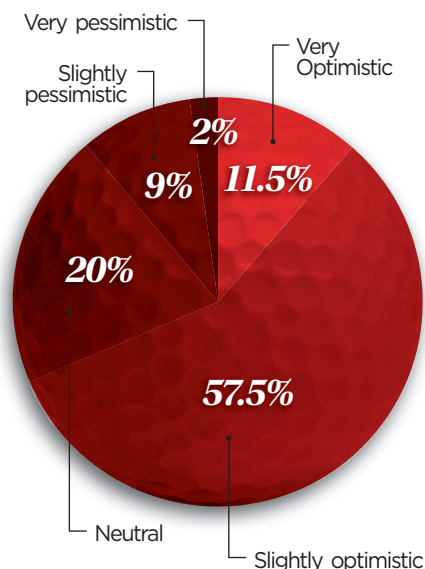
Rick Mooney

“Golf is not the only driver in club business anymore,” Mooney says. “You have to be fully amenitized to do multiple things. You’ve got to be something to everybody 365 days a year. It’s just a changed environment.”

Thad Thompson, superintendent at Terry Hills GC in Batavia, N.Y., is a believer that golf is and should embrace making the game more fun and less rules obsessed.

“If you’re sitting in a divot, move the damn thing. It’s not that big of a deal, especially at this level, where people aren’t playing for the U.S. Open,” he says. “To attain the goal of catching the younger player, I think we are going to have to embrace technology. I see a day in the not-

## WHAT ARE YOUR EXPECTATIONS FOR THE GOLF ECONOMY IN 2017?



too-distant future where you’re going to have WiFi-enabled carts. Everybody wants to stay connected. Golf is a commitment of time, so anything we can do to make that time even more enjoyable when they aren’t swinging the club or lining up a shot, but multi-tasking on their phones.



Thad Thompson

“We are competing with other entertainment options like the movies and restaurants for that dollar, but I think we are doing a pretty good job,” Thompson continues. “I think for the most part we’re seeing more disposable income, because that’s what our business is looking for, people’s disposable income.”

***“Golf is not the only driver in club business anymore. You have to be fully amenitized to do multiple things. You’ve got to be something to everybody 365 days a year. It’s just a changed environment.”***

— RICK MOONEY

Continued on page 20



# A Simple Solution to a Complex Issue



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Continued from page 18

Two superintendents mentioned Top-golf — a golf game recently featured on *Golfdom's* cover (November 2016) that reportedly drew 8 million customers across the United States in 2015 and currently sees 35,000 players a day — as a reason they were hopeful to see golf's numbers grow.

"I've seen a lot coming from the Top-golf concept, exposing a lot of new people to golf," says Eric Frazier, CGCS, Willow Oaks CC in Richmond, Va. "I'm excited about Top-golf's concept. We're also seeing a huge push with the PGA Junior League. At Willow Oaks, our biggest growth segment has been from Junior League."



Eric Frazier

***"We've got to attract more people to the business from a participation standpoint, we've got to become more culturally diverse..."***

— CHUCK CONNOLLY

Continued from page 17

For all the talk about the election results, Trump's Twitter habits and Russia's alleged hacking of the election, Connolly neatly brings the whole thing back down to earth. At the end of the day, he notes, golf needs to solve its own problems.

"We've got a lot to overcome industry wise, not just from a presidents' standpoint," he says. "We've got to attract more people to the business from a participation standpoint, we've got to become more culturally diverse to get more people out to experience golf, and really these four-to-five-hour rounds, kids nowadays, it's iPads and computers. They're not going to disconnect for four and a half hours. We've got to overcome that, and that's not going to happen with the presidency as much as it has to happen within the industry itself. We've got to become more proactive."

Continued on page 22



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# Destined for drones?

Only 40 percent of readers think a bird's-eye-view of the course might be in their future.

Another hot topic in Golfdom has been the use of drones on golf courses to better help maintenance teams identify areas of stress. Drone technology was the subject of the October 2016 cover story ("The Sky is the Limit" by David McPherson) and we've seen presentations from researchers such as Bill Kreuser, Ph.D., at the University of Nebraska and our own Clark Throssell, Ph.D., touting the technology.

But readers for the most part aren't ready to buy in. Of the 500-plus respondents, only 5 percent "planned on" using a drone on their course, while 34 percent remained open to the idea. However, 61 percent essentially told us to go fly a kite before flying a drone over their course.

R. Sean Reehoorn, superintendent at Aldarra GC in Sammamish, Wash., is in the 61 percent skeptical of the value of adding the cost of a drone or a drone service to his maintenance budget.

"The biggest question for me is, 'How do I use it, and how much of it is for fun and how is it for work?'" Reehoorn asks. "With

NDVI (Normalized Difference Vegetation Index) technology and GPS spraying, you



R. Sean Reehoorn

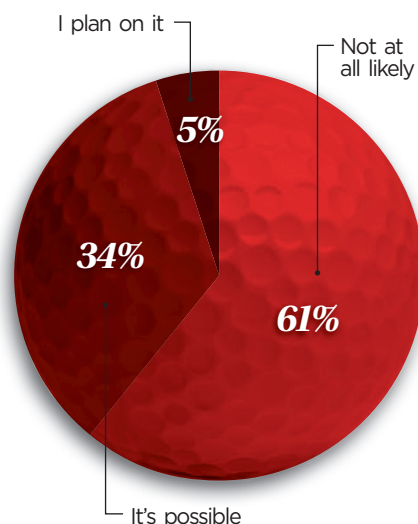
know mixing all of this together is great, but taking that information and making it real and usable is the most difficult part. I think you need to have people who know what they

are doing and can teach you how to use it. It's hard. How do you make it real?" Reehoorn believes the technology will become more valuable to him once the price comes down and pesticides become more restricted because he'll need to know the exact areas that need to be sprayed.

But Colin Seaberg, CGCS at Barton Hills CC in Ann Arbor, Mich., is in that rare 5 percent: He already owns a drone and proudly flies it as his course regularly.

"We are about to start a major project on the day after Labor Day next fall. We bought one for a couple of reasons," Sea-


**HOW LIKELY ARE YOU TO USE A DRONE FOR AGRONOMIC REASONS AT YOUR GOLF COURSE IN 2017?**



berg says. "First, my greens chair wanted to get one as a marketing tool to take some picturesque photos of the course to add to the website. We also bought it in hopes of using it for progress report updates, and to take different photos of the project."



