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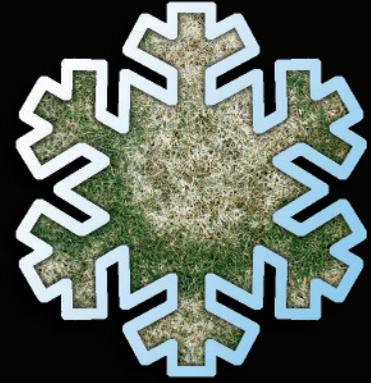
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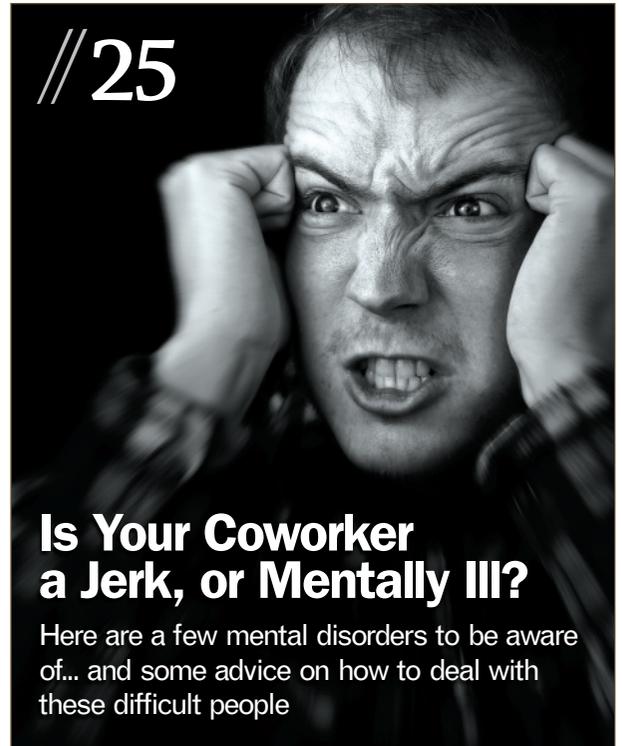
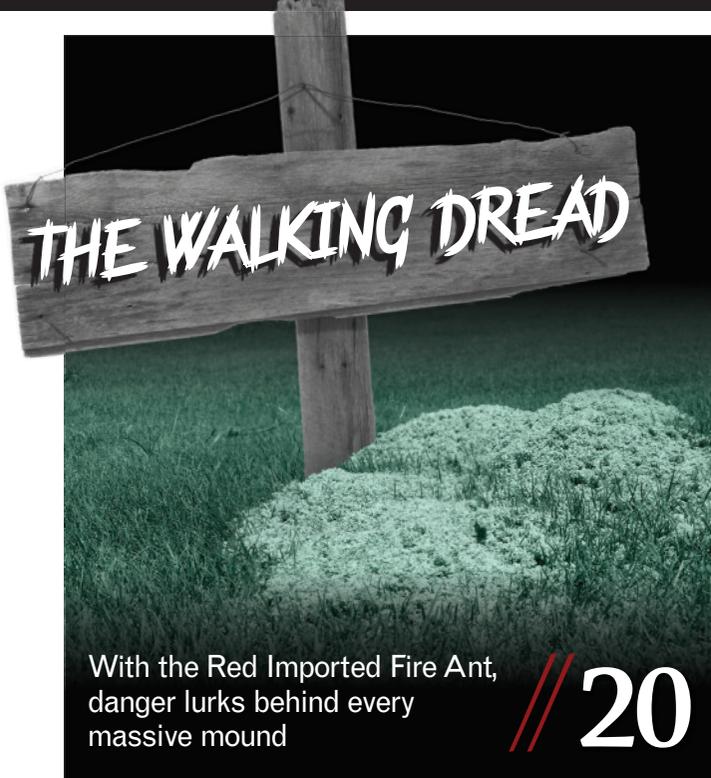


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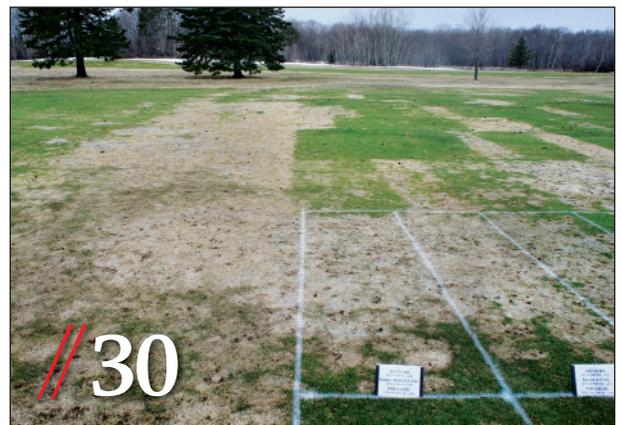


COLUMNS

- // **6 Keeping up with The Jones**—Seth Jones
- // **14 At the Turn**—Mark Woodward
- // **16 From the Back Tees**—Joel Jackson
- // **18 Assistant Living**—Matt Neff
- // **37 The Turf Doc**—Karl Danneberger
- // **38 Clark Talks Turf**—Clark Throssell

DEPARTMENTS

- // **8 Starter**
- // **12 Golfdom Gallery**
- // **19 My Second Office**
- // **40 Professional Grade**
- // **44 The 19th Hole**



SUPER SCIENCE

- // **30 What causes snow mold?** (Hint: it's more than snow)
- // **34 Prevention is the key**
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Jon Lobenstine, Director of Agronomy, Montgomery County Golf, Potomac, MD

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“The question I ask is a simple one:
‘What’s it like being a superintendent
in July of 2014?’ And then I listen.”

SETH JONES, *Editor-in-Chief*

Word from around the *Golfdom*

July is a pivotal month for many golf courses across the nation. It’s also a month I find myself on the phone a lot. ¶ From my home office in Eudora, Kan., I can’t see what my readers are experiencing at their facilities. So I typically go through my contacts and dial up about a dozen guys on a Friday morning, and leave voicemails. My network is kind enough to call back, typically before the end of the day.

The question I ask is a simple one; “What’s it like being a superintendent in July of 2014?” And then I listen. Here is what some of my network reported back.

A superintendent in Pittsburgh told me this was their best July in 30 years, weather-wise. Ideal temperatures, ‘sufficient’ rainfall, low humidity. Life was good, it sounded like, which was music to my ears.

He did report that he was having troubles finding good help, both crewmembers and assistants. He also told me he was offering ‘top dollar’ for an assistant, but the applicants he was getting didn’t pass the muster. (If you’re a talented assistant looking to relocate

to the Pittsburgh area and want to know my source, my contact info is below.)

A funny story he told me about one laborer: He was training him on dragging hoses around the course. It was the second green they had stopped at, and he was showing him how he wanted the hose unloaded. The laborer looked at him and said, ‘Yeah, I’m not doing that.’ Confused, he looked at the guy to see what he meant. ‘I quit,’ the guy said, flatly. So he drove him back to the maintenance facility, dropped him off at his vehicle, never to be seen again.

Down in Florida, a contact tells me labor is also a prob-

lem, but it’s because of a lack of money in the labor budget. The reason? Obamacare.

“I don’t even understand Obamacare, but it’s hurting my course,” he said. “It’s hitting my labor budget, and it’s also hitting my herbicide/fungicide budget. This isn’t the kind of stuff I was hoping to deal with when I got into this business. I just want to grow grass!”

Down in Georgia, a normally positive superintendent surprised me with a lot of negativity. The reason? A longtime co-worker had just been unceremoniously dumped. Now he is the longest tenured employee at the facility. Does the bull’s-eye

land on him by default, he wondered?

His other complaints: high sod prices with a lack of availability, budget cuts and foreclosures. Sounds like a bum summer.

How are things on the West Coast? I was surprised to learn, when reaching an old friend in California, that he had recently lost his job. “I think it was political,” he said, noting he had already found a new job, but not as a superintendent.

Aside from that shock, he told me what I already knew: the drought in California is the No. 1 topic of conversation out that way. “If you don’t have reclaimed or recycled water, you’re in trouble,” he said. “Courses are letting areas brown-out. Everyone is watching every drop of water. There better not be any overspray onto a cart path or a parking lot.”

Most of this information was posted to Twitter as I received it. Follow us @Golfdom to get the most current information from the magazine.

And I’d love to know what is going on in your neck of the woods as well. My email address is below. Drop me a note and tell me what it’s like being a superintendent in August of 2014. I’m always looking to grow my network.

Not your typical column from me this month... this one is all over the place. But that’s also where we want to hear from — all over the place.

Email Jones at:
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NEWS, NOTES AND QUOTES



// NEW IDEAS



R&R Products will place four pieces of its propane-fueled mowing equipment at eight courses across the nation.



GOLF PIQUES PERC'S INTEREST

PROPANE COUNCIL ANNOUNCES INVESTMENT IN GOLF, PARTNERSHIP WITH AUDUBON

BY SETH JONES // Editor-in-Chief

➔ The Propane Education & Research Council has their eye on the golf industry.

