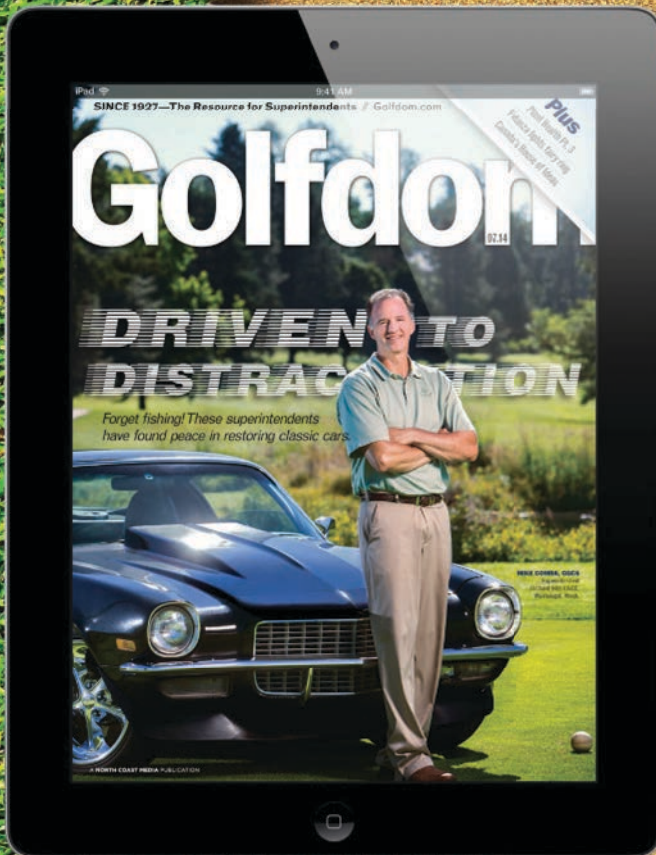


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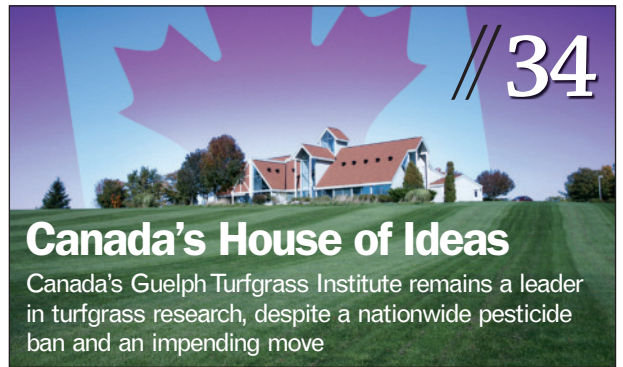
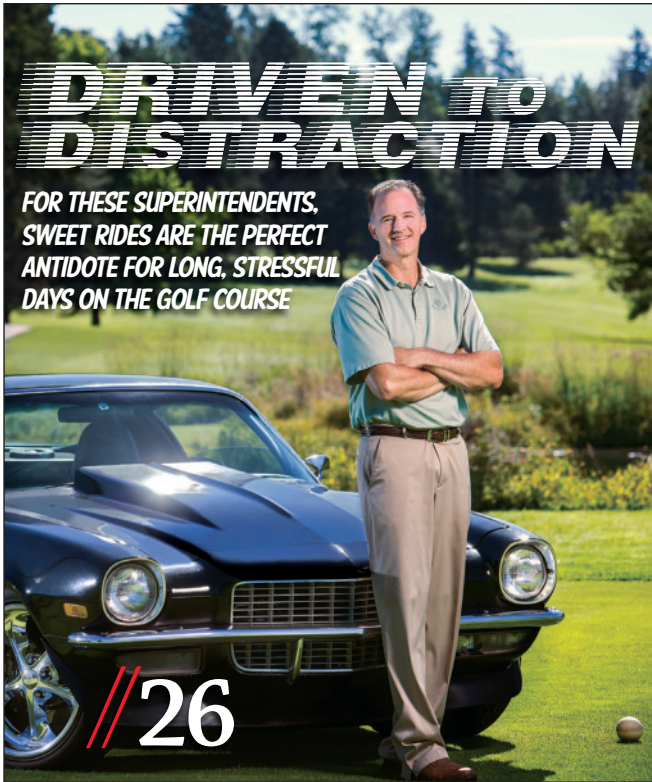
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“A coffin draped in the U.S. flag slowly rolled down a conveyor belt. The family struggled to hold each other upright.”

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

## A post-Open reminder that freedom isn't free

**I** landed in Kansas City following a week attending the 2014 U.S. Open. I was feeling proud of the coverage *Golfdom* delivered to subscribers of our e-newsletters. There could always be more, but for the most part, I was self-satisfied.

As we were taxiing to our gate, a voice came over the intercom. My headphones were playing, and I was just waking up. I figured it was the typical stuff: outside temperature, baggage claim, connection information.

But I could tell something was a bit off, maybe because I noticed people started looking around. I popped out my earphones in time to catch the last part: please stay in your seats.

I looked outside my window down to the Tarmac. There was a family. There were a dozen members of the military. And there was a hearse.

Once we pulled up to the gate, everyone remained seated. The deceased soldier on our flight had been escorted by one of his or her colleagues, and was the first to get off. As soon as the soldier was off the plane, the rest of us started shuffling off.

As I approached the door, I could hear who I assume was the soldier's grandmother, wailing. It was an awful sound and it made my stomach drop. Any sense of pride I had of a job well done at Pinehurst was gone. Oh, so I got up at 4 a.m. to get photos of the crew one day? That's what I did for my job? This brave soldier died doing his or her job... And his or her job allows me the freedom to do my job.

I felt about two inches tall.

As everyone came off the plane, we all quietly lined up along the windows, watching the military procession of the soldiers serving as pallbearers for their fallen comrade. It was a somber sight. A coffin draped in the U.S. flag slowly rolled down a conveyor belt. The family struggled to hold each other upright. This was not the way he or she was supposed to return home.

There wasn't a dry eye in the terminal. Everyone went from worrying about getting to wherever they were going to just being thankful they were still able to make that journey.

Fast forward two weeks, and I'm on my way to our corporate headquarters in Cleveland. I had to connect through Baltimore. As I came off my flight, I noticed the sound of fading applause. Some uniformed soldiers had just passed through the terminal, and applause was rightfully following them down the corridor.

I stopped by the restroom. On the way out — and this really happened — a guy stepped in front of me, wearing a T-shirt that read, “Not all of us get to be heroes. Some of us have to stand on the curb and applaud as they pass by.” The quote was attributed to Will Rogers.

I shook my head in disbelief at the perfect timing of this guy's choice of T-shirts for the day. What a random quote for a T-shirt. Yet it struck me as so profound that day.

Whenever I'm having a bad day at work, I remind myself of the scene I saw at the Kansas City Airport. It reminds me that my bad day — a typo, a reader complaint — is nothing like what our soldiers deal with. So buck up.

My work at the U.S. Open might not have saved any lives or protected any freedoms, but I was proud to do it. And I'm proud to stand on the curb to applaud the men and women of our military who allow me the freedom to do my job.

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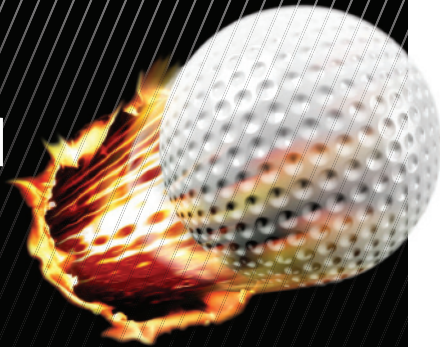
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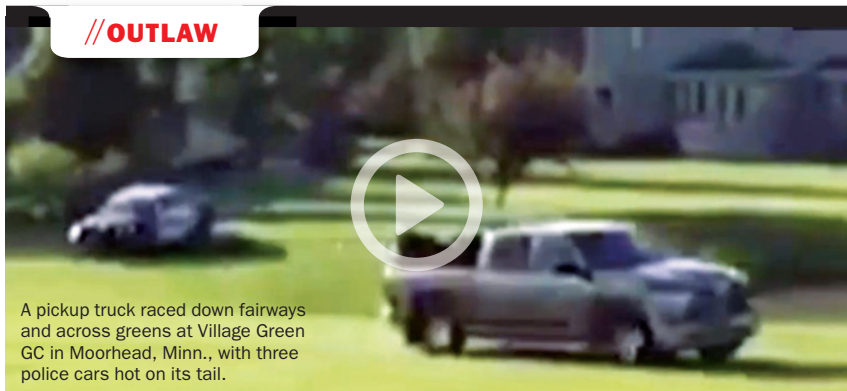
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# Starter

NEWS, NOTES AND QUOTES



## // OUTLAW



A pickup truck raced down fairways and across greens at Village Green GC in Moorhead, Minn., with three police cars hot on its tail.

## CAR CHASE TEARS ACROSS MINNESOTA COURSE

BY MOLLY GASE // Associate Editor

➔ Rick Dauner, superintendent at Village Green GC in Moorhead, Minn., never thought he would get a phone call like the one he received last month. While at his daughter's softball game, a worker at the course pro shop called to let him know that a pickup truck and three police cars had just sped across the course.

"Evidently, there was an individual with a warrant out for his arrest... and he decided to take off across the golf course to evade them," Dauner says.

Many witnessed the chase as the cars darted down fairways, around ponds and over a green. All the while, a helicopter hovered overhead tracking the suspect.

When thinking about the aftermath,

Dauner says it could have been worse.

"It was a busy night," he says. "There were anywhere from 150 people on the course."

Along with the people on the course, Dauner was relieved that none of the homeowners around the course were harmed. The suspect wove in-between the homes and the course during the pursuit.

According to Dauner, the chase ended in a shopping center in nearby Fargo, N.D., where the suspect was apprehended.

In the aftermath, Dauner knew the damage to people and property could have been much worse. Even the course avoided serious injury.

"Surprisingly not much damage," Dauner says. "Mainly just tire depressions and skid marks."

One prominent set of skid marks were caused when the driver first got onto the course and slammed on the breaks to avoid a pond. Dauner estimates damages to be less than \$1,000.

In all, the chase traversed six holes on Village Green GC and, appropriately, the driving range. As the damage fades, the memory will stick with all involved. With a chuckle, Dauner simply says, "I will remember this one."

## // IN THE MONEY

### GEORGIA GCSA AWARDS SCHOLARSHIPS

The 2014 Georgia GCSA Legacy Scholarships, awarded to children of Georgia GCSA members, were announced recently. The awards are funded by the Georgia GCSA in partnership with Jerry Pate Turf & Irrigation.