Colin Seaberg

He adds that he also checks the way the rough is looking from up high, and likes having the different angles. "It is a great investment for us because I bought the best piece of technology I could at the time, but we're going to get a lot of use out of it over the next two years (with the project)," Seaberg says. "My advice to someone thinking about it is to just buy one to have it, because you will find uses for it." 

*"The biggest question for me is, 'How do I use it, and how much of it is for fun and how much is it for work?' You need to have people who know what they are doing and can teach you how to use it."*

— R. SEAN REEHOORN



## YOU SAID IT

We asked one fill-in-the-blank question: **"What stories should we be pursuing in 2017?"**  
Here are a few answers...

*"Highlight a club in each state that charges under \$100 and have them show how they are growing profit without raising or lowering prices."*

**"DIRECTORS OF GOLF HAVE NO IDEA WHAT IT TAKES TO GROW TURF. THEY JUST KNOW THE BUSINESS SIDE."**

**"The effects that chemicals and fertilizers have on golf course superintendents' brains and personalities."**

**"I WOULD LIKE TO KNOW HOW ALL GOLF PROFESSIONALS (SUPERINTENDENTS, PROS, CLUB MANAGERS) FEEL ABOUT THE USGA."**

**"NEW GOLF COURSE BUILT ON MARS."**

# 98

## Percent Control

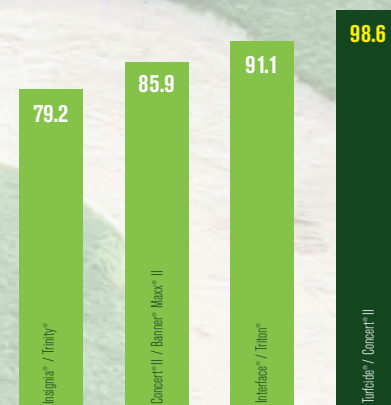
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BY MATT ZAREMBA

**S**uperintendents frequently share with me the demands of their workday. We discuss a “typical day” in their mobile office, aka their utility vehicle, and the pre-dawn hauling of heavy equipment onto the greens with one goal: to produce the best playing conditions for their golf course. They tell me they want to do it efficiently, safely and without being noticed.

Making sure crews understand proper utility vehicle operation is an important part of achieving that goal. The following are a few tips to consider.

**Routinely maintain and service vehicles.**

Utility vehicles are built to work long days over a long time. But like any vehicle they require proper maintenance to ensure they run reliably and safely.

Take time to service the powertrain. If your

utility vehicle is electric, water your batteries regularly with clean, de-ionized water. Check the battery terminal posts frequently to make sure the connections are clean and tight. Inspect the wires and cords to confirm that they are in good working condition and don't show wear or damage.

For gas models, check the oil levels and change the fluids as necessary. Also, routinely clear debris from the fan and the cooling system. Evaluate the belts and hoses and replace if warranted.

Service the brakes on utility vehicles regularly for best performance. Some designs require system adjustments before brake part replacement.

**Teach operators safe driving and braking habits.** Proper driving practices are a crucial part of utility vehicle safety. Drive straight up

*Continued on page 26*





**Safely  
maintaining  
utility  
vehicles**



*Continued from page 24*

and down hills slowly while avoiding sudden stopping or turning. Once stationary on level ground, set the parking brake. Insist that the vehicle's key be turned to the off position and removed every time the driver exits the vehicle. If this isn't done, the vehicle still could be active and ready to drive.

Most utility vehicles feature a mechanical or hydraulic brake system. However, some utility vehicles feature additional technology to limit and control speed. Cushman's IntelliBrake system is an example of this. The electric motor slows the vehicle when traveling up or down grades, automatically engages the parking brake when the vehicle stops, and restarts without hesitation or rolling backward.

**Review proper towing.** Superintendents routinely rely on utility vehicles

## It's critical to understand how to correctly get heavy equipment around the course without injury or damage.

to tow blowers, greens mowers, drop spreaders and other equipment. It's critical to understand how to correctly get heavy equipment around the course without injury or damage.

Review how to properly attach equipment to the hitch. Double check that the pin is tightly in place. Doing so ensures that whatever you're towing remains

safely secured while the vehicle is in motion.

Know the manufacturer's recommended vehicle tow capacity and weight rating of the hitch. Pulling equipment too heavy for the vehicle can result in unstable conditions, can overwork the engine, damage turf, or worse, cause

*Continued on page 28*

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## // KEEP 'EM RUNNING



Know the manufacturer's recommended vehicle tow capacity and weight rating of the hitch. Pulling equipment too heavy for the vehicle can result in unstable conditions.

*Continued from page 26*  
physical harm.

Finally, review safe stopping distances. Towing heavy equipment and

loads increases the distance and time it takes to safely stop. Inadequate distances can result in damaged equipment and cause wear to brakes, tires and turf.

**Safely secure loads.** Confirm that your team understands the correct way to load a cargo bed. The best practice is

*Continued on page 30*



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## // KEEP 'EM RUNNING



Confirm that your team understands the correct way to load a cargo bed. Some new utility vehicles come with the option to add tie-down loops and bed organizers to secure loads.

*Continued from page 28*

to first load heavier objects low and in the front part of the bed. Doing so results in a balanced and safer vehicle. Some new utility vehicles come with the option to add tie-down loops and bed organizers to secure loads. Use powered lifts to dump heavy loads.

The most popular light utility vehicles used on golf courses are designed to be easy to get in and out of and load. They feature deep seats, ample leg room and storage in the dash. Avoid storing objects or equipment on the floorboard or seat so they don't interfere with the pedals or vehicle operation. A best practice is to load long-handled tools front to back, avoiding tools that extend beyond the width of the vehicle.

**Maintain appropriate speed.** Getting the job done quickly means higher overall productivity, but speed should never come before safety.

When driving a utility vehicle loaded to its maximum capacity, it's important for the operator to drive slowly and brake and turn smoothly. Both high speeds and sharp turns increase the risk of a safety in-

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cident. In addition, avoid driving on steep slopes unless absolutely necessary and approach this practice with extreme caution.

**Clear the view.** As with our personal vehicles, it's important to drive utility vehicles without any objects impeding the operator's view. Having a clean line of sight helps the operator navigate tight areas of the course and reduces the risk of striking low objects or damaging equipment.

Many vehicles intended for off-road recreation have reduced line of sight, while utility vehicles designed for golf courses and commercial applications feature a dash design that provides a clean, unobstructed line of sight behind the wheel. Opt for a vehicle with a centralized control panel on the dash. This keeps all the necessary switches within reach of the operator.