First came word from the group of a partnership with Audubon International as a sponsor of the Audubon Cooperative Sanctuary Program. Then, the organization approved an investment to get more propane-fueled mowers on golf courses around the nation.

At a recent PERC meeting in Santa Fe, N.M., the council approved \$929,976 to fund the "Propane Powered Golf and Turf Equipment Demonstration Program." R&R Products is the principal contractor, with Audubon International, Marriott Golf and Billy Casper Golf as project partners.

The project aims to demonstrate propane equipment capability and reliability at eight recognizable golf courses nationwide and develop a busi-

ness case model for economics and reduced emissions.

R&R will place four pieces of its propane-fueled mowing equipment at each golf site for 12 months. The sites are: Marriott Golf's Desert Springs GC in Palm Springs, Calif., and Falcon's Fire GC in Kissimmee, Fla.; Billy Casper Golf's Reston National in Reston, Va., and George W. Dunne National in Oak Forest, Ill.; Omni International's Grove Park Inn in Asheville, N.C.; Willows Run GC in Redmond, Wash.; City of Columbus, Ohio, and City of Overland Park, Kan.

With the equipment, the selected courses will see reduced fuel costs, reduced emissions and an improved environmental image, according to PERC.

North Coast Media's Brian Richesson, editor-in-chief of *LP Gas Magazine*, contributed to this report.

// NEW ADDITION

BATISKY NEW BAYER SALES MANAGER

Environmental Science, a division of Bayer CropScience, appointed Darrin Batisky to area sales manager for the North American turf and ornamentals (T&O) business. In his new role serving the Kentucky, southern Indiana and central and southern Ohio markets, Batisky is responsible for the growth and maintenance of user relationships and initiating buyer opportunities.

"As Bayer continues to enhance our role as a market leader, it is a privilege to have professionals like Darrin on our sales team," says Jose Milan, head of Bayer's T&O business. "We welcome Darrin's expertise and technical knowledge that will allow us to build key partnerships and elevate our initiatives to meet the evolving needs of our customers."

Batisky was a superintendent for 15 years at several courses in Pennsylvania and New York. He holds a B.S. in agronomy with a turfgrass management specialization from The Ohio State University and served as a turfgrass research assistant at the Ohio Turfgrass Foundation Research Center while in school.



Darrin Batisky

// BE AWARE

TEXAS SUPER ATTACKED WHILE OPENING SHOP

Bob Cook, superintendent at Walden on Lake Huston in Humble, Texas, was checking email in his office at 5 a.m. when a man burst into his office, dragged him over his desk and began hitting him while demanding his wallet.

Luckily for Cook, a co-worker was in the shop and heard the commotion. The attacker fled when the co-worker threatened the attacker with a bunker rake.

"That's 37 years of comfort changed in a moment," Cook told *Golfdom*. "We are changing our opening procedures here. Many of my peers would benefit from opening their eyes and being on guard. I'm OK, it's just a very scary ordeal."

Farewell to Rochester

BY JAMIE KEYES // Editorial Intern

➔ Matthew Delly did not anticipate a future at Monroe Golf Club in Pittsford, N.Y., when his brother got him a high school summer job. But, as fate would have it, nearly 20 years later Delly is now the superintendent and preparing to host the last LPGA Wegmans Championship Tournament in the Rochester area.



Matthew Delly

Wegmans, a supermarket chain, has been the title sponsor for 17 years and the Rochester area has been the home field of the tournament for 38 years, but that will all change next year.

Future LPGA championship tournaments will be held in the New York City area.

After 37 years at the Locust Hills Country Club, this will be the first time the tournament has been hosted at Monroe GC. The tournament will be a wonderful fit. Each hole and tee-box meets the requirements for LPGA standards giving Delly and his crew more time to concentrate on maintaining the course.

“We welcome the LPGA with open arms and we are going to

do our best to make it a nice finish in Rochester,” Delly says. The tournament, originally scheduled for June, will be held August 11-17. The LPGA accommodated Monroe GC and their amateur Monroe Invitational Championship tournament held in June.



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Check out an extended version of this story online at golf-dom.com/category/online-exclusive.

// CURTIS CUP MATCH UPDATE

QUAKER RIDGE GC TO HOST CURTIS CUP

Quaker Ridge Golf Club, in Scarsdale, N.Y., will host the 2018 Curtis Cup Match June 8-10.

This will be the second USGA championship at Quaker Ridge GC. The club hosted the 1997 Walker Cup Match, won by the USA Team over a GB&I Team that included a future U.S. Open champion in 17-year-old Justin Rose.

“The USGA is excited to return to Quaker Ridge Golf Club for this celebration of women’s amateur golf,” says Daniel B. Burton, USGA vice president and chairman of the championship committee. “Quaker Ridge provided a stern and fair test for the 1997 Walker Cup competitors, and we are confident that it will do the same for these elite female amateurs in four years when the match is contested for the 40th time.”

Quaker Ridge GC was founded in 1915 under the name Metropolitan Golf Links. The name changed to Quaker Ridge GC in 1916 and renowned architect A.W. Tillinghast redesigned seven holes and created 11 new holes.

Quaker Ridge GC will become just the third club in the United States to host both the Walker Cup and Curtis Cup. The 2016 Curtis Cup Match will be held at Dun Laoghaire Golf Club, near Dublin, Ireland.



TOP DRESSERS



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THEY SAID IT

KASEY KAUFF

SUPERINTENDENT,
CC OF ORLANDO

On Twitter, about the phone call he got from the golf shop in mid-July.

“First time for everything. Golf shop: ‘Kasey, a member called and said there’s a cat head on No. 11.’ #OurPetsHeads-AreFallingOff”

// GOLFDOM WISDOM

If your boss told you to read this issue, it's possible he wants you to learn about fire ants. But it's also possible the story on page 25 made him think of you.

#golfdomwisdom



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Seth,

I just wanted to write to say how much I appreciated your piece “A Post-Open Reminder That Freedom Isn’t Free” (July 2014). As a Director of Golf who shares the every now and then 4:30 a.m. apathy, it shed a new light on how much others give up for others and myself to even have the opportunity to come to work each day. As a brother of a United States Army Sergeant, this piece meant that much more to me. We are all truly blessed to not only live and operate in this country, but to be protected by some of the bravest and most courageous men and women in the world.

Neil McGrew

Director of Golf, Pine Brook Golf Club
Grafton, Ohio

Seth,

Your editorial was spot-on. As a nation, we still have a long way to go in recognizing the sacrifices our military make on our behalf every day. No matter your political stance or belief, those who serve with unabated patriotism deserve more. We have come a long way since Vietnam, but we have still have much to do. With stories like yours, we will get there eventually. No question, we can’t all be heroes, but we can all stand on the curb and applaud.

Roger A. Stewart Jr., CGCS

Director of Golf Course Maintenance Operations
TPCTwin Cities, Blaine, Minn.

Hi Seth,

I just wanted to give you a shout-out on your “19th Hole” interview (July 2014). Lupe Moreno is one of my former assistants in this crazy golf business, we were at McAllen (Texas) CC together. Really nice to see him featured. Great article and as always, a great magazine.

Bob Cook, CTP

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Golfdom Gallery



1
WE CAME.
WE SAW.
WE TOOK PICTURES.

1 1964 Chevy II Nova Todd Olovson, superintendent at Sleeping Giant GC in Hamden, Conn., was inspired by last month's cover story ("Driven to distraction") to send us this pic of his sweet '64 Nova.



2 A super slice Believe the hype... it might come from a gas station, but Casey's General Store pizza is the real deal. Just ask (L to R) Zac Reicher, Ph.D., Luqi Li, Clark Throssell, Ph.D. and Matt Sousek, pictured here taking a break from applying treatments to research plots at Freemont (Neb.) GC.

3 The wheel deal Scott Melling of Par Aide shows off the company's blade for cutting 15-inch golf holes. Though the idea of a 15-inch hole originally created some controversy with the golfing public, the cup is now catching on with courses looking for a way to add some fun to the game.



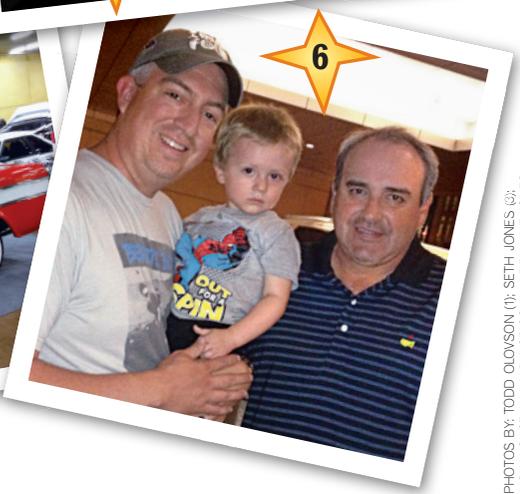
4 Cleveland visitors Jacobsen's Adam Slick and Dixie Chopper's Sierra Kennedy stopped by the North Coast Media offices in Cleveland, just in time for LeBron James' announcement that he was coming home. NCM's president and CEO, Kevin Stoltman (third from left) and *Golfdom* publisher Pat Roberts (far right) were just as excited for Adam and Sierra's visit as they were for LeBron's big announcement.