Criteria for selection included academic achievement, extracurricular and community involvement, leadership and outside employment. The students are required to be enrolled full time at an accredited institution for the next academic year. They submitted two essays with the application. This year's winners are: Karli Durden, Courtney Cunningham, Ben Ketelsen, Joseph Barton, Ryan Cunningham, Ann Drinkard, Morgan Kepple, Ben Murray and Haley Womac.

## // MOVING ON UP

### ARYSTA PROMOTES MARAVICH TO T&O BUSINESS MANAGER

Arysta LifeScience North America, based in Cary, N.C., named Michael Maravich business manager, turf & ornamental (T&O). Maravich has been with the Arysta T&O team since January 2008, when he joined as a product manager. He previously worked with LESCO and is based in LaQuinta, Calif.



Michael Maravich

"Michael's career has been focused on the T&O business, and he is well-positioned within the market to lead our experienced sales team as they serve our customers," says Jeff Tweedy, Arysta's U.S. agriculture and T&O head of sales. "Michael's enthusiasm for golf and lawn care also will be of benefit to him as our T&O business manager."



## Kicking it at the golf course

➔ Finding new ways to get people on the golf course is always a hot topic in the industry. Footgolf, the golf/soccer hybrid, is meant to appeal to a wide array of participants, ranging from children and their parents to people in their 20s who enjoy kicking a ball, but not running around the pitch.

Founder of the American FootGolf League, Roberto Balestrini is excited to bring the sport to the U.S.

"It's a game that has been played (for a long time) under different names, under different rules," Balestrini says. He explains that the sport started in Europe and then made its way to South America, where he saw it on television.

"People, when they have a soccer ball, they just kick the ball. They aim at some-

thing. If they are in the park, they aim at a tree," and if they are on a golf course, Balestrini says they aim at the green, just like golfers.

Wait, aiming at greens?

For superintendents worried that soccer balls and the larger 21-inch hole will harm their courses, Balestrini aims to reassure them. Courses create a separate green to the side of the normal golf green and oversee the area. Tee times are also set for footgolfers, who play a whole round on nine holes.

More than anything, footgolf is meant to be fun. "You can (play) with a partner, with a group of friends, with a beer on your cart. It's the beauty of footgolf; it can be as fun as you want or as competitive," Balestrini says.

### // WATER WATCH

## RISE: PUBLIC COMMENT PERIOD EXTENDED FOR EPA'S CLEAN WATER ACT

The Environmental Protection Agency (EPA) is extending the 90-day public comment period for an additional 91 days — until October 20 — for the proposed rule expanding the definition of "waters of the U.S." under the Clean Water Act (CWA).

The rule would significantly impact how homeowners and professionals treat property near any water by subjecting all waters to regulation, including golf course ponds, man-made water bodies, rights-of-way, ditches and flood plains. The public comment period originally ended July 21.

"The proposed rule is complex and includes many broad definitions of important terms defining what a 'water of the U.S.' would be under CWA jurisdiction. The extended comment period gives us the time to provide research and science to form meaningful and fully developed comments," says Aaron Hobbs, Responsible Industry for a Sound Environment (RISE) president.

"The rule would cause many negative consequences for homeowners and professionals, and we are making sure we account for all of these concerns," Hobbs says.



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## Don't call it a comeback!

Adam Garr (Twitter handle @Superin10dent) at Plum Hollow GC in Southfield, Mich., shows us a before-and-after comparison. The before, a photo from our April 2014 issue (inset), of what we called "another casualty from the harsh winter." The after is a photo of the same green, now looking great, taken in mid-June. For a video about the recovery of this green, visit [youtube.com/superin10dent](http://youtube.com/superin10dent)

## Who is the Turf Stig?

In late May, the Twitter account of The Turf Stig (@TurfStig) started sending mysterious, yet hilarious, tweets about this masked grass grower. Among our favorites, "Some say he can smell nematodes from six nautical miles," and "Some say geese are afraid to poop on his fairways," ...and this photo, which included the caption, "Some say he will uncross his arms for a good read."



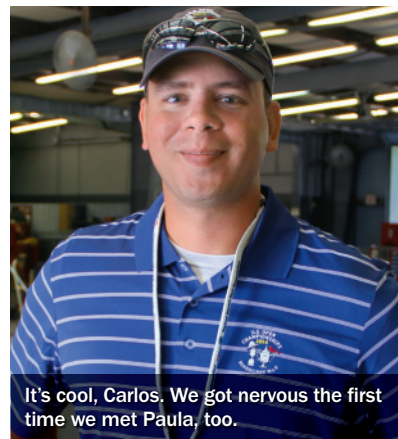
# 2014 U.S. Open: An intern's perspective

(OR, HOW I TRIED TO STAY COOL WHEN TALKING TO PAULA CREAMER)

*Editor's note: This is the second essay written by Pinehurst Resort turfgrass intern Carlos Sanes. It originally appeared on the Golfdom Daily.*

➔ When Bill Coore and Ben Crenshaw completed the renovation of Pinehurst No. 2, they left the grounds maintenance staff a faster, firmer golf course that rekindled the spirit Donald Ross had originally envisioned for his masterpiece. The natural areas feature native wiregrass along with a host of other plants, giving No. 2 its classic look and feel. I got to spend a lot of time in these natural areas over the past three weeks and there's much more that goes into maintaining them than I had initially imagined.

The week before the U.S. Open Championship I spent a full afternoon with Ryan May (Iowa State, Course No. 4 turfgrass intern) walking Pinehurst No. 2's natural areas with a five-gallon backpack sprayer. We were targeting crabgrass and goosegrass by spraying glyphosate (Roundup) to eliminate them both.



It's cool, Carlos. We got nervous the first time we met Paula, too.

After about two holes you start to get the hang of it, until Paula Creamer takes a break from her practice round to ask you what you're spraying for and why. That's when you forget why you're hauling a 30-pound backpack sprayer around in 90-plus degree heat and you try to answer her as best you can without making a fool out of yourself. Kudos to Paula for taking the time to appreciate and inquire about our teams' efforts.

For more of Carlos' experience at Pinehurst, visit the *Golfdom* blog at [www.golfdom.com](http://www.golfdom.com).



Sean Kleinfelter (far right) and Carlos Sanes (middle) stop to take a photo with Editor-in-Chief Seth Jones (left) during the first round of the U.S. Open.

PHOTOS BY: ADAM GARR; THE TURF STIG; SETH JONES



## Sit back and wait.

No, that's not your style. Your turf is your livelihood so you anticipate problems and take the initiative to solve them before they appear. But the environment has become less predictable, and the pressure to do more with less means your resources are not what they once were. Now you need a different plan of attack to make things happen. **What are you waiting for?**

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# Golfdom Gallery



**1 Kaymer signing sighting** Eventual 2014 U.S. Open champion (wire to wire, nice!) Martin Kaymer autographs souvenirs for fans at Pinehurst Resort. All that game and fan-friendly too? We dig it.



**2 Seeing red again** The Toro Co.'s Jeff Clarke, Boyd Montgomery II and Grant Young liked what they saw at Pinehurst No. 2 — lots of red equipment keeping the course looking its best for back-to-back weeks.

**3 New York state of mind** Empire State superintendents Steve Rabideau, CGCS, Winged Foot GC, Mamaroneck, N.Y.; Craig Currier, Glen Oaks Club, Westbury, N.Y.; and Jason Smith, also of Glen Oaks, were on their way to the maintenance facility at the U.S. Open when we ran into them. Currier himself is a host superintendent to multiple U.S. Opens, after spending 12 years as the head grass man at Bethpage (N.Y.) State Park.



**4 Now on deck** Get ready, guys! Josh Lewis, superintendent, and Eric Johnson, director of agronomy at Chambers Bay in University Place, Wash., were in attendance at the 2014 U.S. Open to get an idea of what to expect when the tournament (the men's, at least) comes to their course in 2015. Only 340 more days to get ready!



**5 Field trip time** Brunswick Community College, located in Supply, N.C., was represented at the 2014 U.S. Open by Dean Bennett, director, horticulture technology and turfgrass management, and Jace Myers, turfgrass instructor. Students enrolled in BCC's Advanced Turf Management and Turf Equipment Management classes have enjoyed utilizing Pinehurst Resort's maintenance facility and greenhouse on a regular basis as a place to get some real world knowledge.



PHOTOS BY: SETH JONES



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“As our plan developed throughout the evening at the pub, there were several members of our family who were not in full support. My mom in particular was mortified.”

**MARK WOODWARD**, *Contributing Editor*

## The Road Hole Bunker caper

Several years ago my family had the opportunity to go to Scotland for a vacation. Actually, the main purpose of the trip was for my father, son and I to play golf at the Old Course at St. Andrews. We made all the necessary arrangements and were fortunate enough to meet up with Eddie Adams who at the time was in charge of all the maintenance activities for six golf courses in the St. Andrews system.

Playing St. Andrews with my father and son was undoubtedly the best round of golf I've ever played. Not because I played well, but because of who I was with and where I was.

That night, after stopping at one of the local pubs, we came up with the brilliant idea to bury a photo of my father's father, Jay Woodward, in the Road Hole Bunker on the Old Course. My grandfather is the one who got my family started in the golf business in 1938. He was a mentor to not only our family, but to hundreds of young men who worked for him, many who have gone on to be superintendents.

After a few hours of plotting and scheming, we decided to put the photo in a plastic

bag. On the back of the photo I wrote, “You are here with us in spirit,” thus in our minds, closing the loop of having all four generations together for the first time in many years at the birthplace of golf. By honoring my grandfather this way, we were saying thank you to him for getting our family started in what turned out to be a tradition of careers spanning multiple generations of family members.

As our plan developed throughout the evening at the pub, there were several members of our family who were not in full support of my dad, my son and I going out onto the Old Course at night, digging a hole in a bunker

and burying a picture. But we rationalized our scheme by telling each other that since St. Andrews was a place to be enjoyed by the residents and visitors of St. Andrews that it would be just fine. My mom in particular was mortified.

We picked midnight as the time to pull off this caper. So after the town kind of shutdown, we left our bed and breakfast, walked to the golf course and directly to the Road Hole. My son and I proceeded to jump down into this beautiful bunker, get down on our hands and knees and dig frantically with our hands (just like a dog digs a hole.) We got down about 15 inches, carefully placed the plastic bag with the photo in it and carefully filled in the hole.

Now, being good stewards of the golf course, we proceeded to do our best to rake out the bunker.

At that point we got out of there because we started thinking maybe Mom was right and we were about to be busted.