**Know what to look for.** Finally, make sure to research the utility vehicle safety features and intended applications before

## Finally, make sure to research the utility vehicle safety features and intended applications before investing in a fleet.

investing in a fleet. Choose utility vehicles with features that best meet the needs of your course. Always follow the storage, handling and safety guidelines provided in the utility vehicle's owner's manual.

Our goal is to help make superintendents' jobs easier by building functional and safe utility vehicles. It's up to superintendents and their crews to implement

and promote proper vehicle operation. Doing so goes a long way toward creating a safer environment for everyone and everything, including the turf. **G**

Matt Zaremba is the director of products and strategy of golf at Textron Specialized Vehicles, which designs and manufactures Cushman utility vehicles.

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# Superintendent Kingdom

It takes a certain amount of preparation to make it through the wild that is the Golf Industry Show. Let us be your guide through this year's trade show safari.

**GRANT B. GANNON**

**D**isney has its Animal Kingdom theme park, which features attractions that showcase creatures from far-flung locations of our world. Every three years since 1996, the Golf Industry Show turns Orlando's Orange County Convention Center into the Superintendent Kingdom trade show.

From Feb. 4 to Feb. 9, superintendents and golf industry professionals from near and far will learn and interact together in this confined space. Each year, the trade show provides new

and exciting experiences at its more than 500 exhibitors, 108 educational seminars and sessions and *Golfdom's* Herb Graffis Businessperson of the Year Award presentation. We've ventured through the catalogue of events to select the four (in no particular order) that attendees *should* visit to get the most from their GIS experience. Except for the Graffis Award presentation. We *expect* to see everyone there.

*Continued on page 34*

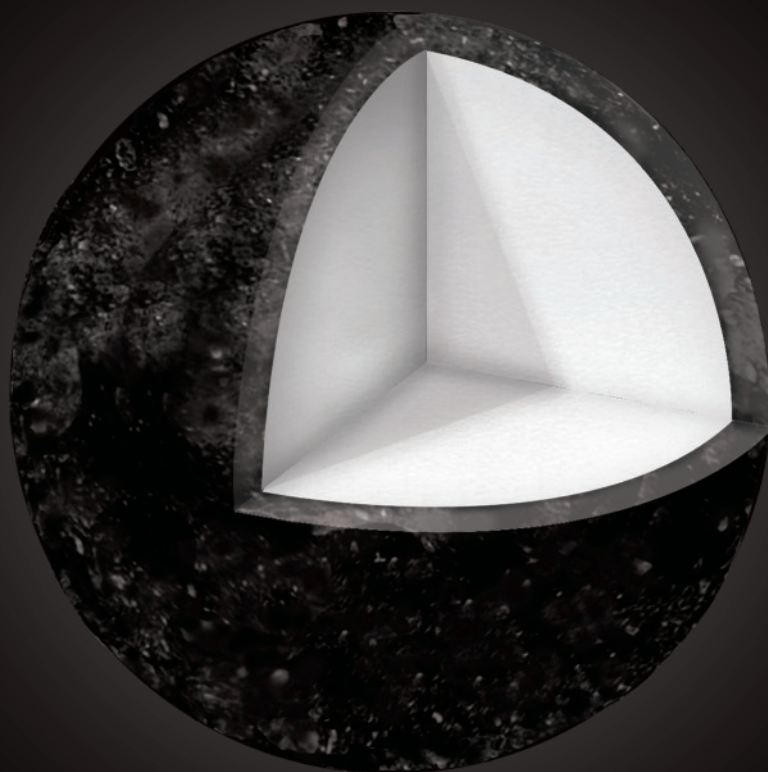


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GIS Booth #2822

*Continued from page 32***Surefire Ways to Increase Plant Health: Products Edition**

Superintendents at every Golf Industry Show are presented with new or unfamiliar products whose manufacturers claim can improve a course's plant health. That's probably the case, but sometimes other factors can cause misuse and hurt a facility's plant health. This seminar, on Monday, Feb. 6, from 1 p.m. to 5 p.m. in room W203BC, lets attendees in on the questions they need to ask before buying a product, as well as how to decide whether that product is suitable to use on their course.

Frank Rossi, Ph.D., associate professor of turfgrass science at Cornell University, and *Golfdom* contributor Bill Kreuser, Ph.D., assistant professor and turfgrass Extension specialist, University of Nebraska, Lincoln, will discuss plant growth regulators, turf colorants and pigments, plant health activators, hormones and fungicides. The pair also will facilitate a discussion on possible positive or negative effects on turf when different products are combined.

**Syngenta tests your turf knowledge**

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others? Are you a competitive person? Did we mention there's something in it for you?

If all these things interest you, head over to the Syngenta booth (2618) during both days of the trade show to participate in Syngenta's turf knowledge trivia challenge. For the first 500 players who take the quiz, Syngenta will make a \$10 donation to the Wee One Foundation, a group created to assist golf course management professionals who incur overwhelming expenses due to medical hardship. At the end of each day, the top scorer will win a YETI Hopper 30 cooler, and every contestant who plays will be entered for a chance to win one of 10 random drawings for a YETI Rambler 36-ounce tumbler.

**This ain't no filibuster: Government affairs briefing**

By the time attendees arrive in Orlando for this year's GIS, Donald Trump will have held the office of U.S. president for more than two weeks. No matter your political affiliation, the forthcoming transition from the Obama Administration to the Trump Administration holds the possibility of dramatic change. The GCSAA's Government Affairs Committee will host a session on Tuesday, Feb. 7, from 1:30 p.m. to 3 p.m. in room W304EF to present recent

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developments in government that hold the potential to affect golf courses on the national and state levels.

With GCSAA Government Affairs Committee Chair John Fulling, CGCS at Kalamazoo (Mich.) Country Club, serving as moderator, the group will detail how the recent election's results will affect the association's priority issues agenda and its members in 2017. Also, members of the Grassroots Ambassador Program will provide first-hand accounts of their efforts promoting the golf industry at all levels of government, and the recipient of the 2017 Excellence in Government Affairs Award will be recognized.

Want to get more bang for your buck at this session? Stick around for GCSAA's official launch of the "50 in 2020 BMPs" initiative. CEO Rhett Evans will be there to outline this Best Management Practices program, which is planned to be ready for all 50 states by 2020, and its importance to the industry.