5 1958 Chevy Cameo Mark Grigg, president and CEO of Grigg Bros., emailed us saying he enjoyed our July cover story. He included this photo of his classic '58 Cameo, one of only 1,405 manufactured that year.



6 El Pato *Golfdom* EIC Seth Jones and his 2-year-old son Boyd were excited to nab a photo with two-time Major winner Angel Cabrera.



PHOTOS BY: TODD OLOVSON (1); SETH JONES (2); MOLLY GASE (3); MARK GRIGG (4); ADRIANNE JONES (5)

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“These improvements will not only benefit the golfers who play golf at these facilities, but they will also add value to and improve the local neighborhoods.”

MARK WOODWARD, *Contributing Editor*

Creative golf management

As some golf courses continue to struggle to stay open in our slowly improving economy, owners and operators need to look for creative ways to stay viable and provide quality golf course conditions and the highest levels of customer service possible. Golf courses need to set themselves apart from their competitors so they can capture enough repeat rounds and the corresponding revenue to be successful.

There are a number of ways to do this, but recently I've been involved with a unique approach that the City of Phoenix is undertaking for a couple of their facilities.

The City of Phoenix has six golf complexes. They have recently created partnerships with two local universities to take over the operation of two of their golf courses. These relationships are a true win/win for both the city and the universities.

The general premise behind these partnerships came about because the city was struggling to put funds into their golf operations. As we all know, many municipalities are still struggling financially and their focus remains on the necessary services and programs that serve the

majority of the population. These services include: police and fire protection, water/electricity, public works and sanitation. The problem is that recreational opportunities generally take a back seat.

By partnering with Arizona State University (ASU) and Grand Canyon University (GCU), the City of Phoenix will be able to continue to provide golfing opportunities to the community. Conversely, the universities, who have golf teams and want to have a “home course” where their teams can practice and hold tournaments, also benefit from this arrangement.

Basically, these partnerships are long-term contracts (as much as 30 years) and require the universities to invest much needed capital into

the facilities and bring them up to today's golf industry standards. Frankly, the cities have not been able to invest money into the infrastructure to keep the facilities competitive. There are many years of deferred maintenance that have run down the courses.

Another point in the agreement that is very important is that both the city and universities have agreed to continue to strike a balance between university team play and tournaments with public play so the residents still feel welcome at their municipal golf course. There are also stipulations related to affordable, accessible golf for residents.

In both cases, the universities have also agreed to construct new modern clubhouses and golf shops,

improve the condition of the golf courses by putting money into new equipment, irrigation systems and in some cases even re-building greens, tees, bunkers, re-grassing and in general improving the entire facility. These improved facilities will provide more visibility and allow Phoenix and the universities to market and promote something everyone can be proud of.

These improvements will not only benefit the golfers who play golf at these facilities, but they will also add value to and improve the local neighborhoods adjacent to the golf courses.

How am I involved in these golf operations? It's really quite simple. Most universities are not in the business of operating and managing golf courses on a daily basis, so they hire management companies like OB Sports, where I work, to manage and maintain them for the schools. We are fortunate to be involved in these two unique situations in Phoenix and actually reversing the trend of struggling golf course closures by improving them and adding value.

Who knows, this may be a model for other municipalities across the country to save their golf courses and continue to provide affordable and improved golfing opportunities to their residents and visitors of their communities.

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.

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“You could help by telling the Greens Committee to bump up the chemical budget,” Duffy told me. “I’d rather do preventive treatment than crisis management.”

JOEL JACKSON, *Senior Contributing Editor*

Summertime blues... and greens

Since I’ve been on the road a lot this spring and early summer, I haven’t been to the Lake Omigosh Golf Club’s 19th Hole and Whine Bar here in Central Florida in a while.

I finally dropped in last week and ran into our superintendent, Duffy McDuffy.

Duffy was instructing the new bartender, Carrie Mibak, on how to properly draw a Guinness from the tap and also pour from the bottle or can. “It’s all in the wrist, Carrie,” he said. “And remember, time is on your side to let the foam head form properly in the mug before serving.”

“Hey Duff,” I said as I slid onto the barstool next to him, “how are you and how’s the course? I haven’t been out there in weeks!”

“Well, mate,” he sighed, “as you know it’s been hotter than the hinges and we’ve been battling stubborn outbreaks of mole crickets and fire ants this season. I’ve got two guys

who go out after course set-up and spot-treat the infested areas. You could help by telling your buddies on the Greens Committee to bump up my chemical budget a bit so I can do more preventive treatment instead of crisis management after a member climbs out of the steep, high side of a bunker and steps right in a fire ant nest. You know how those buggers love the high and dry bunker faces.”

“I’ll see what I can do,” I replied. “I did hear a couple of golfers in the pro shop say that the greens are rolling great! Must have been lots of chatter about green speed with the back-to-back U. S. Opens and Rory’s wire-to-wire win at Hoylake.”

“Oh, sure,” said Duffy.

“Always happens after the majors are on TV. I usually just move the pin locations a wee bit closer to the edges of the slopes and when they start four-putting, they quickly change their tune. Of course they loved our velvety green roughs instead of the un-irrigated wiregrass native areas at Pinehurst.

“It did remind me of the old links courses back home, though. I give the folks at Pinehurst a big thumbs-up for showing the world, and especially the golfers here, that it is possible to use fewer resources and still play and enjoy championship golf. In fact, the committee has endorsed my suggestion that we convert more out-of-play acres to RCAs.”

“What in the world is a

RCA?” I asked.

“It’s a Resource Conservation Area,” Duffy replied. “I like the term better than ‘native area’ because they’re usually not really just native plants, but they are areas that require fewer resource inputs including water, chemicals and labor. They’re not cost free, but with water availability becoming critical for recreational uses, it’s time we started taking steps to reduce our consumption any way we can while still maintaining the integrity of the game.”

As the clouds began gathering for a typical central Florida summer thunderstorm, I asked Duffy about this year’s weather.

“If that thunder-boomer hits us, we’ll have some bunker washouts to repair in the morning,” he said. “That’s another thing we need to address — those steep bunker faces. In our part of the world, with a high annual rainfall, we’re wasting lots of man-hours shoveling the same sand over and over again. There are some new bunker design and construction techniques and products that can reduce that pain in the budget. However, if I ever need to get a little extra water on the course, all I have to do is volunteer to host a superintendent’s meeting. It’s almost guaranteed to rain!”

“Got to run mate, glad you’re back. Better come out and play before we start our fall renovation programs!”

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



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“My genius plan was to rent a metal detector and re-dig the hole. Of course, it was more fun the second time.”

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

Guess what I did today, honey

So there I was washing my hands at the end of a day spent fixing an irrigation leak, still silently cursing the company whose defective fitting was responsible for me spending the majority of the day head-first in a muck hole, when I realized it was gone.

After the initial panicked self-frisk (you know the one where you pat yourself down four times in two seconds and then start frantically turning your pockets inside-out), my silent cursing turned into audible cursing. My wedding ring was gone.

After retracing all my steps through the shop and looking through my cart and the irrigation toolbox, I went back to the likely scene of the crime and spent 30 minutes looking around in the grass for it, hoping it flew off when I was flinging mud off my hands. No luck.

The sight of me walking in circles while staring at the ground and muttering probably did nothing for the image of our profession. I could

imagine the conversation in a passing cart:

Member 1:

I always figured those guys were a little off and, look, that one finally snapped.

Member 2:

Just keep driving and don't make eye contact.

By this point, I was more than a little annoyed. I honestly don't know what I would've done if someone would've rolled up with their “hilarious” Carl Spackler impression and asked me if I had found any chinch bugs yet.

Like most married guys, the first two things I think about in most situations that involve me screwing up is 1) How long am I going to have to hear about this from my wife? And

2) How much is this going to cost? In this case, I didn't like my odds on either front. Even though my wife is pretty laid back, I figured her sentimental side would overwhelm her normally even-tempered side and there would be at least a lecture of some sort. You know how they are about the whole wedding/marriage thing.

After giving up my search and heading home, I called my wife and told her the news. Before calling her, I had decided that I would soften the blow by telling her about my genius plan to rent a metal detector and re-dig the hole. So after delivering the news and my metal detector idea, I was surprised when all she said was, “That's too bad, but I'm actually surprised it

took you this long to lose it. Guess you'll have to get a new one at some point.”

So at least the two big questions were answered. I wasn't going to get any flack for it, but I was going to have to spend money. As much as I hate unnecessary spending, if I'm going to go one-for-two in this game, I'll take spending money over getting the business for a couple weeks any day.