The next morning my son and I had the opportunity to tour all six of the golf courses with Eddie and he proved to be an incredibly gracious host. During the tour, I asked Eddie how often they had to rebuild the sod-faced bunkers. He told me that typically they rebuild them about every five years. I then asked him when was the last time they had rebuilt the Road Hole bunker. He casually told me that it was about four-and-a-half years ago.

Realizing that Eddie and his staff would probably find the bag with the photo within the next few months, I immediately confessed about what we had done in the middle of the night before.

Once again — and as just another example of the type of people we have in our business — Eddie chuckled and said to Matt and I, “When we rebuild that bunker and if we find the now infamous bag, they would complete the bunker renovation and replace the bag in the bottom of the bunker in its rightful place.”

**Mark Woodward** is a senior vice president for OB Sports, principal of Damarco Golf, president of Mark Woodward and Associates and a contributing editor for *Golfdom*. He can be reached at [mwoodward@obsports.com](mailto:mwoodward@obsports.com).



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“Maybe by going back in time, Pinehurst can open the door to a ‘less is more’ future.”

**JOEL JACKSON**, *Senior Contributing Editor*

# Keeping an “Open” mind

**W**atching the back-to-back men’s and women’s U.S. Opens took me down memory lane to the days when I worked at Disney and we hosted the Oldsmobile Scramble and Disney Classic back-to-back.

Many challenges can pop up when hosting events back-to-back. One positive for Pinehurst No. 2 was that the men’s U.S. Open and the women’s U.S. Open played at different yardages. The landing areas were different for the men and women, thus minimizing divots that might otherwise affect the players in the second event.

At Disney, that wasn’t the case. While the scramble event consisted of amateurs, each group also had a pro player. Thus, using the best drive, they all hit from the “pro landing area.” So divot details were crucial in keeping those areas playable.

Like Pinehurst we did have several golf maintenance crews that could chip in along

with other departments to provide help cleaning up the course before and after each round, so personnel numbers were not a big issue.

The biggest fear factor we dealt with was the weather. In October, Florida is still in hurricane season and it was too often we had to bail out bunkers and repair lots of washed out bunker faces. The other negative was all of the trucks and other vehicles supporting the tournament infrastructure making huge ruts when servicing bathrooms and food stations on the course.

I know Bob Farren’s crew at Pinehurst was amped up and eager to pull this history-making event off in fine fashion, as were our guys back then. But when it’s over and the

adrenaline wears off it seemed like everyone had a big let-down feeling. We learned all about working under the mobile diesel powered lights early in the morning and late at night. We had morning crews and night crews. No days off until it was over.

Once the bright lights go away, it’s a challenge to keep that same level of intensity. Of course, it is nice to get back to a more normal sleep schedule and actually see your loved ones at dinner in the evenings.

The other big factor in this hallmark event at Pinehurst of course is the retro-design by the Coore and Crenshaw team. I happened to meet them while attending a TOCA (Turf and Ornamental Com-

municators Association) conference at Pinehurst a few years before the project started. The sustainability factor of the new, or should I say “old,” design is certainly something to consider. It saves water, fuel and labor and those costs are very critical in today’s touchy golf market.

One lesson we may learn from this major event/golf marathon, is that challenging, playable and enjoyable golf courses don’t have to be expansive manicured fields of turf.

With water-use and availability regulations front and center these days, will golfers accept some brownish, off-color, scalloped edges that sometimes come with single row fairway irrigation? Maybe by going back in time, Pinehurst can open the door to a “less is more” future.

The general impression I’ve seen is a mixed reaction to the look of the course. Those who get it love it, but those who don’t wondered why the crew at Pinehurst didn’t just crank up the water.

People are funny and most don’t like change. What works for Pinehurst, a historic icon of early golf in America, may not resonate with folks living in a NIMBY (not-in-my-backyard) world. But it still makes for a great opportunity to discuss these issues with golfers, because they’re certainly not going away.

**Joel Jackson, CGCS-Ret.**, is senior contributing editor for *Golfdom*. Email him at [flrjn@aol.com](mailto:flrjn@aol.com).



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# AWARD WINNING

# EDITORIAL & DESIGN



## Golfdom Takes Home 21 TOCA Awards!

### TOCA First Place Awards

- » **Writing, Operations Profile:** “Flower Power,” Christina Thomas
- » **Writing, Editorial/Opinion:** “The Beauty is a Beast,” Golfdom
- » **Writing, Product Information Article:** “What’s the Next Big Idea at Spectrum Technologies?” Seth Jones
- » **Writing, Environmental Stewardship Article:** “A Sharp Mind at Sharp Park,” Seth Jones
- » **Writing, Business Management:** “A Sharp Mind at Sharp Park,” Seth Jones
- » **Photography, Best Cover Photograph:** “5 Keys to Picking Up Women,” Pete Seltzer
- » **Photography, Pictorial 1:** “Fertilizing for the Future,” Pete Seltzer
- » **Design, Single Page:** “Prepping Golf Cart Batteries for the Summer Season,” Pete Seltzer
- » **New Media, Blogs:** “The Golfdom Daily,” Seth Jones



### TOCA Merit Awards

- » **Writing, Column:** “The Life of a Golf Course,” Seth Jones
- » **Writing, Column:** “No Better Backpack,” Seth Jones
- » **Writing, General Feature:** “An America Dream,” Seth Jones
- » **Writing, Coverage of an On-site Event:** BASF launches Xzemplar and Lexicon, Seth Jones
- » **Writing, Headlines:** “Early to Rise,” Beth Geraci
- » **Writing, Turf Feature:** “Beat the Summer Heat, Plan for Snow Mold,” Paul Koch, Ph.D.
- » **Writing, Original E-newsletter:** “Golfdom’s Super Science,” Curt Harler
- » **Photography, Pictorial 1:** “Plant Health Intro,” Pete Seltzer
- » **Photography, Print Magazine Cover:** “My Green Heaven,” Pete Seltzer
- » **Design, Single Page:** The 19th Hole/Bryan Nuss, Pete Seltzer

### Gardner Award

The award is for photography, video and multimedia publishing for Golfdom’s “5 keys to picking up women” photo.



### Plant Health Writer of the Year — Karl Danneberger, Ph.D.

Sponsored by Bayer, the award is provided annually to a writer for excellence in writing on plant health issues to their green industry audience.

Part 3

 **PLANT HEALTH**

of a 3-part series

*Golfdom* is proud to once again partner with BASF Professional Turf & Ornamentals to bring readers the 3-part Plant Health series. In part one of the series, written by associate editor Molly Gase, we took a look at the meaning of Plant Health and how superintendents are using this concept to succeed at courses in Georgia and Michigan. Last month, contributing editor Chris Lewis wrote on new tools to help turf survive extreme temperature swings. This month, *Golfdom* editor-in-chief Seth Jones focuses on education and research and development being conducted by BASF in Holly Springs and Pinehurst, N.C.

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# PLANT HEALTH: Part 3 of 3



Renee Keese, Ph.D., BASF biology project leader, stands on test plots at the North Carolina Research Center in Holly Springs. "I can kill turf if I need to," she says.



PHOTO BY: SEPH JONES



# Plant Health's roots

From Germany to North Carolina to the local golf course,  
Plant Health is well traveled and well documented

◀ BY SETH JONES ▶

**T**his might not be the home of Plant Health, but it's at least where it spent a couple summer vacations as a kid.

Outside Raleigh in Holly Springs, N.C., there is a 68-acre farm. Opened in 1986 and dubbed by BASF the North Carolina Research Center, it hosts experimental research trials on everything from peanuts to turfgrass.

"Literally, this farm is where a lot of it starts in the early stages," says Renee Keese, Ph.D., BASF's biology project leader, research and development. "I get a numbered compound from Germany. We know a little bit about what it will do, but we have to figure out how to make it fit our market. I come out here and I run tests."

From Germany to Holly Springs, N.C. Plant Health, better pack your bags.

*Continued on page 24*

## THE PINEHURST/BASF EXPERIENCE

In December of 2012, a new partnership was born: The Pinehurst/BASF experience. Going in, both parties were unsure what to expect.

"I had no idea — I don't know if any of us had an idea as successful or as big as it was going to become when we first started talking about it," says Pinehurst Resort's Bob Farren, CGCS, director of golf course and grounds. "Having a relationship with these guys, having known them over the years and BASF as a company, was marvelous to engage them in a partnership, for their educational components here."

At the center of the partnership are two former superintendents, now BASF employees: Brian Thompson, strategic account manager and Gary Myers, CGCS, Pinehurst project leader.

"I'm on-site here, we host about 33 groups a year, about 350 superintendents come to Pinehurst through the Pinehurst/BASF experience," says Myers, now seven months into the job. "The typical program is two, two-and-a-half days. (Superintendents) get education, and the best part is they get to play No. 2 on the typical program. And we get to tell our story with our products."

Sure, playing the course that just hosted back-to-back U.S. Opens is cool and a great lure for potential visiting superintendents. But the specialty products team at BASF stress that this trip, to them, is not about playing golf.

"It's all about education from our point of view," says Jon Sweat, director of BASF's specialty products division. "We have a whole host of

educational events where we bring in people to educate and show them why they should use these products."



Jon Sweat

"We recognize that we need to be lockstep with our end-user," echoes Dan Carrothers, marketing manager for BASF's specialty products division. "I think if you look down the road, we're going to take these two pillars... whether it's Plant

to impress upon our customers: We've done our research, we've used our university cooperators, to ensure that these new technologies are going to help superintendents do their jobs more effectively, more efficiently," Thompson says.

For Thompson, his favorite part of the job is meeting with people who he calls "the salt of the earth": golf course superintendents.

"It's just great to inform them about another tool they can use. And to be at Pinehu-

all-encompassing as you can find — with the Lexicon product in particular," Thompson says. "But also, with years of research that BASF has done with the Plant Health benefits, the side benefits that help that plant to grow more efficiently and respond to stress more resiliently."

If there's someone who knows how to respond to stress with resiliency, it's Pinehurst's Farren. Even with the U.S. Open in full swing, Farren was already thinking forward on the future of the Pinehurst/BASF experience.



Bob Farren, CGCS, Brian Thompson, Gary Myers, CGCS and Kevin Robinson, CGCS, at the 2014 U.S. Open.

Health or focusing on a critical disease like dollar spot... and we're going to use education and getting closer to the superintendent to tell our story."

Both Thompson and Myers know their way around the Village of Pinehurst, Pinehurst No. 2 and especially the stable of BASF products.

"That's really what we want

rst doing it? I feel like a kid in a candy shop," he says. BASF launched two new products, Lexicon and Xemplar, and that has been a focus of much of their talks. Pinehurst was using BASF's Heritage, now the BASF team has switched them over to Lexicon.