### 2017 Herb Graffis Businessperson of the Year Award reveal

According to Hallmark, the modern gift for the sixth anniversary is wood, and *Golfdom* will be following suit with an engraved wooden plaque ready to present to our 2017 Graffis Award winner. This award is presented each year to one of the top businesspeople in

The West Concourse of the Orange County Convention Center, Orlando, Fla.



the industry, no matter their time in the business, as proven by our recipient history. The last two recipients of the annual award have been the more than 30-year veteran Bill Larson, CGCS at Town & Country Club, St. Paul, Minn., followed by the 34-year-old superintendent of The Peninsula Club, Cornelius, N.C., Jared Nemitz.

*Golfdom* cordially invites you, our readers, to attend the unveiling of our annual award, given in honor of our founder and World Golf Hall of Fame member Herb Graffis. The ceremony will take place on Wednesday, Feb. 8 at 2 p.m. in *Golfdom's* booth (2753.) We encourage you to stop by to hear Rees Jones, "The Open Doctor," say a few words about Graffis, congratulate our selection for the 2017 Graffis Award, and get an exclusive sneak peek at our February cover. 

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# WHO WILL BE THE NEXT HERB GRAFFIS BUSINESSPERSON OF THE YEAR?

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The Herb Graffis Business Person of the Year Award, presented by *Golfdom* and sponsored by *Jacobsen*, is awarded each year to a person in the golf industry who is making a positive impact on the bottom line of his or her facility with outside-the-box, cutting-edge thinking and overall business acumen.

## Winner receives:

- » A cover story in *Golfdom*
- » An expenses-paid trip to the 2017 Golf Industry Show
- » An expenses-paid trip to the *Golfdom* Summit

The award is named in honor of Herb Graffis, one of the first people to look at golf as a business when he founded *Golfdom* in 1927. With his foresight, Graffis helped advance the game in numerous ways, from co-founding the National Golf Foundation and the Club Managers Association to his work advocating on behalf of the superintendent and helping elevate their profile. In 1977 he became the first journalist to be elected to the World Golf Hall of Fame.

2015 Winner »  
**William Larson,**  
CGCS

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» 2016 winner  
**Jared Nemitz**  
*The Peninsula Club, Cornelius, N.C.*

2013 Winner »  
**Wayne Kappelman**



« 2014 Winner  
**Jim Rattigan**



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# Super Science

## // HELP IS AT HAND

### RESISTING THE LITTLE GREEN INVADERS

**W**hat do superintendents, farmers and weekend gardeners have in common? For one, they all share a strong dislike of weeds. Whether you're a professional or amateur, nothing can ruin your day like a weed. Worse yet, no matter how you try to control this pesky green invader it just keeps coming back for more. Fortunately, there's help available to get weeds under control.

The University of Tennessee Weed Diagnostics Center (UTWDC) is here to help identify weeds and screen them for herbicide resistance. This initiative, supported by UT AgResearch and UT Extension, provides end-users with diagnostic tests tailored to weeds in a variety of settings.



"Our aim is to provide a broad spectrum of services to both professional and consumer clientele," says Jim Brosnan, Ph.D., associate professor of turfgrass weed science at the University of Tennessee Institute of Agriculture. "Our tests," he says, "are tailored to weeds of crop production systems as well as turf, ornamentals and urban landscapes."

Superintendents can submit annual bluegrass (*Poa annua*), crabgrass (*Digitaria* spp.), goosegrass (*Elusine indica*) and other weed species for screening for herbicide resistance. The turnaround for herbicide screening is from two weeks to five months, depending on the type of screen requested. Another service tailored to southern U.S. superintendents is bermudagrass off-type assessments.

Brosnan heads up UTWDC and sees it as a valuable service across the U.S. He says it's important to have weeds tested to help keep them under control, and then to use the diagnostic results to implement optimal management strategies.

"All UTWDC test results are complimented with research-based control recommendations to promote proper weed management in the field," Brosnan says. "We'll also complement the ongoing disease and plant diagnostic efforts at UTIA's Soil, Plant and Pest Center in Nashville."

Employing both whole-plant and molecular methods, specialists at UTWDC provide a wide range of diagnostic services, from basic weed identification to herbicide resistance tests using DNA screening. "We're looking to provide an all-inclusive service for our clients that's cost-effective and helps them conserve financial and technological resources," Brosnan says.

You can find more information about UTWDC online at [weeddiagnostics.org](http://weeddiagnostics.org). Follow the Center on Twitter (@WeedDiagnostics).

Jim Brosnan, Ph.D., is a turfgrass weed scientist at the University of Tennessee. You may reach him at [jbrosnan@utk.edu](mailto:jbrosnan@utk.edu) for more information. Doug Edlund, University of Tennessee Institute of Agriculture, contributed to this summary.

## NEWS UPDATES

### HUMMEL TABBED FOR '17 GREEN SECTION AWARD

The USGA announced Dr. Norman Hummel as the recipient of the 2017 USGA Green Section Award. The award recognizes an individual's distinguished service to the game of golf through their work with turfgrass.

Hummel began his career in the golf business working on the maintenance crew, as a mechanic, and a night watchman at Park Country Club in Williamsville, N.Y. Following four seasons at the club, the graduate of New Mexico State University left to pursue advanced degrees at Pennsylvania State University, where he earned both his master's and Ph.D. in agronomy, with an emphasis in soil science.

In 1991, he took a one-year sabbatical from Cornell to work with the USGA on putting-green construction research, updating the USGA Recommendations for a Method of Putting Green Construction. "These guidelines firmly established the USGA method as the best and most thoroughly researched in the world. His work has had a profoundly positive impact on the game of golf by helping courses build and renovate better greens that perform more predictably and reliably," said David Oatis, director of the Northeast Region for the USGA Green Section.

Hummel left Cornell in 1995 to devote his full attention to a consulting venture he started in 1991. Hummel & Co. Inc. quickly became one of the most respected physical soils testing laboratories in the industry. The company has worked with more than 2,000 golf courses.

“TRAFFIC TREATMENTS, ESPECIALLY THOSE APPLIED AT 8 A.M., HAD A SIGNIFICANT DETRIMENTAL IMPACT ON CREEPING BENTGRASS HEALTH AND APPEARANCE.”

**Winston Nickles Mirmow**

(see story on page 38)

## // CART PUSHING FOR SCIENCE

# Winter traffic stress on a Transition Zone bentgrass green

By Winston Nickles Mirmow, Haibo Liu, Ph.D., Bert McCarty, Ph.D. and James Rieck, Ph.D.