In any case, I was clearly more upset about it than she was. I'm not a sentimental person, yet losing my wedding ring bothered me.

Despite her telling me not to worry about it, I rented the metal detector and ended up re-digging the hole after work the next day.

Of course, it was even more fun the second time. I looked through every shovel load and, as you more than likely have predicted by now, no ring.

I finally bought a new one recently. I guess the moral of the story is to either not wear your wedding ring to work or to frequently make sure it's still there when you're scooping mud out from around pipes and wires.

If you do lose it, no matter how cool your wife is, I'd highly recommend that you not joke, “Since I don't have a wedding ring anymore, I guess this dog can still hunt.” Take my word for it, she won't find it nearly as funny as you do.

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

My Second Office

BECAUSE THE COURSE IS YOUR FIRST

About our host

BRETT CHAPIN, superintendent at The Redding (Conn.) CC, is a family man through and through.

But when Chapin and his wife first arrived at the club, he was married with no kids. Now he and his wife, Grace-Marie, have two children, Adreanna

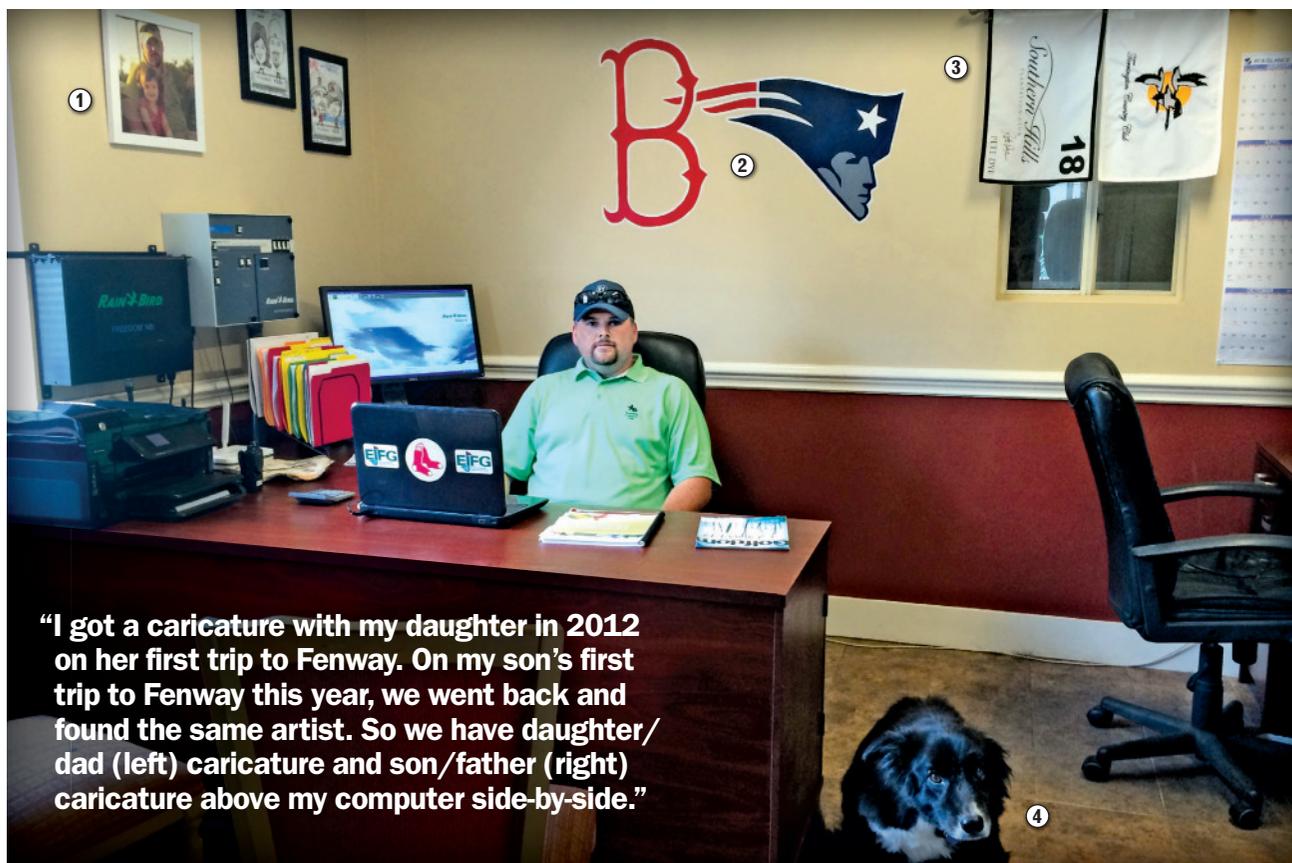
(5-years-old) and Nathaniel (3), along with two dogs, Primo and Ike.

Chapin likes to recall how, three years ago, his son gave him a surprise weekend off from work.

“He decide to be born five weeks early, on Labor Day weekend — which is our

busiest weekend of the year — so the running joke around here is that the only time I’m ever going to get another Labor Day weekend off is if I have a child.”

Chapin has been at the family-friendly course, located 40 miles northwest of New York City, for eight years now.



“I got a caricature with my daughter in 2012 on her first trip to Fenway. On my son’s first trip to Fenway this year, we went back and found the same artist. So we have daughter/dad (left) caricature and son/father (right) caricature above my computer side-by-side.”

1 LARGER THAN LIFE That’s a photo of Adreanna and I from July 2012. We had a golf course photographer who was out taking pictures of the course. My daughter was out on the course with me. She saw the photographer and said, “Excuse me, excuse me?” And he goes “Yessss?” like he’s never spoken to a kid before. She goes, “Can you take my picture?” He’s got all this high-end camera

equipment, he’s on a ladder, and he takes this picture. And it’s the best picture. Bayer used it in their booth at the GIS—blown up to 10 feet tall. To my daughter, that was the coolest thing ever.

2 WALL ART The sports logos were hand-painted by Molly Burke, who’s worked for me for four years. Everybody thinks because it looks so good that it’s one of those Fathead stickers. I joke

that if I ever leave, I’ll have to cut the wall out and take it with me.

3 IN MEMORIAM The flags up on the window are both clubs where my mother’s fiancé was a member. The one on the right is from Torrington (Conn.) CC, the one on the left is Southern Hills Plantation, Brooksville, Fla. He passed away in a car accident last September. He was a lifetime golfer. A good memory for me.

4 HALF-PINT My dog’s name is Primo. She’s named after the growth regulator. We thought she would never grow. The other dog, Ike, is hiding under the desk. When I took this job, he came with it. They had left that part out.

BY MOLLY GASE // PHOTO BY MOLLY BURKE
Proud of your second office? Email us a photo of you in it to sjones@northcoastmedia.net, and we may feature you and your office in an upcoming issue of *Golfdom*.

With the Red Imported Fire Ant,
danger lurks behind every
massive mound

THE WALKING DRE

BY
MOLLY CASE



AD



There's no way around it. Fire ants are nasty little critters. Stumble across their path and they'll try to eat you alive. This pest may sound a bit like a zombie horde, but instead of being the walking dead, they are just a pain superintendents want dead.

The Red Imported Fire Ant (RIFA) is an invasive pest that is known to be very aggressive. Even their scientific name sounds intimidating — *Solenopsis invicta* — roughly meaning “accustomed to being unconquerable.” Dr. Stuart Mitchell, D.O., Ph.D., M.P.H, B.C.E., a board-certified physician and entomologist, says that fire ants are now well established from Kentucky, southwest to Texas and east to North Carolina and Florida. “Red Imported Fire ants are a medical threat to people entering their generally large areas of nesting and activity,” Mitchell says.

A round of golf is not supposed to resemble Indiana Jones' temple run. Concerns for human health and safety should be low. However courses across the

Southern portion of the United States have to deal with fire ant mounds each year. David Hay, CGCS at Indian Wells (Calif.) CC, says he warns golfers about fire ants in communications with members. “Once we get to the end of March, the first of April, that's just automatically put in — Please be careful for rattlesnakes, fire ants and bees.”

Know your enemies

Like the ants we see in cartoons, carrying picnics away in a single-file line, fire ants live in colonies. According to Mitchell, their nest mounds can be large and numerous.

“Mature colonies can produce 200 eggs per day,” Mitchell says. To feed all of those mouths, the fire ants go foraging out of the mound through side tunnels. “As omnivores, fire ants forage for seeds, roots, stems, buds, fruits, insects, small rodents and tend honeydew producing aphids.”

Continued on page 22



Flesh-eating zombies are all the rage on TV. On the golf course, fire ant bites just cause a rage...and sometimes worse.



Continued from page 21

The mounds that fire ants call home can be large and fire ants can dig tunnels deep into the soil, searching for moisture. Hay has seen mounds almost as big as gopher mounds on his course.

Joe Steinlage, insecticide business manager for Bayer's turf and ornamentals business, discussed fire ants.