"From a fungicide standpoint they're as close to

"Our goal next year and going forward will be to find other ways to refresh what we offer from Pinehurst's perspective. BASF is always refreshing what they offer to their clients and the turf industry," he says. "I think if we can stay on our toes, we can continue a great relationship."

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Continued from page 21

## License to kill

The weather can get extreme in this part of North Carolina — tough on turf, tough on crops. BASF uses the North Carolina Research Center to monitor and test wheat, corn, soybeans, strawberries and peaches. On the turf side, there are most types of sports turf, maintained at green and fairway height.

If Keese is the mastermind behind the operation, Glenn Oliver is the boots on the ground. As BASF's biology area manager for North Carolina, South Carolina and Virginia, it's his job to run the tests ordered by the big-brains sitting in BASF's nicely air-conditioned headquarters in Research Triangle Park, N.C.

Not that Oliver is some slouch. With a B.S. in agronomy and a M.S. in weed science, both from North Carolina State University, the 68 acres of crops and turf are in more than capable hands. Oliver has been working for BASF for 15 years, and has had his current position for the last 12.

"I think people look at me like I'm crazy when I tell them what I do. I know my wife thinks I'm crazy," laughs Oliver. "I get to look at a lot of exciting new chemistries. I get to see stuff before it's labeled. It's cutting-edge, all the time."

Oliver isn't a golfer himself, but he loves growing things. He's even OK with killing things.

"These are experiments. We don't know what's going to happen. We might kill it," he says. "It's nice to be able to test these products where we might have failures. Then we tweak it."

Keese, who on this day was concerned about a *lack* of dollar spot stress, echoes that sentiment.

"I can kill turf if I need to, whether it's with an herbicide or a fungicide," she says, sounding a little bit like James Bond, or maybe one of his villains. "I can test different turf varieties. I look at where the use rates are... can we put four times that rate out? Will it tolerate higher rates if someone makes an overlap? We can do a

fair amount of turf screening early stage, before we start going out to the university and private contractors."

## Measuring Plant Health

Observing the turf's response to aerification has been important to both Keese and Oliver these days. In the plot with the untreated turf, holes are still visible. In the plot treated with Lexicon, the holes seem to be closing much faster.

"We talk about when you have a stress; heat, cold, drought, mechanical," Keese says, "This is where we are really starting to see the benefits of Plant Health benefits from something like Lexicon."

BASF describes Plant Health as three pillars combining to make the plant more productive. Those pillars are 1) Increased plant and growth efficiency, 2) Disease control and 3) Increased tolerance to stress.

Dan Carrothers, marketing manager for BASF's specialty products division, says his team is driven to learn how they can make their end-users more successful.



Dan Carrothers

the science behind Plant Health," he says. "Look at the root density, the recovery from aerification, the photosynthesis. We are trying to explain to people that all these things can be measured."

One of the people tasked with measuring those results is Kathie Kalmowitz, market development specialist, BASF. Part of her job is watching not just the grass grow, but also watching its roots develop.

"All of our customers want something that is aesthetically pleasing. But if you have a good top, where is that coming

from?" she asks. "You have to have a good foundation. When you have increased root development, your turfgrass can grow through (high heat and humidity) or through a day that is optimal."

"They need innovation to address the changing disease profile and the demands of the industry," says Nevin McDougal, senior vice president, BASF. "There is a demand for new solutions, new innovations. That fits really well for us, because we are all about innovation... we're about addressing the changing needs of the marketplace."

## Research and development

The Holly Springs location isn't the only research farm Oliver looks over. He also has a larger farm called the Pine Level Research Farm (85 acres) as well as another research farm in the Carolina mountains, and a fourth on the Carolina coast.

Oliver typically stops in at the Holly Springs facility early in the mornings, treating turfgrass with fungicides, herbicides or plant growth regulators, then drives to Pine Level to work on such things as corn, soybeans and peanuts in mid-morning. The North Carolina Research Farm is used primarily for demonstration purposes, Oliver says, though Keese says that superintendents rarely visit the site. It's her hope they can soon combine the Pinehurst/BASF experience (see sidebar, page 22) with a visit to Holly Springs and the North Carolina Research Farm.

Oliver, who is quick with a chuckle and speaks with a Carolinas accent, agrees that superintendents should come out more often, and he hopes they do.

"We're more than happy to see superintendents come out here and look at what we have," Oliver says. "We can accommodate groups of 12 to 18, if they just give us a little head's up.

"I just can't show them the stuff that's too experimental," Oliver continues, laughing. "But BASF spends a lot of money on research and development, and superintendents love to see this stuff in action. They just need to give me a holler." ©



Kathie Kalmowitz

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# DRIVER DISPATCH




Mike Combs, CGCS, Orchard Hills G&CC, Washougal, Wash., and his 1970 Camaro, photographed last month. "I just keep tinkering with it," he says of the car he has owned since 1986.

PHOTO BY: LEAH NASH

# MAN OF THE MONTH

 BY STACIE ZINN ROBERTS

**FOR THESE SUPERINTENDENTS,  
SWEET RIDES ARE THE PERFECT  
ANTIDOTE FOR LONG, STRESSFUL  
DAYS ON THE GOLF COURSE.**

 Some superintendents fish. Others hunt. Most play a little golf, heck, that's almost unavoidable.

But others invest in classic heavy metal — hot cars that get the blood pumping. Whether spinning wrenches on a classic car refurbishment, or taking hairpin turns on a stock car racetrack, sometimes the only release from a stressful week comes behind the wheel of a sweet ride.

“You’ve got to have something outside of your job or you’ll flip out and go crazy. You can’t just do that 24/7 or you’ll go nuts,” says Steve Kealy, who has been the superintendent at Glendale CC in Bellevue, Wash., for more than 23 years. “It’s nice to have a hobby to spend some time doing something else totally different from what I do.”

» Continued on page 28





« Now that Randy Long has sold his '73 Alfa Romeo, he's searching for an old Corvette to restore.

to the golf course maintenance shop to paint it. He drove the car sideways across a lift table and blocked it up to lift the car off the ground. In one night, he did the base coat and a clear coat, a brilliant red. Then he finished it off with a process called "cut and buff."

Over the next eight years, Long and his wife Dianne took the car out on Sunday drives through the mountains on the Blueridge Parkway, and joined with country club members on convertible car road trip rallies around the state. All the while, he continued to work on the car, replacing fuel systems and electrical systems.

"With any classic car, there's always a little tinkering to do. That's part of the fun," Long says.

In 2012, he sold the car. "I had too many things going on, too many projects. I wanted the space in my garage so I decided to let somebody else enjoy it," he says.

Before the Alfa Romeo, Long used to build and refurbish motorcycles. Since he sold the car, he's been working on a 1947 Cushman two-wheel scooter. But he still misses the Alfa Romeo.

"I'm looking at a picture of it right now on my bulletin board. I miss it. I may possibly do another one. I loved the motorcycles but they're too dangerous. I'll finish up the Cushman and set it aside, maybe look into a different car next time. I'd love to have a 1950s Corvette," he says. "Who knows?"

**LOVE AT FIRST SIGHT**

Sean McDonough, who has been the superintendent at Broadmoor GC in Seattle since 2004, owns a 1975 Ford F250 Cus-



Continued from page 27

**MOPAR ADDICT**

For the past three decades, Kealy has bought, refurbished, sold and collected late 1960s and early 1970s Dodge and Plymouth muscle cars — in the collecting vernacular: Mopars. "I've been into Mopars since I was 18-years-old and I'm 54 now. It's been 36 years and I've owned a whole bunch. I've owned big and small block Mopars, 6-pack Hemi's. One of the coolest cars I've owned is a 1970 340 Duster with the racing stripes down the sides."

In the more than 30 years that Kealy's been, as he calls it, "addicted," he's owned 30 cars. Among them a 1970 Challenger TA, a 1970 426 Hemi Challenger in Plum Crazy Purple, and a 1964 Dodge model 330 with a 426 max wedge that he bought, refurbished and sold for \$52,000. "I put half of that in my son's college fund," he says.

All of them have been street-legal race cars. He buys them, fixes them up and sells them. Right now he has two cars in the garage. His baby is a 1969-and-a-half

Dodge Super Bee, 440 6-pack, 4-speed that he's had since 1993. He's keeping

that one. He even races it a few times a year at drag race tracks. "The Super Bee is all stock. My best time is 12.87 seconds at 108 mph," he says.

Kealy's also in the process of refurbishing another 1964 Dodge 330 with a 426 Hemi.

When he's not building a car, he's hunting for a new project or hunting down rare parts at swap meets and car shows related to the Mopar subculture.

"Regardless of what kind of car, if it's a Chevy, or a Ford, Buick or Pontiac, there's always people who are into that stuff just like I'm always on the lookout for stuff," Kealy says. "It's the same addiction that all kinds of people have."

**BORN TO TINKER**

"My college roommate is another superintendent and he had a girlfriend with an Alfa Romeo Spider. We used to kid him that the only reason he dated her was to drive her car," says Randy Long, superintendent for nearly 24 years at Thornblade Club in Greer, S.C.

He never forgot that car. "I had always wanted one, since my days at Clemson. When I decided to get a car, that was the one I wanted," Long says.

He did internet searches and found a 1973 Alfa Romeo convertible in Los Angeles. "I wanted to buy from an area that wasn't prone to rust. I knew I couldn't repair rust," he says.

While on vacation in Las Vegas in 2004, he hopped a quick flight to L.A., bought the car and had it shipped home.

For the next two years, he refurbished it. He and a friend stripped it down to bare metal and one Saturday night took the car



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## COOL CARS

Continued from page 28

tom Highboy truck in two-tone green. His daughters, four-year-old Eila and six-year-old Hadley, call it 'The Hulk.'

"It was my wife's dad's truck and when I met my wife and saw the truck, I fell in love with her and the truck at the same time," McDonough says, laughing. In early 2006, his wife, Amber, heard that her father was thinking of selling the truck. She called her father, McDonough says, "and told him I'd be quite upset if he sold the truck." Rather than sell it to him, his father-in-law gave it to him with the caveat that occasionally he be able to drive it, too. McDonough agreed, got the truck that July and started restoring it that winter.

The truck was in good condition but needed some cosmetic work. McDonough sanded the truck and restored the exterior, engine compartment and interior to the

original green color.

The interior upholstery was originally an odd two-tone green and "I thought I'd never find it," McDonough says. "I went to an upholstery shop in Seattle and a guy throws down this bag, it's an original Ford bag, an original Ford seat cover for a vintage truck and in it was the color I needed," he says.

It took three years to finish the restoration and McDonough says he thinks the work he's done on the truck is also a reflection of the kind of work he does at the golf course. "I think I'm fairly meticulous and this truck is pretty meticulous. That shows on the golf course and in my personal life as well," McDonough says. "I'm happy that my father-in-law had it originally and that I'm keeping it in the family. I'm proud to have a vintage truck like that. It might be in better shape than I am and we're the same age!"