**M**any factors affect the durability of turfgrass under traffic stress, including the turfgrass species and cultivar, timing and type of traffic, root zone composition and construction type, soil moisture levels, recovery time and maintenance regimens. A 2008 study noted that both mower and foot traffic at 7 a.m. had a negative effect on turfgrass quality when creeping bentgrass (*Agrostis stolonifera* L.) had a canopy temperature lower than 32 degrees F. Vehicular or human foot traffic can be extremely damaging to turfgrass when temperatures are below freezing, resulting in injury or even death to the crowns.

Traffic inevitably causes turfgrass stands to lose quality. It can negatively affect the turfgrass by compacting soil compaction or causing wear damage. Sand-based root zone mixes for putting greens have minimized the effects of compaction, but wear from traffic still causes problems, especially in extreme temperatures with low mowing heights. Wear injury on turfgrass shoots is characterized by crushing, tearing, stripping or abrasion of leaf tissue followed by a degradation of chlorophyll and subsequent photosynthesis reduction.

The prevailing theory among researchers is that wear is the primary form of traffic-related injury on sandy soils or soils with water contents below field capacity. Conversely, soil compaction may be the primary form of traffic injury on finer-textured soils with higher water contents when greens see heavy loads. Because traffic

stress most often occurs on closely mowed turfgrass stands on sand-based root zones, it's reasonable to conclude that wear rather than compaction is the primary stress. In addition, a 2009 study identified wear stress as the most important influence on turfgrass quality, and that compaction is less important on sand-based or silt-loam root zones. The cushioning effect of surface organic matter likely is a reason for the low importance of compaction in various studies.

### POTASSIUM EFFECTS ON TOLERANCE

Potassium (K) is a required nutrient often applied to turfgrasses, especially creeping bentgrass, to help plants tolerate stresses. Fall K fertilization is



Research provided and funded by USGA.

thought to aid in creeping bentgrass winter traffic tolerance, but research on the subject is limited and inconsistent.

Research done in 1975 found that creeping bentgrass wear tolerance increased with higher K fertilization levels. The greatest increases were at 5.5 to 7.4 lbs. K per 1,000 sq. ft. per year (27 to 36 g K/m<sup>2</sup>). The study also indicated a low relationship between K fertilization and total cell wall content, but

**FIGURE 1**



A modified water-filled push turfgrass roller that weighed 165 lbs. and applied a force of 0.27 lbs. per sq. ft. was used to apply traffic treatments on the Crenshaw creeping bentgrass research putting green.

PHOTOS COURTESY: WINSTON NICKLES MIRMAW



**FIGURE 2**



Accumulated effects of eight passes with the roller in the morning (right), four passes with the roller in the morning (middle), and 0 passes with the roller in the morning (left) after 15 traffic applications on a Crenshaw creeping bentgrass research putting green on Feb. 15, 2015 during the 2015 winter season.

K fertilization increased the concentration of K in leaf tissue and improved load-bearing capacity and leaf tensile strength.

Additionally, K fertilization reduced tissue water content. This and other research led to the conclusion that K plays a critical role in the improvement of wear tolerance in creeping bentgrass. Other studies, however, have shown contradictory trends on other turfgrass species (and selected studies on creeping bentgrass). K had little to no effect on Kentucky bluegrass, seashore paspalum, perennial ryegrass or creeping bentgrass wear tolerance. As with the trend demonstrated with nitrogen (N) alone, the effect of different N/K ratios (1:1 and 2:1) on wear tolerance varied among species.

### TEMPS VERSUS ICE

Low temperatures don't necessarily cause freezing injury. Instead, ice formation resulting from low temperatures is responsible. Intracellular freezing (the formation of ice crystals within cells resulting from a rapid temperature drop) often is lethal because the ice crystals rupture cellular membranes. And more often, temperatures drop more slowly and ice forms between cells (extracellular freezing). This freezing can slow cellular reactions and metabolic processes but usually is not lethal unless the ice

**Low temperatures don't necessarily cause freezing injury. Instead, ice formation resulting from low temperatures is responsible... This freezing can slow cellular reactions and metabolic processes...**

persists for extended periods of time or the ice is manipulated in a manner so that crystals rupture cell membranes, such as when traffic occurs on frost-covered turfgrass.

Our study concerning the performance of a creeping bentgrass putting green was conducted to investigate the effect of fall-applied K in combination with traffic applied at 8 a.m. when frost was present during the winter.

### MATERIALS AND METHODS

A field experiment was conducted from Oct. 1, 2014 to April 30, 2015, and Oct. 1, 2015 to April 30, 2016, on a Crenshaw creeping bentgrass putting green established in 1997 to USGA guidelines with an 85:15 sand-and-peat moss root mixture at Clemson, S.C. Treatments consisted of three K rates (0, 0.75 and 1.5 lbs. K per 1,000 sq. ft.), three morning traffic rates (zero, four and eight passes with a modified water-filled push turfgrass

roller weighing 165 lbs., and an applied force of 0.27 lbs. per sq. ft.), and two afternoon traffic rates (zero and six passes with the same roller). The K fertilizer used was 0-0-30 Brandt 30K (Brandt Consolidated, Inc.), and the fertilizer contained 30-percent soluble potash ( $K_2O$ ). We applied fertilizer treatments three times over the course of a one-month period (to minimize potential for fertilizer burn from a single application) at rates of 0.25 and 0.5 lbs. K per 1,000 sq. ft. each fall to reach the total desired supplemental K rates of 0, 0.75 and 1.5 lbs. K per 1,000 sq. ft. K fertilizer application dates for year one were Oct. 10, 2014, Oct. 24, 2014 and Nov. 12, 2014, while fertilizer application dates for year two were Oct. 8, 2015, Oct. 22, 2015 and Nov. 5, 2015. We made K fertilizer applications as foliar applications in the late afternoon with a  $CO_2$  backpack sprayer, and they were lightly watered

Continued on page 40

**TABLE 1**

Morning Traffic Level	Dec. 15 <sup>†</sup>	Jan. 01	Jan. 15	Feb. 01	Feb. 15	Mar. 01	Mar. 15	Apr. 01	Apr. 15
Turfgrass Quality (1-9) <sup>‡</sup>									
0	7.04	6.90	6.17a	5.96a	4.65a	5.04a	5.50a	7.26	7.42
4	6.96	6.98	5.38b	5.08b	3.60b	4.42b	4.79b	7.15	7.46
8	6.98	6.92	5.23b	5.00b	3.06c	4.08c	4.83b	7.23	7.46
LSD (  =0.05)	NS	NS	0.32	0.32	0.32	0.32	0.32	NS	NS

<sup>†</sup> Values followed by the same letter in the same column are not significantly different at | =0.05 using Fisher's protected LSD. NS=not significant at the | =0.05 level.