Joe Steinlage

"Fire ants works the soil, whereas a pyramid ant actually forms a pyramid and has a single tunnel that goes down below the soil. A fire ant mound has many tunnels extending away from the mound—fire ant mounds are not typically a pyramid shape," Steinlage says.

The ants access their mounds through several points of entry. Fire ants can build their mounds around greens, bunkers, in the rough, around the bases of trees or even nestled against rocks and other landscaping.

An aggressive fighting force

If the mound is disturbed, the fire ants spring into action against their attacker.

"When a colony is disturbed, large num-

bers of female worker ants get very aggressive. When attacking, numerous ants all at once plunge their mandibles into the victim's skin and inflict numerous painful, burning stings. For those who are allergic to fire ant venom, a severe reaction may occur," Mitchell says.

For the unsuspecting golfer or worker, this can be a rough wakeup call that the ants are in the area.

Imagine this: a golfer sets down a club on the edge of the green. She putts, grabs the club from the green surface and swings it over her shoulder. Next thing she knows, she's covered in fire ants that have hitched a ride on her grounded club.

Hay says members of his crew watched this scene play out.

"She stuck it on her shoulder and next thing you know, there were ants all over her. So, she stripped down bare naked... it was pretty comical," he chuckled. Though this scene seems stolen straight from a Saturday morning cartoon, fire ant bites can be a very serious matter.



David Hay

"In rare cases, anaphylaxis may result,"

Mitchell says. "This is a very serious reaction with symptoms that may include dizziness, tongue and breathing tube inflammation, labored breathing, bluing skin, low blood pressure, loss of consciousness and heart failure."

For Hay, there have been no negative reactions to fire ant bites as of yet. However Tray Maltby, director of grounds at the Reunion Resort near Orlando, has seen a bad reaction on the course.

"We've had some experiences where some of our golfers have gotten bitten and it is a problem," Maltby says. "One guy had a reaction and the whole bottom part of his ankle and calf swelled up."

The golfer had been standing on the edge of the rough, unaware that he was on a fire ant mound. According to Maltby, there were quickly about 50 ants on his leg. He received medical treatment and recovered. Knowing about the dangers of these pests however, increases the motivation of superintendents to control fire ants.

Controlling the fire (ant)

Control of fire ants comes in many bottles with many different labels attached. Lane Tredway, Ph.D., is a technical representative at Syngenta who works on product development and assisting customers to develop an effective program.

"Fire ants are one of the most unique pests to deal with on the golf course and in landscaping in that they don't really cause significant injury to the turf, it's more of a human health concern," Tredway says. Never the less, Tredway says it's a problem that turf managers need to be concerned about.

When selecting a method to control fire ants, Tredway says that superintendents typically had to make a choice between

Continued on page 24

"Red Imported Fire Ants are a medical threat to people entering their generally large areas of nesting and activity," says Dr. Stuart Mitchell.





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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Continued from page 22

the fast-acting control of a treatment applied directly to the mound, or the use of a broadcast bait treatment. While the first option can yield more immediate results, it does not kill off the colony in the long run. The second option takes more time, but controls the mound more effectively.

“What’s changed now with fire ant bait is that we no longer have to make that choice,” Tredway says. “(Advion Fire Ant Bait) is a very flexible product in that it



Lane Tredway

can be applied as an individual mound treatment and very quickly knockdown and kill-off a mound within 48 to 72 hours, but it’s also long-lasting and can be applied as a broadcast bait for control of fire ants up to three months.”

Maltby says he applies Top Choice from Bayer.

“We slide that in during the springtime. We don’t treat the whole entire property because (of cost), but we do all the tees, fairways, around the tees and greens,” he says. Along with Top Choice, he also utilizes FMC’s Talstar XTRA when fighting for control against the fire ants.

Steinlage says that the Bayer product is a preventative approach and he recommends residual control.

“A lot of times with baits, you may feel that you are just chasing the fire ants around. With an individual mound treatment, you may remove the ants from one mound, but you don’t control the mounds you don’t see a few feet away—and you’re not preventing new mounds. Broadcast bait treatments are more likely to control all existing mounds, but they need to be applied four to five times per year,” Steinlage says. TopChoice is marketed to control



Tray Maltby



fire ants for up to 12 months.

“When you think about treating fire ant mounds... you don’t go out and just pour stuff right on top of the mound,” Maltby says. “That just disturbs them, upsets them and puts them into a panic. More what you do is treat the outer circumference of the mound with these baits.”

Tredway echoed this thought.

“I think one of the most important things to realize, especially if someone is treating an active fire ant mound is that the feeding tunnels are actually around the outer periphery of the fire ant mound,” he says.

Hay utilizes a two-pronged method when working to control fire ants at his course.

“We have the Coachella Valley Mosquito Vector Control District which is funded by property taxes and they have gotten into the picture several years ago in trying to treat the imported fire ants,” Hay says. His course signed a contract with them and they come to the course twice a year, utilizing bait to help control the fire ant population.

The second part of his approach involves Arysta LifeScience’s Aloft. “I tried Aloft one year and, as the seed was growing, you could see exactly where the ants were, you could go out and spray it,” Hay says. “It didn’t make any difference if irrigation was on because it got watered

in... and we had tremendous success with that.” He adds that after using this approach, fire ant populations were lowered about 50 to 60 percent.

Capture the queen

Just like in a game of chess, the queen is an integral part of winning the game. Once she falls, the troops are lost.

Maltby says the same is true of fire ants.

“The ants will go out, they’ll find the bait and they’ll take it back to the mound where hopefully the queen gets it,” he says. “Once you knock out the queen, it’s like knocking out the general of the army. The soldiers don’t know what to do. They will eat the bait and it’s poison for them.”

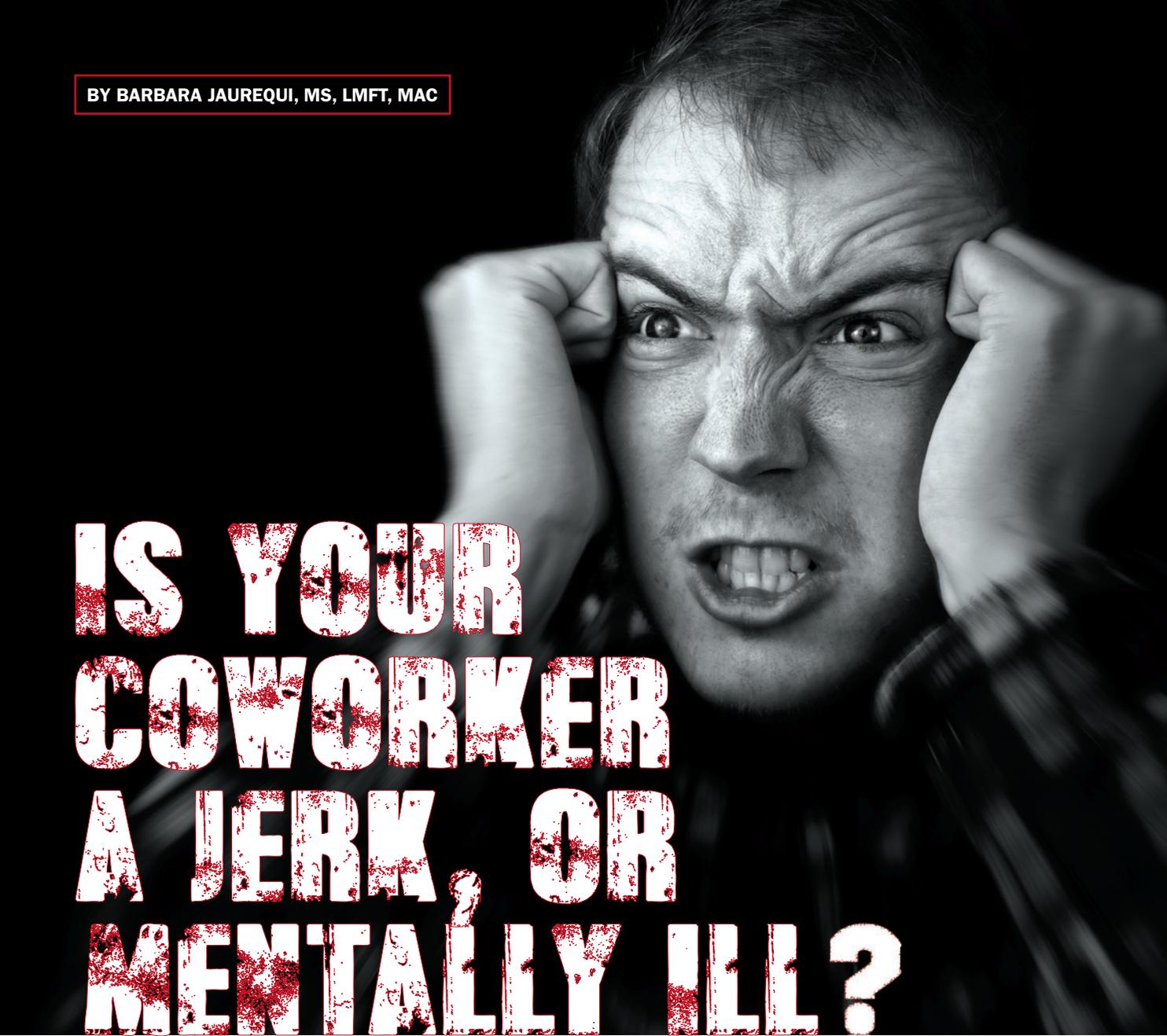
Getting this pest under control is a major concern for many superintendents in the Southern part of the United States.