### A NEED FOR SPEED

Every Thursday night for three years, Scott Scamehorn, CGCS, superintendent at Mountain Lake in Lake Wales, Fla., got together with Ray Cuzzone, landscape director at the club, and Ward Pepperman, who works in golf course fertilizer and chemical sales. The three men ate, drank beer and converted a 1984 Cutlass Supreme into a V-8 Bomber race car. "We thought we might have been able to build the car out of beer cans. That was our little joke for a while," Scamehorn says.

Cuzzone had built and raced stock cars in the past and talked to Scamehorn about it. "At the time, I was going through a divorce and thought, 'Why don't I build a race car?' so I wasn't thinking about it so much," Scamehorn says.



PHOTO BY: SEAN MCDONOUGH / ISTOCKPHOTO.COM



Sean McDonough's 1975 Ford F250 Custom Highboy truck in two-tone green is a hand-me-down that he was happy to have stay in the family.



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Continued on page 32



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## COOL CARS

Continued from page 30

They bought the car in February 2009. When they bought it, the car didn't even run. They rebuilt it from scratch, as close to what the factory would put in it, no power steering, no power brakes. "It's meant to go fast in circles, only left around a race track," Scamehorn says. By May 2012, they were at the Auburndale Speedway with Scamehorn suited up for the car's first race doing about 80 mph around a quarter-mile racetrack oval.

"I'd never been in a race car before May 2012. I'm zinging around there, doing maybe eight or nine laps of white-knuckle racing. They said I was doing 20-second laps. The other guys were doing 16-second

laps. It seemed like I was going so fast," he says, "but I would have been lapped every fourth lap on my practice."

### CAMARO CRAZY

"I've been a car man since I was smart enough to realize what different cars were," says Mike Combs, CGCS at Orchard Hills G&CC in Washougal, Wash., and featured on this month's cover with his 1970 Chevy Camaro.

Combs' father bought him and his two siblings cars when they were all young. For Combs, he took his 1979 Chevy LUV truck and did as many upgrades as he could. Then one day in 1986 he was driving by

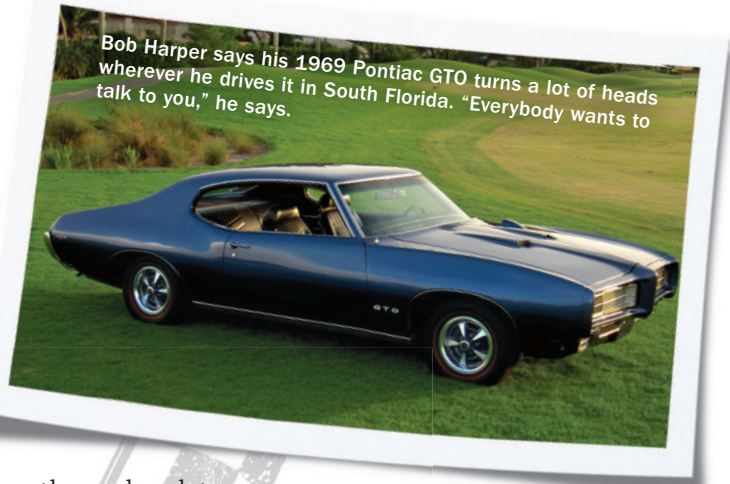
the used car lot in his home state of Montana when he saw the '70 Camaro.

"I literally hit the brakes and turned around. One of the members of the course I worked at was the salesman. I asked him what it would take to get the Camaro," Combs recalls. "He told me it'd take the truck and \$500."

Combs' father, who was the general manager at Buf-

falo Hill GC in Kalispell, Mont., didn't like the idea at first. But Combs convinced him to sign the Chevy truck over, and he produced the truck and \$500 the next day.

Within two weeks of Combs getting the Camaro, his dad was diagnosed with cancer. He passed away a short time later. "The car became a sentimental thing for me," he says.



Bob Harper says his 1969 Pontiac GTO turns a lot of heads wherever he drives it in South Florida. "Everybody wants to talk to you," he says.

PHOTO BY: BOB HARPER

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Today Combs owns two Camaros, the '70 and a 2012 ZL1. He loves to modify his '70, and it's in a constant state of flux. The hood is aftermarket, the engine is a used 350 HP with mild RV cam and roller rockers and the seats are from a 2003 Porsche 911.

"The Porsche seats fit the car really well, they're black leather and they're retro, they look like they could have come with the car," he says. "I just keep tinkering with it."

Combs' two sons are 17 and 15. He knows that soon, they'll be asking to take the Camaros out for a drive.

"Do I let them go old school with the '70 and its up-graded brakes? Or



do I let them take out the ZL1, which has a ridiculous 580 hp?" Combs asks. "I'll probably hand the keys over to the one with the lesser horsepower."

### **RUNS IN THE FAMILY**

When Bob Harper was in the second grade, he brought pieces of the real Batmobile to school for show and tell. Harper's older brother, Steve, had been a Midwest local legend, something like the "Town Fonzi from Happy Days." Steve became so proficient at building cars that he eventually went to Hollywood where he worked with George Barris. While there, he worked on iconic vehicles like the Batmobile, the MonkeeMobile for The Monkees, cars for Sonny and Cher and a car for the ultimate cool guy, Steve McQueen.

On visits home, Steve shared his passion for cars with his little brother. By the time Bob

Harper was in high school, he was addicted to car culture. He customized his own 1969 Pontiac Le Mans, joined a car club and went to car shows. When he accepted a golf scholarship to Florida International University, Harper says it was "painful" to leave the Le Mans behind. He never forgot that car. He'd go to sleep at night and have recurring nightmares about "how I'd lost the Pontiac, that the car was missing. I had that dream for 30 years."

The longtime Florida superintendent gave into the pull of car culture once again five years ago. He bought a 1969

Pontiac GTO. He revamped the paint job, added redline tires, new suspension and shock absorbers.

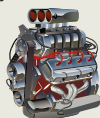
Harper was surprised to be interviewed for this story.

"I thought maybe someday I'd be recognized for my golf skills or for being a great superintendent. But to be recognized for my cars, that's almost better," Harper says. "When you drive a classic car you get a lot of attention, you get instant credibility. Everybody wants to talk to you. It's like you're a curator of a museum of a lot of happy stuff." ☺

Stacie Zinn Roberts is a frequent contributor to *Golfdom* and a winner of multiple TOCA Awards. She's based in Mount Vernon, Wash.

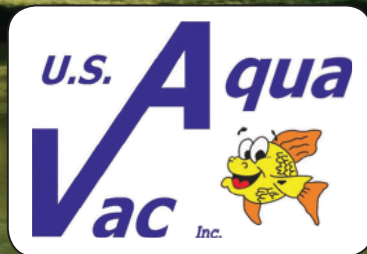
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# Canada's HOUSE OF IDEAS

Canada's Guelph Turfgrass Institute remains a leader in turfgrass research, despite a nationwide pesticide ban and an impending move.

BY DAVID MCPHERSON

**E**lvis fans get all shook up at Graceland, sci-fi fans beam in on Area 51 and baseball fans flock to their field of dreams for a dog and a beer. But where do Canadian turfies go?

Every fall for the past 26 years, Canadian turf students in the Guelph Turfgrass Management Diploma program make an annual pilgrimage from campus to the massive Guelph Turfgrass Institute (GTI), home of a myriad of turf organizations and researchers.

From soils and fertility to sod production and management to the control of weeds, insects, pests and other invasive diseases, the collaborative research at the GTI never stops. Besides the field trials outside, inside the 80,000-square-foot facility the labs are home

to 10 to 15 ongoing projects.

Katerina Serlemitsos Jordan is a plant pathologist in the Department of Plant Agriculture. Her main interest is in Integrated Pest Management. She's worked at the GTI for the past eight years. Besides using the facility to conduct her own research, she runs a turfgrass diagnostic laboratory out of the building. Clients throughout Canada send in turf samples and look to her for a diagnosis and recommendation.

"One of the things I like about our institute, that separates it from a lot of other turfgrass facilities I've seen throughout the U.S., is our industry representatives are all housed there," Jordan says. "It gives us the chance to chat with them and get an idea of what they need with respect to research."

PHOTO BY: UNIVERSITY OF GUELPH / SHUTTERSTOCK.COM



**Come together**

Besides housing academics, GTI is also the headquarters for the Ontario Turfgrass Research Foundation, the Ontario Golf Superintendents Association and the Sports Turf Association. The institute also provides office and research space for a turfgrass extension specialist from the Ontario Ministry of Agriculture, Food and Rural Affairs. Think of GTI as your one-stop turf shop.

“You can drop off a sample for one of the researchers to study, and then you can meet with industry representatives,” says Rob Witherspoon, who became the institute’s first dedicated director in 1993. “The GTI is a focal point for all things turf. It’s a collection of academics, government employees and industry associations all working in the same place... it’s a unique place.”

In 1981 the seeds for this innovative facility were planted. The first research trials began on the current site in 1987.

Dr. Ken Carey, a research technician in Turf Management at the GTI, laughs saying it’s not a glamorous job, but it’s a job he still loves. He has fond memories of those early development days. While the research needs have certainly changed, the institute’s mandate remains the same as when it was established.

“It was meant to pull together researchers from different departments within the university who were working in turf: horticulturalists, plant scientists and environmental biologists,” he says. “These academics then worked with — and delivered education — to the industry. We are a happy family most of the time.”

**Showcasing research**

Pamela Charbonneau, a turfgrass extension specialist with the Ontario Ministry of Agriculture and Food, has worked with GTI since 1991. Her main role is to extend the research results to the end-users: superintendents, lawn care operators, municipal sports-field managers and sod growers.

One of the big vehicles to do that is the



For 26 years, students from the University of Guelph (Ontario, Canada) have made the trek from campus to the Guelph Turfgrass Institute.

annual Ontario Turfgrass Symposium that happens every February.