<sup>‡</sup> Turfgrass quality based on a visual scale of 1-9 with 1=poorest and 9=best; ≥6 indicates acceptable turfgrass quality.

Crenshaw creeping bentgrass turf quality readings in response to three traffic treatments applied at 8 a.m. in winter 2014 and 2015.

Continued from page 39

in after application. Traffic was applied only on the days that canopy temperatures were at or below 32 degrees F at 8 a.m. We did traffic treatments 19 times in 2014 and 18 times in 2015.

Throughout the study the green was maintained at a 0.125-inch mowing height and mowed five days weekly using a walk-behind mower with solid rollers. We implemented weed and disease control programs on a preventative and curative basis, while irrigation was applied as needed at various levels to prevent wilt. Fertilization (not including supplemental K applications used for this research) was applied at a rate of 7 lbs. N, 1.75 lbs. P and 3.5 lbs. K per 1,000 sq. ft. per year. Study-by-year interaction did not occur, so we averaged data over 2014 and 2015 (Table 1).

## RESULTS

Overall, traffic treatments, especially those applied in the morning at 8 a.m., had a significant detrimental impact on creeping bentgrass health and appearance (Table 1). Supplemental K did not improve turfgrass health (data not shown). The turfgrass recovered to acceptable quality by spring when temperatures warmed, even with the damage incurred in the colder winter months.

**Injury from winter traffic, however, is generally not long-term, and golf course greens should return to acceptable quality levels by the spring months...**

This study revealed uniform and higher turfgrass quality ratings in December through early January as well as in April. Turfgrass quality ratings (Table 1 and Figure 2) dropped during the colder part of the season, and even more so with morning traffic treatments. When morning traffic (at four or eight passes with the roller) was in combination with afternoon traffic (six passes with the roller), ball-roll distance increased, reflecting wear injury to the turfgrass. Afternoon traffic affected surface firmness, but only in the month with the most traffic treatments (February). In addition, soil moisture, soil bulk density, soil organic

matter, soil K concentration and tissue K concentration were not affected by traffic or K treatments. Despite convergent or divergent findings of this study compared with some of the research we've mentioned, the vast majority of the previous research was conducted during periods of vigorous growth, not during the cooler months.

Winter traffic at 8 a.m. when creeping bentgrass canopy temperatures are below 32 degrees F can be a damaging force causing a significant decrease in visual turfgrass quality (and subsequent appeal to managers and golfers). Injury from winter traffic, however, is generally not long-term, and golf course greens should return to acceptable quality levels by the spring months, which is similar to results from a 2008 study.

At rates of 0, 0.75 and 1.5 lbs. K per 1,000 sq. ft., fall-applied K had little effect on creeping bentgrass appearance or health, and it did not improve turfgrass winter traffic tolerance, whether we applied traffic in the morning or afternoon.

Winston Nickles Mirmow is a graduate student, Haibo Liu, Ph.D., and Bert McCarty, Ph.D., are turfgrass scientists, and James Rieck, Ph.D., is a statistician at Clemson University. You can reach Nickles Mirmow at [wmirmow@g.clemson.edu](mailto:wmirmow@g.clemson.edu) for more information.





## Acknowledgements

Our thanks to Don Garrett, Gib Bethea, Ph.D., Bob Cross, Ph.D., Nate Gambrell, Adam Gore, Jacob Taylor and Caleb Patrick for assisting with turfgrass plot maintenance and sample collections. We also thank the USGA Green Section for partial funding of the research, as well as Patrick O'Brien, USGA Green Section agronomist, for the study objective development and use of the TruFirm meter.

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## Golfdom

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“The similarities that exist between course conditions and football expectations is striking.”

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

## The unlikely odds of going undefeated

**T**he new year got off to a rocky start for some of us, specifically those who follow college football and saw their teams lose.

Count me as one of those. The Ohio State Buckeyes lost rather badly New Year's Eve in the Fiesta Bowl. Some friends and colleagues poked fun at me good naturedly, and some of the pictures and such on social media were creative. However, from reading a few articles and listening to sports radio, it's apparent that for some Buckeye fans — the ones you want to say “Get a life” to — the loss was mind-numbing.

Where passions run high, so do expectations to win every game. Those expectations come not only from fans, but from football programs that have high goals. How realistic is it to go undefeated every year? Logic tells me that going undefeated every year is unachievable. But logic often doesn't apply to hyped expectations, emotions and passions.

The similarities that exist between course conditions and football expectations is striking. All golf courses have turf condition expectations defined by the golf course and the golfers. The most telling example in the rise of golf course expectations begins with hiring a new superintendent.

Improving the quality of course conditions year after year is the most satisfying accomplishment for new superintendents. You're like a new

football coach. You have new ideas, and members are excited about the changes you make. You raise course conditions from, say, a 3-8 (win-loss) season to a 6-5 course at the end of the first season. The next year you continue to make improvements, and now maybe you are at 10-2. Things are looking good and everyone is happy. As you continue, maybe you plateau at 10-2, and a few members grumble, wanting something more like championship conditions. And you come through! You deliver the equivalent of a 12-0 season in course conditions.

You have reached the mountain's pinnacle. Now what? The pinnacle, whether it's course maintenance or a football program, is where expectation and associated personal stress is the highest and most challenging.

How do you stay at the pinnacle for

the coming year? First, never say that this is the best it can be. This is the first symptom of losing interest in what you do, and eventually may lead to you being replaced. Secondly, remain curious, which could include my first point. Curiosity makes your mind active and observant to new ideas, often opening possibilities that may not be normally apparent.

How do you remain or regain your curiosity?

**1) Keep an open mind.** Visit fellow superintendents at their courses or meet occasionally over coffee. Talk at conferences about new ideas or practices that you might be doing. Informal situations promote an open mind, which is the ability to ask questions. Lou Holtz, former Notre Dame football coach, said, “I never learned anything by talking; I only learn things when I ask questions.”

**2) Don't take things for granted.** For example, why does your golf course look so good? Or, why do you always do it this way? Dig deeper into your management programs and try to understand the underpinnings of why you are doing something.

**3) Read a lot.** I'm not speaking only about *Golfdom* or other magazines that address the golf business. I'm talking about readings that expand your world beyond turf, diverse books and magazines that create new areas of interests and ideas.

I have no special insight or “in” with our football program regarding the coming season. But no matter how successful and amazing I think the program is, coaching curiosity plays a role in making the program better.

Note: My new year's resolution this year was to eliminate the use of analogies for the coming year's columns. I guess I've already broken that one.