However, Hay says that completely getting rid of the pest is unrealistic.

“All you’re going to do is get them under control. You’re not going to eradicate them,” Hay says. Limiting the danger to members of the crew and golfers enjoying the course is the main goal.

As with most dangers in the world, the best thing to do is be prepared. “If you’re in fire ant country, you will likely have fire ants. Plan on having fire ants. Plan accordingly, and make an application to prevent them before they are a problem,” Steinlage says. 

BY BARBARA JAUREQUI, MS, LMFT, MAC



IS YOUR COWORKER A JERK, OR MENTALLY ILL?

Most Americans spend the bulk of their waking hours at work. Some say that Americans' "best" hours are given to their employers. If workers like their jobs and/or workplace, they can accept that reality without a fight. Yet, when employees find themselves working with difficult people, life at work can be exasperating.

Why certain people are "really difficult" isn't always clear. It's true that some people are simply annoying or interpersonally inept. However, some difficult coworkers may be legitimately mentally ill and in need of professional intervention.

According to the National Association of Mental Health, incidences of mental illness in the workplace are not uncommon. The NAMH reports that an estimated 26.2 percent of Americans ages 18 and older — about one in four adults — suffer from a diagnosable mental disorder in a given year. For example, Attention Deficit Hyperactivity Disorder (ADHD), a mental illness that can be managed when treated properly, occurs in 4 percent of American adults and mood disorders including Major Depression, Mania and Bi Polar Disorder occur in 9.5 percent of American adults, all of which can trigger undesirable behaviors in workers. Likewise, certain personality disorders, such as

Continued on page 26

HERE ARE A FEW
MENTAL DISORDERS
TO BE AWARE
OF... AND SOME
ADVICE ON HOW TO
DEAL WITH THESE
DIFFICULT PEOPLE



strate excessive lethargy that is chronic and changes little from day to day. A non-Mood-Disordered jerk might just be a slacker and feign low-energy to get out of doing his fair share of work.

Borderline Personality Disorder

People with BPD struggle to maintain stable relationships, including relationships with coworkers. They vacillate between idealizing their coworkers and demonizing them. Borderlines are highly defensive and tend to demonize those who criticize them. Ultimately, they see themselves through the eyes of others and have a very weak sense of self, which facilitates the development of unstable relationships across all relationship sectors.

Obnoxious coworkers don't necessarily have unstable relationships in all realms of their lives. They might take more credit for accomplishments than they deserve; they might brag about their successes. But, once again, those things just make for obnoxious coworkers.

It's important to note that BPD affects a very small portion of the population (approximately 6 percent) so bear in mind that it is unlikely your extremely annoying coworker is mentally ill.

Narcissistic Personality Disorder

A person with NPD is different from a coworker who is conceited and selfish. A clinically diagnosed narcissist knowingly exploits others for his own personal gain without remorse because he sees it as necessary to get what he wants. He is miserably unhappy when the spotlight is removed from him. He feels *entitled* to special treatment and is obsessed with his "wonderfulness."

A non-NPD jerk doesn't exploit others without guilt or internal conflict. He would typically feel some remorse and shame for exploitive behavior and might even apologize. Narcissists rarely (i.e., never) apologize. A jerk can be fair. He may grumble about certain parameters, but he typically follows the rules. He may brag about himself but doesn't go out of his

Continued from page 25

Borderline Personality Disorder (BPD) and Narcissistic Personality Disorder (NPD), can cause the sufferers to demonstrate symptoms remarkably similar to the personal traits of someone who is simply obnoxious.

Based on the statistics above, it's not at all unlikely that at some point we might find ourselves working side-by-side with a person who is clinically mentally ill. Differentiating between clinical symptoms and personal traits can be tricky; only a licensed therapist or a medical doctor should be diagnosing mental illness. Recognizing the difference between people with legitimate personality disorders and people with chronic "Jerk-itis" is a bit tougher; you have to know what you're looking for.

Here is a list of disorders people might

encounter at work, their likelihood, and some tips to tell if your coworker needs mental help or is just a garden variety jerk.

ADHD

ADHD can cause sufferers to be irritable, careless, hyper, forgetful, disorganized, extremely talkative and distractible. A non-ADHD "jerk," however, would not necessarily demonstrate all these symptoms simultaneously. He might just talk your ear off when you need to get back to work. Or he might "forget" to do certain tasks because he's lazy, rather than careless. He might keep his desk a mess because it doesn't bother him to have it messy.

Mood Disorders

A mood-disordered individual with Major Depression, for example, may demon-

RECOGNIZING THE DIFFERENCE BETWEEN PEOPLE WITH LEGITIMATE PERSONALITY DISORDERS AND PEOPLE WITH CHRONIC "JERK-ITIS" IS A BIT TOUGHER; YOU HAVE TO KNOW WHAT YOU'RE LOOKING FOR.

way to elicit compliments from others, as would a narcissist. Furthermore, he is not devastated when excessive praise does not come his way. And NPD is fairly rare; only 6.2 percent of Americans are clinically diagnosed with the disorder.

Don't jump to conclusions

It's important to note that other medical problems can cause coworkers to behave in ways that are unusual and concerning or annoying and obnoxious. Brain tumors, head injuries, medication side-effects, hormonal imbalances and stress can all trigger troublesome behaviors. So it's important that employers and employees alike not jump to conclusions when suspecting a fellow worker is suffering from a mental illness.

If, however, you suspect mental illness in a coworker, subordinate or supervisor, you need to determine if you can or want to handle the challenges presented when working with that person. Keep in mind the following:

- A.** If a coworker is the problem, it's best to take suspicions to a supervisor rather than confronting the coworker directly.
- B.** If a subordinate is the cause of the workplace disturbance, deal with it directly but with sensitivity. Be observational in a non-confrontational way. For example, don't say "You clearly have a personality disorder" say "I've noticed that your attitudes and behaviors change significantly from day to day and I'd like to talk to you about that privately." Be relaxed when addressing the issue. If a supervisor is relaxed and approach-

able, suffering staffers are more likely to open up.

If the employee acknowledges that there is a problem, help him or her make a plan for recovery and/or symptom management. Talk about some job-related goals the employee can tackle once the disorder is under control. When a troubled employee has something to look forward to, he or she is more likely to follow through on getting necessary treatment.

C. If it's a really difficult supervisor em-

ployees are working with, they may need to consider all their options, up to and including transferring, changing positions or leaving the company entirely.

One last thought workers may want to ponder: if one is currently sane but working in a crazy environment, it may only be a matter of time before he himself becomes mentally ill, or quite possibly, becomes a jerk! It's better to face the problem head-on than expect it to go away on its own because, without help, mental illness gets progressively worse over time. And of course, left unchecked, jerk-like behavior will continue to serve as an energy vacuum in your workplace. ☺

Barbara Jaurequi, a licensed marriage and family therapist and Nationally Certified Master Addiction Counselor, speaks on a variety of personal and professional topics and is the author of A.C.E.S. She can be reached at Barbara@BarbaraJPublications.com.



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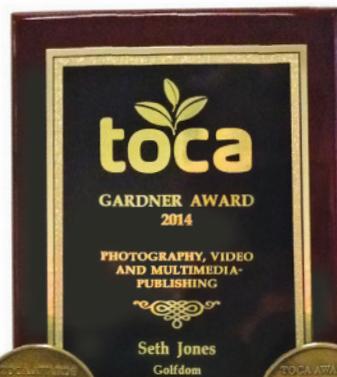
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- » **Writing, Environmental Stewardship Article:** “A Sharp Mind at Sharp Park,” Seth Jones
- » **Writing, Business Management:** “A Sharp Mind at Sharp Park,” Seth Jones
- » **Photography, Best Cover Photograph:** “5 Keys to Picking Up Women,” Pete Seltzer
- » **Photography, Pictorial 1:** “Fertilizing for the Future,” Pete Seltzer
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Super Science

// RESOURCE GUIDE

GOLF'S USE OF WATER RESOURCE CENTER

By Pat Gross

Information is the key to meeting the challenge of golf's use of water. With this in mind, the USGA has created a new website focused entirely on the issue. The site was designed to be a clearinghouse of information and resources regarding golf course water use. We urge everyone to take the time to visit the site and contribute to the efforts to meet this challenge. The address is www.usga.org/water.