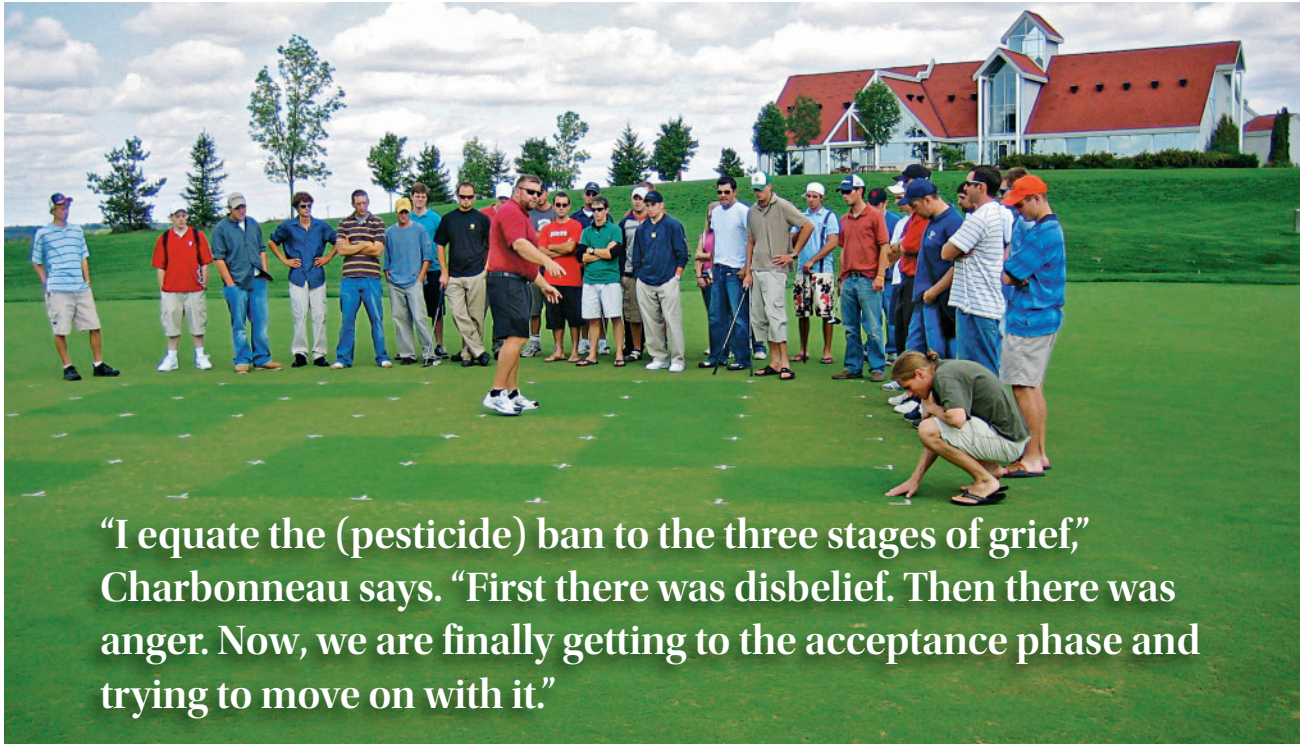
“This is one way I interact with the other researchers at the GTI,” Charbonneau says. “We try to showcase as much of the local research as possible, so the turf managers in the area get relevant research done close to home.”

Charbonneau says it’s a fantastic concept to have space so close to the university where the researchers are and graduate students have easy access. Having the different associations in the building creates opportunities for collaboration and exchanging ideas.

*Continued on page 37*

PHOTO COURTESY: UNIVERSITY OF GUELPH





“I equate the (pesticide) ban to the three stages of grief,” Charbonneau says. “First there was disbelief. Then there was anger. Now, we are finally getting to the acceptance phase and trying to move on with it.”

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Continued from page 35

### Pesticide ban effects

On April 22 (Earth Day) in 2009, the Ontario government passed the Pesticides Act. This law essentially banned the use of pesticides by most turfgrass industries. Golf courses were exempt from the outright ban. They are allowed to use some inputs, but with restrictions.

GTI saw this new law as an opportunity to switch the focus of its research and to help the industry — especially the sports turf and lawn care side — by testing natural products and ways to treat various turfgrass diseases without using pesticides.

“I equate the ban to the three stages of grief,” Charbonneau says. “First there was disbelief. Then there was anger. Now, we are finally getting to the acceptance phase and trying to move on with it. A big part of being able to move on is having the tools, technology and the know-how... that’s where the research conducted at GTI can help.”

### Moving on

The Ontario government owns the building and the 250 acres of farmland and forests where the GTI resides. It’s no surprise to learn the provincial government is looking to sell this land sometime during the next few years, with the property most likely earmarked for residential development.

Most likely, the new GTI will move closer to campus, if not on it. The new site won’t have nearly as much space, but that is not necessarily a negative.

“People say that you want to have this big, expanded area where you can have large areas of turf,” Charbonneau says. “When you think about turf in the landscape, other than a sod farm, it doesn’t exist on its own in a flat field, so it might give us more opportunities to look at turf in a more natural environment. I think it’s a win-win.”

Witherspoon also sees GTI’s eventual move as a positive.

“We will reinvent ourselves once again,” he says. 



“The GTI is a focal point for all things turf. It’s a collection of academics, government employees and industry associations.”



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# Super Science

## // HEAVY TRAFFIC AHEAD

# OVERSEEDING, N RATE AND TRAFFIC IN TIFEAGLE BERMUDAGRASS

By Phillip Bruner and Beth Guertal, Ph.D.

**H**ybrid bermudagrass (*Cynodon dactylon* x *C. transvaalensis* Burt-Davy) putting greens are often overseeded with a cool-season species at the onset of fall dormancy. Little is known about the impact of winter play on the overseeded turfgrass or bermudagrass as it emerges from winter dormancy.

The objective of this research was to examine the combined and separate effects of overseeding, traffic and nitrogen (N) rate on the performance of a Tifeagle hybrid bermudagrass putting green overseeded with *Poa trivialis*. The two-year study was conducted in Auburn, Ala., with N rate 0, 0.1, 0.2 or 0.4

lbs. N 1000 square feet per month from November to May, overseed (yes or no) and traffic (yes or no).

Traffic was imposed using a walk behind greens mower with two drums fitted with golf spikes, with a limited slip differential between the drums. Traffic was applied twice a week from January 1 to April 30 each year.

In general, highest turfgrass color and quality were achieved at the highest N rate. Overseeding did not provide improved traffic tolerance (as determined by the quality and performance

of the bermudagrass) compared to non-overseeded bermudagrass. However, overseeding did slightly improve turf quality at the end of winter, but only at the highest N rate. The presence of the overseed significantly reduced bermudagrass shoot density, and traffic also reduced shoot density, both in the *Poa trivialis* and bermudagrass.

Overall, traffic affected the quality of the bermudagrass the most, more so than the presence of the overseed or N rate. In the two years this study was conducted in Auburn the bermudagrass rarely went fully dormant, and there was often bermudagrass growth in warmer periods of the winter. The presence of an overseed and traffic had negative effects on bermudagrass, and they were observed into the spring transition period. Winter applications of N are needed to help counteract this effect.

Phillip Bruner and Beth Guertal, Ph.D., Crop, Soil and Environmental Sciences, Auburn University. Beth Guertal can be contacted at [guertea@auburn.edu](mailto:guertea@auburn.edu) for more information.



A traffic simulator device was used to impose traffic treatments on greens.

## NEWS UPDATES



### RADRICK FARMS GETS C3 TITLE

The University of Michigan's Radrick Farms GC has earned the Clean Corporate Citizen (C3) designation from the Michigan Department of Environmental Quality (DEQ).

"We are focused on being innovative and using all of the tools available to us to better protect our air, water, wildlife and land," said Dan Mausolf, superintendent.

C3 is a voluntary program that recognizes environmental stewardship at Michigan facilities. Kevin Fletcher, Ph.D., president and CEO of e-par USA, was happy his team was able to assist. "Regulatory agencies know the EMS approach to environmental management is effective for businesses looking to stay in compliance, reduce risk, prevent pollution and drive continuous improvement," he said.

**AN ALTERNATIVE FOR USING MANUFACTURED COVERS IS THE 'POOR MAN'S COVER.' THIS INVOLVES HEAVILY TOPDRESSING GREENS WITH SAND IN LATE FALL PRIOR TO THE ONSET OF WINTER."**

**Sam Bauer**

(see full story on page 40)

## //BUNDLE UP

# Working undercover

*A look at minimizing winter damage to greens through covers and other prevention strategies*

By Sam Bauer, Lindsey Hoffman, Ph.D. and Brian Horgan, Ph.D

*Editor's note: This is the second of two articles by the authors focused on protecting turf before and during winter. The first article discussed cultural practices that can be implemented and appeared in last month's issue.*

**W**inter damage can be caused by a number of different factors; however, some of the most damaging effects are associated with crown hydration and freezing of the crown tissue. Ultimately, this type of injury results in death of the turfgrass plant and can result in costly reestablishment on a yearly basis.

In comparing annual bluegrass (*Poa annua* L.) to creeping bentgrass (*Agrostis stolonifera* L.), research has shown that annual bluegrass is more susceptible to crown hydration and freezing compared to creeping bentgrass (Hoffman et al., 2014; Tompkins et al., 2000). Along with these two stresses, desiccation can also cause the death of turfgrass plants because of severe cellular dehydration.

Protecting cool-season putting greens from these winter stresses can be a challenging task, especially when managing greens composed of both annual bluegrass and creeping bentgrass. In addition, methods of protection might not yield the same results from year to year.

This is partially attributed to the fact that no two winters are the same; therefore, determining a protection strategy to employ often requires some history of what methods have consistently produced the best results. Researchers are continually

investigating the use of these various protection strategies, but the overall decision of how to protect putting greens during the winter requires experience, constant evaluation and confidence in approach.

### ADDING SOME INSULATION

In locations receiving adequate annual snow cover, snow can be one of the best insulators and may reduce winter injury associated with both desiccation and freezing stress. On wind-swept putting greens, snow fencing is beneficial for retaining snow and helping improve the amount of insulation snow can provide.

## This type of injury results in death of the turfgrass plant and can result in costly reestablishment.

Along with snow, manufactured covers are also valuable tools that can be used to protect greens. Covers vary in style based on the intended use. Selection of one particular cover over another requires a thorough understanding of the type(s) of winter injury greens are exposed to and this can vary not only from course to course, but from one green to another.

Impermeable covers, which do not allow for water or air exchange, can be useful for preventing winter injury because of crown hydration by keeping surface moisture isolated from the crown (Photo 1). These covers can

be especially important for annual bluegrass, which has been shown to have higher crown moisture content than creeping bentgrass (Tompkins et al., 2000). However, the lack of air exchange under impermeable covers can lead to the buildup of gases at toxic levels and a depletion of oxygen; the rate of this is greatly increased in root zones built on native soils or with high organic matter because of the elevated microbial activity (Rochette et al., 2006).

Permeable covers allow for water and gas exchange at the turf surface, which can be important for root zones with high microbial activity or northern locations where covers are left in place for four to five months or more. A majority of the insulating type covers are permeable.