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



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## THE PERMANENT BUNKER SOLUTION

### Recognize Anyone?

**"We had a great year here at Anglebrook and it looks like a beautiful fall is upon us. The best part of this year was we finished the bunker project. After six years and 54 bunkers we are done. The Klingstone was the best decision we made, it has performed exactly as advertised. The bunkers we first did in 2010 look just as good as the last bunkers we did this year. The sub-soil has been sealed in place and our sand is no longer being contaminated after a heavy rain. We could not be more pleased with the application and finished bunker look that Klingstone provides."**

**Louis S. Quick, CGCS**  
ANGLEBROOK GOLF CLUB, LINCOLNDALE, NY

**"We have had Klingstone in our bunkers now for 18 seasons and the only place we have had problems is where we tried to skimp on the product. Where we applied the product properly, the Klingstone has held up very well to the rains as well as the freeze/thaw cycles of the winter. Our original goal of reducing or eliminating the contamination of our bunker sand has been a success with Klingstone."**

**Tim Johnson**  
SUPERINTENDENT  
SPRING HILL GOLF CLUB, WAYZATA, MN

**"In the fall of 2015 our course was flooded 3 times — 10" of rain in October, 14" in November, and another 12" in December. Our Klingstone bunkers performed GREAT throughout these floods!"**

**Jorge M. Croda, CGCS**  
(2015 FINALIST, TURFNET SUPT OF THE YEAR)  
SOUTHERN OAKS GOLF CLUB, BURLESON, TX

**"My members AND crew loved our bunkers this year. Given it was the wettest year ever, that's saying something."**

**Bob McCurdy**  
GOLF COURSE SUPERINTENDENT  
COUNTRY CLUB OF DETROIT, GROSSE POINTE FARMS, MI

**"When I took over the maintenance operation at Country Club of Detroit, I'll admit I was skeptical of the Klingstone which had been installed a few years prior — but it really performs, I'm a believer!"**

**Ross Miller**  
GOLF COURSE SUPERINTENDENT  
COUNTRY CLUB OF DETROIT, GROSSE POINTE FARMS, MI

**"The final stage of our bunker renovation just started last week and I will help endorse your product to any superintendent who is going to be undertaking a bunker renovation. I have built and re-built many bunkers in my career and this product is superior to anything else on the market."**

**Kevin Collier**  
GOLF COURSE SUPERINTENDENT  
RIVERBEND GOLF COMMUNITY, LONDON, ONTARIO, CANADA

**"We researched all the hardcoat liner systems prior to our full renovation. We chose Klingstone, with zero regrets — it does its job with no surprises, is simple and faster to install, and it's less expensive!"**

**Pat Gradoville, CGCS**  
PALOS VERDES GOLF CLUB, PALOS VERDES ESTATES, CA

**"Why isn't everybody using this stuff?"**

**Armen Suny**  
PRINCIPAL, SUNY ZOKOL DESIGN  
CASTLE PINES, CO

[www.klingstone.com](http://www.klingstone.com)

US Patent # 6,467,991

# GreenKeeperApp.com: A digital tool for superintendents

*Bill Kreuser, Ph.D., is a turfgrass scientist at the University of Nebraska-Lincoln. To help get his research findings into the hands of superintendents, Bill and his colleagues at UNL developed GreenKeeperApp.com. For more information, Bill can be reached at [wkreuser2@unl.edu](mailto:wkreuser2@unl.edu) and on Twitter @UNLTurf.*

## **Q**What was your motivation for developing GreenKeeperApp.com?

It started as a method to get our growing degree day (GDD) models for plant growth regulator (PGR) applications into the hands of superintendents so they could make individualized decisions for their golf courses. It has grown into a decision-support tool not only for PGR applications but for fertilizer and pesticide applications and weather monitoring. GreenKeeperApp.com launched Jan. 1, 2016, and we have more than 1,500 total users with about 750 golf courses as active users.

## **Q**What features are available today?

In addition to GDD models for PGRs that alert you when it's time reapply a PGR, the website-based app also will alert you when a fungicide application is nearing the end of its effectiveness (the product expiration lifetime is nearing). Also, you may select an area of your golf course to treat and choose products and application rates from an extensive

turf product database. The app will calculate how much product goes into the sprayer tank, the number of tanks needed and the number of gallons in the mix. You also can print an easy-to-read report with mixing instructions.

A superintendent can save all spray data in the application to maintain a permanent record of applications. If desired, a superintendent can share the targeted pest and preventive or curative strategy with other users, and GreenKeeperApp.com will compile maps showing the relative locations of recently reported pests, which helps superintendents keep tabs on pests showing up in their area. The maps only show the relative location of a golf course, not the specific location of an individual golf course.

We are working with Weather Underground to improve the weather monitoring provided to superintendents.

## **Q**Tell me more about the cooperation with Weather Underground.

Starting this year, weather

data will be provided by Weather Underground using one of several options. First, the user may link an existing on-site weather station to their GreenKeeperApp.com account and it will report weather from their weather station. If you don't have a weather station you may purchase one for about \$350. It will integrate weather conditions on your golf course in real time to the web for use on GreenKeeperApp.com. If you are not interested in an on-site weather station you can enter your ZIP code and weather will be reported based on location determined by ZIP. Superintendents outside the United States can enter their city and country to search for weather based on the closest weather station to their location.

## **Q**How does a superintendent sign up for GreenKeeperApp.com, and what are the logistics behind the scenes?

GreenKeeperApp.com is free and always will be free, thanks to our sponsors. Sign up by going to GreenKeeperApp.com and following the sign-up instructions. I recommend you do the initial signup and setup on a computer. It's easier to use a mouse to add the neces-

sary golf course set-up and product inventory information on a computer than on a phone. Once the setup is complete you can access your GreenKeeperApp.com account on your phone or other mobile device.

We value your privacy and will never share or sell individual golf course information. No users can determine who may be signed up for and use GreenKeeperApp.com.

I serve as the behind-the-scenes technical and agroeconomic expert. If questions arise, send me an email and I can help solve the problem you are experiencing.

## **Q**Anything else you would like to add?

I will be at GIS to speak about GreenKeeperApp.com on the trade show floor and give demonstrations. If you previously tried using the website and were frustrated using it, please try again. We have improved and debugged GreenKeeperApp.com.