The website contains a wide range of articles, videos, case studies and other resources that address many of the issues that pertain to golf's use of water. The "Why Water Matters" section features the most frequently asked questions about golf course water use, such as: how much water a golf course needs, how golf courses can use less water and for non-golfers, why golf courses get water when water is scarce.



Another section of the website, "Resources for Communities," provides information for water regulators, neighbors and community decision makers by explaining the different ways golf course water use impacts the community, economy and the environment.

Resources and information of a more technical nature can be found in the "Resources for Golf Facilities" section. This portion of the website is

there to help golf course personnel manage water efficiently and responsibly.

The "Resources for Golfers" section provides information on how water affects playability and how golfers can support efforts to conserve water on the golf course.

In the "Interactive map of BMPs and case studies" section, visitors can click on any state to view information on state BMPs and case studies highlighting examples of water conservation measures and water quality protection in their area.

For more information and to contribute information to the website contact Pat Gross at pgross@usga.org.

NEWS UPDATES

MICHIGAN SUPERINTENDENT BECOMES E-PAR EMS CERTIFIED PROFESSIONAL

University of Michigan Golf Course superintendent Scott Rockov became certified in the e-par Environmental Management System (EMS) Certified Professional program. The program recognizes individuals who have knowledge of systems-based environmental management and the requisite skills to build and implement a comprehensive environmental management system.

"We're proud to have Scott as a member of the growing ranks of golf professionals committed to manage their golf operations in a more sustainable manner," says Kevin A. Fletcher, Ph.D., president and CEO of e-par USA. "To date, over 120 golf professionals around the world are working to achieve this designation, and Scott is one of only four in the United States to have earned it. He's a true environmental champion in the industry."

Requirements of certification include the development and implementation of the e-par EMS for Golf as well as a comprehensive written examination.

"Protecting the natural environment is integral to achieving our goals, and the e-par EMS was a perfect solution to get us thinking from all angles of environmental stewardship across the facility," Rockov says.

IF YOU WERE ABLE TO OBSERVE SURFACE TEMPERATURES UNDER SNOW IN REAL TIME YOU WOULD BE ABLE TO 'PREDICT' THE LEVEL OF SNOW MOLD PRESSURE PRIOR TO THE SNOW MELTING."

Paul Koch, Ph.D.

(see full story on page 30)



// 2014 SNOW MOLD FINDINGS

What causes snow mold?

(Hint: it's more than snow)

By Paul Koch, Ph.D.

For most of the country, the winter of 2013-2014 was one to forget... or to remember and hope it never happens again. Brutal cold swept from the Midwest down to the gulf coast, and the term 'polar vortex' exited the nerdy world of meteorology and entered the popular vernacular.

For turf managers this meant significant difficulties — from devastating ice injury in parts of the Midwest and Northeast to desiccation injury in the central plains to direct low temperature kill of ultradwarf bermudagrass in the South.

But what about snow mold? Many areas of the country saw more snow and had longer durations of snow cover than they had seen in decades. Parts of the Northeast and mid-Atlantic were bracing for widespread gray snow mold... a rarity in those parts. Much of the Midwest had over 90 days of consecutive snow cover, with cities in Wisconsin such as Madison and Milwaukee approaching records for the duration of snow cover and the widespread expectation that snow mold would be severe.

But when the snow melted, many places barely had any snow mold at all. Still others, seemingly not far away, experienced significant snow mold damage.

Why the discrepancies? What led to severe damage in one location and very little in another just an hour or two away? And what did we learn from last year's research that can help protect us this year?

THE WISCONSIN EXAMPLE

As luck would have it, for the first time last fall we decided to install data loggers

at three of our five snow mold research sites in Madison, Wis., Wausau, Wis. and Marquette, Mich. These data loggers measured hourly temperature, relative humidity, dew point and sunlight at the turf surface and soil temperature at a two-inch depth. Despite 90 days of continuous snow cover, the site in Madison was basically free of snow mold over the entire site (Figure 1).

Our site two hours north in Wausau however, had extreme pink snow mold (Figure 2). Our site four hours north of that in Marquette, had extreme speckled snow mold (*Typhula ishikariensis*) (Figure 3).

If all three sites had extended periods of snow cover, why did only the two northern sites have snow mold? And why did disease pressure go from nonexistent in Madison, to such an extreme level in the relatively short drive to Wausau?

FIGURE 1



Snow mold was nonexistent in Madison, Wis., despite over 90 days of continuous snow cover.

FIGURE 2



Pink snow mold pressure was severe just two hours north of Madison in Wausau, Wis.



The short answer is temperature. The surface temperature under snow cover at the Madison site was consistently below 30°F and varied considerably as the air temperatures above the snow fluctuated (Figure 4). Wausau and Marquette are two and four hours north of Madison, respectively, and experienced significantly colder air temperatures than Madison. However, the surface temperature at both sites under the snow was highly consistent for most of the winter at approximately 30-32°F.

Despite their cold-loving nature, snow mold fungi do not grow (and certainly don't infect turf) when temperatures are well below freezing. The relatively moderate increase in temperature between the Madison and Wausau/Marquette sites was enough to allow for prolonged optimal infection conditions for the fungus and extreme snow mold development.

Many areas of the country saw more snow and had longer durations of snow cover than they had seen in decades.

The logical follow-up question is if all three sites had consistent snow cover, why was the surface temperature at Madison so much lower than the other two? Though we don't have an exact answer, the most likely explanation is in the depth of snow cover.

We know that snow is an excellent insulator. Previous research conducted at Wisconsin has found that surface temperatures under snow cover can be 55°F higher than areas without snow. But the amount of insulation clearly depends on the depth and type of snow cover. Snow depth in Madison averaged between four and eight inches

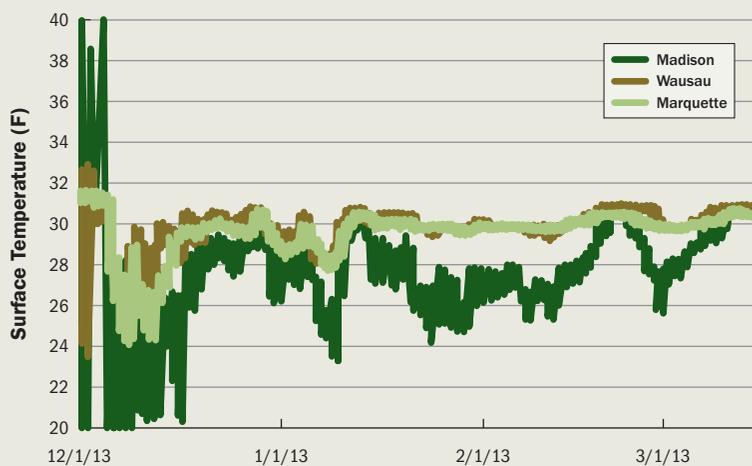
FIGURE 3



Speckled snow mold (*Typhula ishikariensis*) was severe at our research site in Marquette, Mich.

FIGURE 4

Surface temperatures under snow cover during the winter of 2013-2014 from research sites in Madison, Wis.; Wausau, Wis.; and Marquette, Mich.



throughout most of the winter, while the snow depth was well over a foot for much of the winter at the northern locations. The increased depth at the northern sites provided a greater level of insulation against the brutal cold, and an optimal environment for snow mold development.

From this information it seems apparent that if you were able to

observe surface temperature under snow in real time you would be able to 'predict' the level of snow mold pressure prior to the snow melting. If the data loggers suggest temperatures have been optimal for disease development for a prolonged period, you might decide to remove some of the snow in certain areas, which

Continued on page 32

FIGURE 5

Percent pink snow mold on select treatments assessed on April 21st, 2014 at Wausau (Wis.) CC.

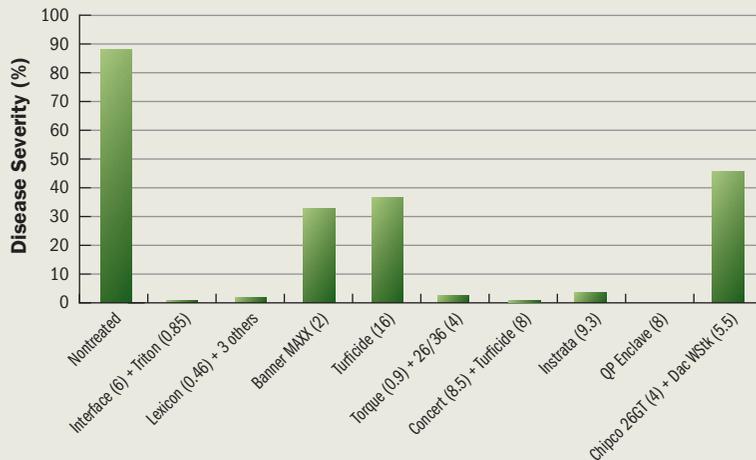
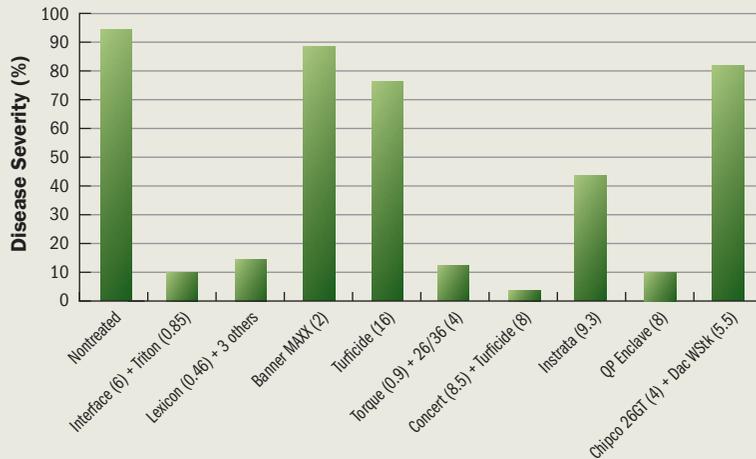


FIGURE 6

Percent speckled snow mold on select treatments assessed on April 23rd, 2014 at Marquette (Mich.) CC.