The Canadian Turfgrass Research Foundation has provided funding for several complex research projects focusing on winter injury and protection of putting greens in northern climates (Dionne et al., 1999; Rochette et al., 2006; Bertrand et al., 2009). These projects evaluated winter temperatures and gas levels under various winter protection programs, including both permeable and impermeable covers with varying levels of insulation, as well as genotypic differences in winter tolerance of annual bluegrass.

Dionne et al. (1999) found insulating covers to be beneficial in moderating soil temperatures throughout the winter and consequently improved winter survival of creeping bentgrass and annual bluegrass. These insulating covers can be made of wood fiber shavings, straw mulch, foam and bubble wrap, among other materials.

It can be important to install impermeable covers on top of the insulation material to prevent moisture from accumulating on the putting surface. More recently, ventilation systems have been used for improving gas exchange under impermeable covers.

PHOTO 1



Winter cover protection results vary from year to year, creating headaches for many superintendents.

## PERFECT TIMING

Timing is everything with covers. Last month we discussed the processes of cold acclimation and deacclimation and their importance on overall turfgrass winter survival.

Covering putting greens essentially creates an environment around the turf that can drastically alter the temperatures between the turf surface and surrounding air. Consequently, this influences both the cold acclimation and deacclimation processes. While research on the effects of covers on these processes is limited, the consensus is that three important factors must be considered for timing of cover installation.

First, the soil should be frozen prior to placement of covers. This enables the plants to acclimate and harden-off, increasing the overall winter tolerance of the turf. Installing covers too early in late fall, when soils are unfrozen,

will inhibit the acclimation process by trapping heat at the putting surface.

Second, removing covers too early in the spring can subject the turf to a rapid reduction in temperature, which can be particularly devastating if the turf has already come out of dormancy under the covers. This type of injury typically occurs if covers are removed during a brief warming period (typically late winter or early spring), which is then followed by temperatures at or below freezing (Photo 2). Some superintendents have been successful at reducing damage during the deacclimation process by removing covers during the day and replacing them when nighttime temperatures are low. This is a labor-intensive process, but can mean the difference between survival and death.

Finally, leaving covers on too long in the spring can create an unhealthy atmosphere for turfgrass growth. Under warming temperatures, turfgrass plants

can become succulent and more susceptible to infection from pathogens such as snow mold fungi.

Knowing when to install or remove covers is just as important as knowing which type of cover to choose. Monitoring the weather and soil temperatures is the best method for estimating when these processes should occur.

## WRAPPING UP

Cultural practices conducted before covering greens are just as critical for promoting winter survival as would be with uncovered greens. With impermeable covers, moisture will not be replenished in the root zone for the entire time covers are in place. As a result, maintaining moisture percentages at or around field capacity prior to cover installation can be important.

Soil moisture sensors are useful in

Continued on page 42

PHOTO 2



Timing of cover removal is crucial to the success of a cover program. Here, cool air temperatures following removal were enough to shock the turf, causing a setback in turfgrass quality.

Continued from page 41  
determining volumetric water content of root zones. Mowing heights and fertility must be taken into account for the turf species present. Excessive nitrogen fertilization prior to covering can promote unnecessary growth, causing an increase in gas buildup from respiration.

Although covers have many positive attributes, they might not be the solution for everyone. For example, research investigating various covers at the University of Minnesota has yielded inconsistent results from year to year. This might be associated with the timing of installation and removal, which can be difficult to pinpoint.

Another factor associated with the use of covers is cost. Not only is it expensive to purchase covers and insulation, the process of installing and removing covers is time and labor intensive. This can be a major obstacle

for courses that have a limited budget and a small crew in the late fall.

One option for this type of establishment is to select the greens that suffer from the most severe winter injury every year. Covering these greens can help minimize the amount of repair necessary in the spring.

An alternative for using manufactured covers is a strategy that has been termed the “poor man’s cover.” This involves heavily topdressing greens with sand in late fall before the onset of winter. Generally, this practice is recommended for golf courses that choose not to cover greens. Sand topdressing with depths between 1/8th and 3/8th inches provides a buffer on the turf surface, protecting crowns from freeze and moisture damage.

In a survey sent to members of the Minnesota GCSA, 85 percent of the respondents who didn’t cover greens applied topdressing sand before winter

(Larson, 2010), and we expect this trend to continue.

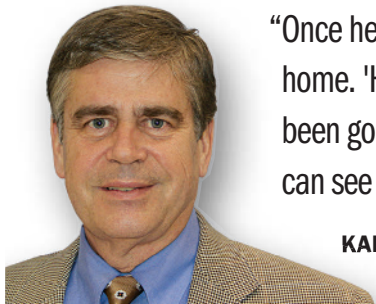
Protecting putting greens during the winter months also requires some consideration of fungicide applications for snow mold prevention. A large database from seven years of snow mold fungicide trials throughout Wisconsin, Minnesota and Michigan is available on the University of Wisconsin-Madison Turfgrass Diagnostic Lab website (<http://labs.russell.wisc.edu/tdl/>). This is a particularly useful resource for determining efficacy of various fungicide mixtures to prevent gray snow mold (*Typhula incarnata*), speckled snow mold (*Typhula ishikariensis*) and pink snow mold (*Microdochium nivale*).

Overall, protecting greens can help minimize damage associated with winter stresses such as desiccation, crown hydration and freezing injury. The decision to cover greens is difficult and depends on a number of different factors including topography and turfgrass composition. In addition, selection of cover type, installation/removal timing, and cultural practices before and during winter are crucial to promote healthy turfgrass stands.

Sam Bauer, Brain Horgan, Ph.D., and Lindsey Hoffman, Ph.D., are at the University of Minnesota where Bauer is a turfgrass extension specialist, Horgan is an associate professor of turfgrass science and Hoffman is a postdoctoral turfgrass research scientist. Bauer can be contacted at [sjbauer@umn.edu](mailto:sjbauer@umn.edu) for more information.

## References

- Bertrand, A., Y. Castonguay, G. Thibault, P. Rochette, T. Hsiang, J. Dionne. 2009. Greens-type annual bluegrass resistance to abiotic and biotic stresses during winter. *International Turfgrass Society Research Journal*. 11:723-736
- Dionne, J., P.A. Dubé, M. Laganière, Y. Desjardins. 1999. Golf green soil and crown-level temperatures under winter protective covers. *Agronomy Journal*. 91:227-233.
- Hoffman, L., M. DaCosta, and S.J. Ebdon. 2014. Examination of cold deacclimation sensitivity of annual bluegrass and creeping bentgrass. *Crop Sci.* 54(1): 413-420.
- Larsen, Andrew. 2010. Protecting greens in winter: A cost-benefit analysis can help superintendents design a winter protection program that suits their needs. *Golf Course Management*. 78:86-88, 90, 92, 94, 96, 98, 100, 102.
- Rochette, P., J. Dionne, Y. Castonguay, and Y. Desjardins. 2006. Atmospheric composition under impermeable winter golf green protections. *Crop Sci.* 46:1644-1655.
- Tompkins, D.K., J.B. Ross, and D.L. Moroz. 2000. Dehardening of annual bluegrass and creeping bentgrass during late winter and early spring. *Agron. J.* 92:5-9.



"Once he left on business, he wouldn't call home. 'Have you ever called home and it has been good news? If something happens they can see it on CNN,' he told me."

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

## Down and out in the terminal

I have been fortunate to be able to travel both nationally and internationally for most of my professional life. Travel can be both enjoyable and unenjoyable at the same time.

I thought I would provide some insight about the good and bad aspects of travel. Actually, I'm writing this column while I'm traveling overseas, so my awareness and sense of travel are at their keenest, which means that they will get me in trouble... with just about everyone.

Many of these suggestions or tips are not all mine, but are worth sharing.

### ON THE HOME FRONT

The trouble with travel starts with the moment you have to tell your spouse. And I will say this is not a male or female thing; it is simply about the person who is staying home while the other is gone. I know many of you think that your spouse supports you, understands and appreciates your sacrifice. But I'm sorry, I have a hard time believing that a spouse that is home alone with kids, who are probably throwing up around the house, is concerned with you having a "great experience."

I once asked a colleague years ago, at a time when the only way to communicate with your spouse was by a landline phone, how he could keep track of time zones and such to call home at the appropriate time. His response was that once he left, he never called home. I asked why and he said, "Have you ever called home and it has been good news?" He continued, "if something happens they can see it on CNN."

Given that the world we now live in is one of increased technology, my suggestion would be not to post pictures of you smiling and having an exciting time. Exotic landscape shots are also out unless you have "un-friended" your spouse.

Conversely, taking your husband or wife on a business trip requires a creative balance. If you pay too much attention to your spouse so that they have a good time, they may think you don't really do much on these trips.

On the other hand, if you do not spend enough time they could get quickly bored, which leads to another set of issues.

### OTHER TIPS

When traveling through Charles de Gaulle airport (Paris) try to do it on weekends. The French tend to go on work stoppages or "labor strikes" during the week. They are less likely to do it on a weekend because it is a day off, minimizing any flight cancellations or delays.

On international travel always register your trip with the U.S. State Department's website Smart Travel Enrollment Program (STEP). This way if something happens to you, the government can help you in a timely fashion. In addition, you receive email alerts regarding travel hotspots that you need to be aware of. Invariably the email alerts seem to apply to where you are traveling.

If you are required to fill out an immigration card, fill it out early in the flight. Waiting to the end when you have flown all night makes answering the questions difficult because of blurry eyesight. Making a mistake on those questions guarantees that you will be sitting in a small immigration office with a Styrofoam cup filled with water. That cup of water is a good sign that you will be there for half the day.

Whether you travel a lot or hardly at all, enjoy each trip for what it is because over the years you will not remember the hassles and problems, only the good things.

The best part of travel is being at the destination. Meeting people globally and sharing experiences that you thought would not be possible creates memories that will last a lifetime.

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



# Managing and controlling fairy rings

Mike Fidanza, Ph.D., is a turfgrass scientist at the Berks Campus of Penn State University, where he teaches turfgrass management. Fidanza has many years of research and practical experience managing fairy rings. Fidanza can be reached at maf100@psu.edu or on Twitter at @MikeFidanza for more information.

## Q It is the end of July and fairy rings are starting to show up in the fairways. What can be done to control them?

Fairy ring symptoms can be controlled, but be prepared that there will be rings or circles of dead or weakened turf that persist after the fairy ring causing fungi are controlled.

I recommend a three step process for what I term “early curative” control when visual symptoms first appear. The first step is to aerify the rings and surrounding area using needle tines. Follow this with an application of a wetting agent that is watered-in or “rinsed-in” to move the wetting agent into the upper portion of the soil profile. The third step is to apply a fungicide

and also water it in to move the fungicide into the upper portion of the soil profile.

It is critical that both the wetting agent and fungicide are watered in immediately after application and before either product has time to dry out. The number one reason this process fails is that the wetting agent and/or fungicide are not watered in immediately after application.