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

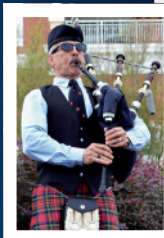


# Golfdom Summit

2016 Highlights

"What a great event! I really believe y'all have found a 'sweet spot' in the superintendent community, in that we have generally been limited to big conferences where we have no time or really inclination to meet one-on-one, or a very haphazard meeting with a local sales rep. The *Golfdom Summit* really let me dig a little deeper and think about options/products in a more rigorous and detailed fashion. It goes without saying, the chance to interface with such talented superintendents was icing on the cake."

—SCOTT EBERS, CGCS, COLONIAL CC, FORT WORTH, TEXAS



"The *Golfdom Summit* was a fantastic experience and like no other event, meeting, seminar or gathering of superintendents that I've ever experienced. From learning to networking, from fellowship to bonding, it could not have been better."

—THAD THOMPSON, TERRY HILLS GC, BATAVIA, NY

"Wow, what a great event! I was thoroughly impressed with all aspects of the Summit and came away educated, energized and full of new ideas I can use to make my course better!"

—JEFF ELDRIDGE, CGCS, LAKE QUIVIRA (KAN.) CC

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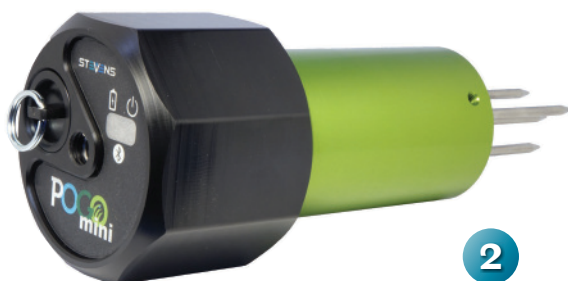
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[ditchwitch.com](http://ditchwitch.com)

## 2 POGO mini

Built using the same technology as the **POGO Pro**, the POGO mini was developed to supplement the POGO Pro system and allow for spot checking of key variables, including moisture (wfv/vwc), salinity (EC) and canopy temperature. The POGO mini is becoming a tool for any turf manager wanting to check conditions of their turf quickly and in between more in-depth monitoring processes driven by the POGO Pro with GPS device.

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

## 3 FB 131 bed redefine

Previously only available as a **STIHL** KombiSystem attachment, turf professionals now can give turf and flower beds a crisp, clean edge with the gasoline-powered Stihl FB 131 bed redefiner. With its 710-cc fuel tank and low-emission engine, this professional-grade redefiner delivers long run times without sacrificing performance. It features a vertical pleated paper air filter for excellent filtration and Stihl exclusive IntelliCarb technology, which maintains RPM if the air filter begins to clog.

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





4



5



6

### CHECK OUT MORE NEW EQUIPMENT ONLINE

To stay up to date on all the latest products and services, visit [golfdom.com/category/products](http://golfdom.com/category/products)

### 4 ZT zero-turn mowers

**JACOBSEN**, a Textron Inc. company, recently introduced its ZT400 and ZT600 zero-turn series mowers. The ZT400 is available with up to two engine options and a 48-, 54- or 60-inch width of cut. The ZT600 also offers two engine options and 48-, 54- and 60-inch width of cut. Both feature InCommand console with keyless password-protected ignition, SoftStart clutch and maintenance-free Peer Turf Xtreme™ spindles with Contamination Exclusion Technology for longer bearing life.

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

### 5 Endurance Plus batteries

The Endurance Plus line of deep-cycle batteries from **U.S. BATTERY** is made up of 6-volt, 8-volt and 12-volt batteries that feature improved overall performance and higher ratings in an all-new bright red color case and top. Endurance Plus batteries are manufactured in the United States and feature molded-in UTL terminals that have torque values that are consistent with current burned-on UTL versions. Dual molded terminals will be available soon.

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

### 6 SLOPE-PRO

The remote-controlled SLOPE-PRO from **PROGRESSIVE TURF EQUIPMENT** can safely go where other mowers can't, without the need of a winch/tether or spike-equipped tracks that can damage turf. It features an ultra-low center of gravity for good stability and maneuverability while allowing the mower to cut slopes as steep as 50 degrees. The SLOPE-PRO has a high-drive track system that elevates the drive motors out of harm's way and puts more track on the ground.

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

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



## Scot Dey

**SUPERINTENDENT** // Mission Viejo (Calif.) CC



**Scot, what would you like?** What is their IPA on draft?

**Tell me about your family.** Steph and I have three kids. Emery is 6, Amelia is 3 and Eve is 9 months.

**Give me some Mission Viejo CC trivia.** The club was built in 1967, this marks its 50th year. The club has ties going back to the late 1800s with Rancho Mission Viejo, when it was being ranched by cattle herdsman.

**What are your sports teams?** By default, I'm a University of Arizona Wildcat because of my wife. I grew up a Dodgers fan — saw Kirk Gibson's home run in person — but I haven't maintained my loyalty.

**Did you make any new year's resolutions?** I'm going to buy an alarm clock and start charging my phone downstairs. I found this little 15-minute YouTube clip about the Millennial generation... it smacked me in the face about how plugged in and connected we are. I'm not of that generation, but it was one of those eye-openers because when we pick up the phone we get sucked in.

**You spent six months working in Japan. What was that like?** I graduated college and a week later I was on a plane to go work for Micah Woods and a company called ETS. I remember when the plane was landing, looking down and seeing cars driving on the other side of the road and realized I was in for a major learning curve. So Micah is supposed to meet me in the airport, but instead he has Steve Wilson (the equipment manager)

meet me and he tells me I'm driving back to the house by myself because he's flying home, here are the keys. So now I have a 2-hour drive back to the house — by myself — and have to figure my way out of Tokyo to get there. Well, Micah was off to the side watching the whole thing unfold. We all had a laugh and that set the tone for a great learning experience. I had my own golf course with a translator for a short time and worked an international tour event. There was a lot I learned that I still hold with me today.



**You mentioned you met your wife on the beach. What's that story?** I used to ride my bike on the boardwalk in Newport Beach all the time. I saw her from a distance and could tell she was going to cross without looking both ways... I thought she was cute, I could let her pass by or I could run her over. So I slammed on my brakes and caught her off guard.

**Good thing you didn't run her over!** I asked her if I could borrow her towel to clean off my sunglasses. But I should mention that we both have different renditions of how the whole thing went down.

As interviewed by Seth Jones, Jan. 2, 2017.







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*Craig Haldane, Director of Golf Course Maintenance, Dubai Golf*

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*John Blanch, General Manager, Thai Country Club, Bangkok, Thailand*

**“It gives me moisture and EC data I need so I can manage my greens better.”**

*Ken Lochridge, Glen Head Country Club, Long Island, NY*



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