Use sound agronomic practices to induce the turf in and around the fairy ring to recover. Be patient. It will take time for recovery to occur.

## Q What cultural control techniques work best to control or minimize fairy rings?

Much of the damage from fairy rings is due to hydro-

phobic soil beneath the ring. Sound soil moisture management is key to minimizing the visual occurrence of fairy rings. Minimize wet/dry cycles. Apply a wetting agent according to the label directions all season long to promote uniform distribution of water in the rootzone. Needle tine aerification on specific problem areas is also a good practice.

Iron and/or quick release nitrogen can be applied to help mask the fairy rings when dark green circles are present. The rate depends on the color of the rings and the surrounding turf.

## Q What about a preventive approach for fairy ring control?

Start with good soil moisture management, avoid or minimize wet/dry cycles, implement a regular aerification program and follow a sound wetting agent application program.

There are fungicides that are labelled for preventive control of fairy rings. Follow the label directions (i.e., rate, timing, method of application) to use the fungicide in a preventive program. Leave an untreated strip or cover an area with a sheet of plywood so the effectiveness of the fungicide program can be accurately determined.

## Q What is a realistic expectation for fairy ring control when using either curative

## or preventive fungicide applications?

In my experience, fungicides will suppress the fairy ring fungi and severely slow down its growth, but probably won't eliminate it. All fairy rings are different. Some are active in spring, some in summer and others in fall. There are many fungal species that cause fairy rings. For these reasons, plus the fact that it is difficult to get a fungicide into the soil, complete control of fairy rings is difficult to achieve.

## Q Anything else you would like to add?

Every case of fairy ring is unique. It seems each golf course with fairy rings is different from all other golf courses with fairy rings. A case-by-case approach is needed when developing a fairy ring control strategy.

I host a site on Twitter at #friskyfairyringfriday where superintendents and others can post pictures of fairy rings and commiserate over our shared struggles to manage the problem. You are welcome to join in the fun and hopefully learn a few new things about fairy rings.



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



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## A TIP FROM DAVID DALE, ASGCA

This month we check in with architect David M. Dale, ASGCA, on a tip to keep bunkers looking and playing great.

“When the crew is using a (bunker rake) in the bunkers, make sure they’re not getting too close to the bunker lips, especially on the low side. Drive out of the bunker, jump off the (equipment) and hand-rake the perimeter. It’ll keep the bunkers from getting fat on the sides and skinny in the middle. Plus, it’ll keep the lips from being damaged.”



1

### 1. Better Billy Bunker

The Better Billy Bunker is a bunker construction method that improves the original **BILLY BUNKER** specification by eliminating geotextile liners. A two-inch layer of local pea gravel is treated with a polymer designed specifically for use in bunkers. This layer of gravel provides maximum drainage and allows water to flow to the drain tile faster than other construction methods. It can drain at over 1,500 inches per hour and greatly reduces washouts even on the steepest bunker faces. It protects bunker sand, eliminates silt contamination and is extremely durable — 10 year guarantee. The bunkers remain playable no matter the weather, the company says.

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

### 2. Klingstone

**KLINGSTONE** is a liquid-applied bunker barrier that permeates and binds soil particles in the bunker cavity to stop contamination of the sand from below. It eliminates erosion, stabilizes bunker faces and enhances the effectiveness of your drainage system. Klingstone products are polyurethane-based liquids that cure to strong polymers, which permanently bind and stabilize soils and aggregates by essentially gluing them together. Once applied, stones, fines and other contaminants cannot migrate up from the bunker cavity to contaminate your critical bunker sand or drains. Because the cured product is inert and will



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not deteriorate over time, Klingstone is environmentally safe. [klingstone.com](http://klingstone.com)

### 3. Blinder Bunker Liner

From England comes **BLINDER**, a unique bunker liner developed using years of experience from top-level superintendents and industry professionals. Blinder is a recycled, porous, rubberized liner that allows free draining and prevents stones rising to the surface. Once installed, maintenance is greatly reduced, the company says, while golfer injury and damaged clubs are avoided. Blinder helps solve the problems of consistency, drainage and contamination. The company now has an American licensee and installer in superintendent and industry veteran, Alan FitzGerald.

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



### CONTINUED ONLINE

For more bunker products, go to [golfdom.com/category/products](http://golfdom.com/category/products)

## TIPS FROM DR. THROSSELL

This month we check in with our very own Clark Throssell, Ph.D., to give us some advice on applying wetting agents. We got him away from fly fishing long enough to get this tidbit:

“As the weather gets hotter and drier localized dry spots (LDS) start to be more common on putting greens. Applying a wetting agent following a preventive schedule is the best management method to reduce problems from LDS. Follow the manufacturer’s recommended application schedule for best results. Also, avoid letting the soil in the green become too dry. Once the soil dries out it will be difficult to re-wet and LDS will become more severe.”



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## Hold back the storm



All-natural Armorex is a liquid formula that kills nematodes on contact and enhances turfgrass performance.

Armorex is a liquid formula that uses only natural ingredients to create a unique pesticide that kills on contact and maintains repellent action against many soil nematodes and insects.

*“I have seen very good results using the Armorex product on USGA spec bentgrass greens in Maryland. Working with a consultant, we observed very high nematode counts under a microscope prior to spraying Armorex. After one application at the labelled rate, when the consultant returned a week later, we couldn’t find a single nematode alive in numerous slides. We also observed quick relief from the rapid, premature wilting that was occurring due to the high populations of nematodes in our greens during stressful summer months.”*

Jon Lobenstine, Director of Agronomy, Montgomery County Golf, Potomac, MD



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### 1. Revolution

Revolution is a patented soil surfactant technology created by **AQUATROLS**, which optimizes the growing environment by creating highly uniform and consistent root-zone moisture. Revolution’s unique chemical formulation creates a thin continuous film of water in the soil profile, balancing air-to-water ratios and increasing the performance of turf under stress. Proven benefits of Revolution include drier and firmer playing surfaces, reduced irrigation frequency and healthier, more resilient turf under a variety of weather conditions.

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

### 2. Vivax

Vivax is a combination of four new surfactant technologies designed to manage soil moisture across a wide range of conditions found on golf courses, athletic fields and commercial turf. Two

infiltration surfactants in Vivax move water into tight soils and reduce run-off. This **PRECISION LABORATORIES** product contains two unique polymers, one that resists microbial breakdown and another that produces uniform water content throughout the turfgrass root zone. Applied at the rate of 220 ounces per acre, Vivax produces firmer playing surfaces, improves turf health and increases irrigation efficiency for up to 30 days.

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

### CONTINUED ONLINE

For more wetting agent products, go to [golfdom.com/category/products](http://golfdom.com/category/products)



## 1. Traveler 8V and Ranger 160 deep-cycle

The **TROJAN BATTERY CO.** offers the Traveler 8V and Ranger 160 deep-cycle batteries. Featuring the longest life and range in the industry, Trojan's Traveler 8V provides more than 40 percent longer life, as well as advanced internal components and external case improvements. The Ranger 160 delivers 35 percent more travel distance between recharges than today's current 8V golf batteries, and is rated at 160 minutes when discharged at 56 amps. Both batteries are made in the U.S. and compatible with Trojan's HydroLink single-point watering system for easy maintenance. [trojanbattery.com](http://trojanbattery.com)

## 2. XC2 Deep Cycle

**U.S. BATTERY MANUFACTURING COMPANY** incorporates XC2 formulation and diamond plate technology in all of the deep cycle flooded lead acid batteries. The combination of synthetic tetrabasic lead sulfate crystal structures allows products to reach peak capacity in fewer cycles, to provide higher total energy delivery and extended battery life. The American-made deep-cycle batteries are available in a variety of sizes and amp-hour capacity ratings. [usbattery.com](http://usbattery.com)



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



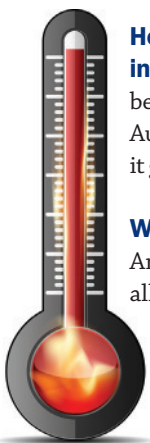
## Lupe Moreno

**SUPERINTENDENT** // Shary Municipal GC, Mission, Texas

### After a long day out on the golf course, what's your drink of choice?

It'll probably be a Dos Equis in a margarita. That'll give you a good brain freeze, man.

**So who is your sports team?** Any Texas team, but I prefer the Spurs of all of them. I watched all their games this year. They were the best team this season, they showed it all year long.



**How hot has it been getting in south Texas?** Right now it's been getting up in the 100s. Late August, early September is when it gets hot, yes sir.

**What do you consider hot?** Anything over 105. People usually don't golf.

**What is course traffic like when it's hot?** Probably 25 to 30, maybe 40 golfers on a really hot day. Our

peak season is in the winter, when the Winter Texans are here. We get up to 350 to 400 rounds in a day.

**How did you get into the business?** I started because I like to play golf. I quit my job and applied to work at a golf course, thinking I'd play more. I got really interested in the way the operation ran. Finally, my superintendent told me, 'You know what, I'm going to teach you all I know... once you know how to run a golf course I'm going to let you loose and I'm

**"EVERYTHING HAS GOTTEN SO EXPENSIVE. WHEN I STARTED OUT I COULD BUY A BAG OF FERTILIZER FOR \$7. NOW IT'S \$58, AND IT'S 40 POUNDS INSTEAD OF 50 POUNDS!"**

going to go build some homes.' That was back in 1988. I've worked repossessed courses, corporate golf, country clubs, to being at a municipal course now.

**What's the hardest thing about being a superintendent in your part of the country?** We've been in a drought situation for the last 15 years. It's just not raining down here anymore. Last year I think we had a total of 4 inches of rain. It was tough, but we're surviving. We've got the Rio Grande, which gives us the water for the course.

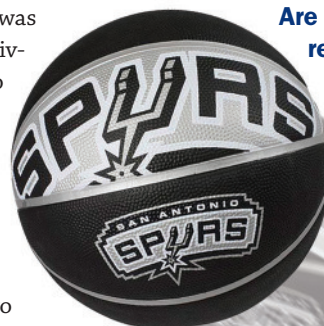
**What's your favorite piece of equipment?** My Toro computer for irrigation.

I love it, that'd be the last thing I'd ever give up. The rest of my equipment is all old, but I keep it running, it does the job.

**What do the local golfers look to Shary GC for?** It's a golf course and it's open to anybody who wants to play golf. They get treated well, and it's not that expensive. And I'm working here — I try to make everybody happy!

**Are you thinking about retirement?** I really haven't thought about that, retiring... because what I'm going to do after I retire is golf. So I might as well just stay here and get paid for it, you know?

As interviewed by Seth Jones, July 1st, 2014.



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