Continued from page 31

would theoretically lower the surface temperature and inhibit disease development.

We intend to experiment with wirelessly transmitting data loggers at our snow mold research sites in 2014-2015 to give us real-time updates on the conditions under the snow. Armed with this information, we hope to provide information on whether the conditions are ripe for snow mold

development weeks — if not months — before the snow even begins to melt.

WHAT DID WE LEARN LAST YEAR?

Only a small portion of last year's snow mold research is discussed here, but the full results from the 2013-2014 University of Wisconsin Snow Mold Trials can be found at www.tdl.wisc.edu/results. The trials last year included results from five sites across Wisconsin, Minnesota and the Upper Peninsula of Michigan.

Though varying pressure was present at each of the five sites, except Madison, there was extreme snow mold pressure in both our Wausau (87.5 percent in non-treated control) and Marquette (95 percent in non-treated control) trials.

The main takeaway from the research is that despite heavy disease pressure, numerous treatments provided exceptional disease protection. In Wausau, where pink snow mold was the primary disease present, 54 of the 108 treatments provided over 90 percent control and 15 of those treatments provided over 98

Despite their cold-loving nature, snow mold fungi do not grow when temperatures are well below freezing.

percent control (Figure 5). In Marquette, where speckled snow mold was the primary disease present and pressure was even more extreme, there were still 12 different treatments that provided over 90 percent control (Figure 6). Most of the treatments providing exceptional protection were combinations of three, four or even five active ingredients. Exceptional treatments included, but were not limited to: Instrata, Interface + Triton FLO, Torque + Turficide, Concert + Turficide, Torque + 26/36, QP Enclave and Lexicon + Trinity + Daconil Ultrex + Chipco 26GT.

Looking at the results, it is clear that multiple active ingredients are required for acceptable snow mold suppression under heavy disease pressure. Last year's research vividly demonstrates this point with numerous head-to-head comparisons of the combinations versus their single active ingredients. For example, the combination of Interface at 3.0 fl. oz. per 1000 ft² and Triton FLO at 0.75 fl. oz. per 1000



FIGURE 7



Comparison of Interface and Triton FLO applied as a tank-mix (left) to Interface (center) and Triton FLO (right) applied alone at Wausau CC on April 21, 2014.

FIGURE 8



Comparison of Torque and 26/36 applied as a tank-mix (left) to Torque (center) and 26/36 (right) applied alone at Wausau CC on April 21, 2014.

ft² provided over 96 percent control in our Wausau trial (Figure 7). However, Interface alone provided only 37.5 percent control, while Triton FLO alone provided just 68.7 percent control. In another example, Torque (0.9 fl. oz. per 1000 ft²) and 26/36 (4.0 fl. oz. per 1000 ft²) provided over 98 percent control in the Wausau trial (Figure 8). But 26/36 alone only provided 28 percent control and Torque alone only provided 66 percent control. These examples demonstrate that even the addition of a single active ingredient to the fungicide mixture can make a huge difference in the level of control obtained.

I would like to close by thanking

the superintendents at the five courses that hosted our trials in 2013-2014: Matt Mckinnon at Craguns Resort, Craig Moore at Marquette CC, Norma O'Leary at Silver Bay CC, Randy Slavik at Wausau CC and Mark Watts at Tumbledown Trails GC. Without their hospitality our research would be impossible.

Paul Koch, Ph.D., is an assistant professor of plant pathology at the University of Wisconsin-Madison where he conducts research and provides information to professional turf managers on disease management and control. Koch's research article in the August 2013 issue of *Golfdom*, "Beat the summer heat, plan for snow mold," won a TOCA Award (merit) for turf feature article. Koch can be reached at plkoch@wisc.edu.

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//THINKING AHEAD

Prevention is the key

Preemergence weed control in warm season grasses is as important now as it has ever been

By Scott McElroy, Ph.D.

Preemergence herbicides are the basis of all weed management programs in turfgrass. They should be used on a yearly basis, either applied in the late winter/early spring for summer annual weed control or late summer/early fall for winter annual weed control. Preemergence weed control is about prevention. By controlling weeds as they germinate, one can prevent weed problems from ever taking root.

If you do not use preemergence herbicides, you jeopardize the effectiveness of postemergence herbicides you use later. Without preemergence herbicides to at least decrease weed population densities, postemergence herbicides will have to control larger plants at higher population densities.

In my research program, we conduct weed control trials under the worst conditions — large plants, high population densities, with very little turfgrass. These sites do not receive any preemergence herbicide, thus the populations are excessive and not what one would normally observe in a managed turfgrass situation. In these high-density weed situations, virtually all postemergence herbicides underperform, necessitating the need to make multiple applications.

Five years ago when writing about preemergence herbicide use in warm season turfgrass, I would have written about four herbicides — prodiamine (Barricade), pendimethalin (Pendimethalin, Pendulum), dithiopyr (Dimension) and oxadiazon (Ronstar).

These were the big four — the four primary preemergence herbicides used in turfgrass.

Prodiamine and pendimethalin are classic preemergence herbicides in the dinitroaniline family. They are mitotic inhibiting herbicides, with no postemergence activity, and are yellow to orange in color. Dithiopyr is also a mitotic inhibiting herbicide that is slightly different than dinitroanilines. Dithiopyr is known for its pre- and early postemergence activity on crabgrass species. Oxadiazon is completely different in its mode of action compared to the previous three. It is a protox inhibiting herbicide and is more similar chemically to sulfentrazone (Dismiss) than to the previously mentioned preemergence herbicides.

While known for its preemergence effect, its non-selective postemergence activity is something known to be avoided. Oxadiazon can injure green leaf tissue when applied as a liquid to green leaf tissue or granular to wet green leaf tissue.

IN WITH THE “NEW”

New is relative. Two “new” herbicides used in turfgrass may not be that new to you, as they have been on the market for two to three years now. But in the grand scheme of things they are still pretty new. The “new” herbicides are Sureguard (flumioxazin) and Specticle (indaziflam). I will refer to these by their product names. Older herbicides are referred to by their chemical names to give deference to generic products.

Like oxadiazon, Sureguard is a protox-inhibiting herbicide. And like

FIGURE 1



Sureguard was applied to a surrounding bermudagrass putting green and moved laterally with surface water onto a creeping bentgrass putting green, causing injury.

PHOTOS BY: SCOTT MCELROY

oxadiazon, precautions must be taken to protect against potential injury to green, growing tissue. Sureguard is primarily sold for its preemergence effects in dormant warm-season turfgrass and it has the added benefit of having postemergence control on winter annual weeds, such as common chickweed, field pansy and henbit, which allows for flexibility in application timing.

As with all herbicides, one has to balance out the pros and cons with Sureguard. As for pros, it has excellent residual and early postemergence activity. It is excellent for landscape beds where no turfgrass can be contacted during application. As for cons, it can injure green turf and delay green-up if applied too close to green-up. It is not a stand-alone postemergence treatment on larger weeds. Sureguard can also move off-target through surface water run-off or foot traffic, on to sensitive cool-season grasses (Figure 1).

As stated previously, “new” is a relative term. As products enter the marketplace and become more widely adopted researchers and end-users begin to discover new uses or unique possibilities about products. With Sureguard it has been the possibility of extended residual activity throughout the summer from winter applications. In my research program we have observed summer-long smooth crabgrass control from applications made in December. This was an incredible observation to make. The problem is that it was not consistent in multiple years. So the possibility is there for extended control, but actually relying on it may be another thing.

The second “new” herbicide is Specticle. It contains the active ingredient indaziflam. It is a cellulose biosynthesis inhibiting herbicide, used at low rates (measured in oz. or fl. oz. per acre), and has excellent residual preemergence control. Specticle can only be applied to warm-season turfgrass and precaution must be taken when applying to high sand content

FIGURE 2

Specticle treated on left compared to an overseeded golf course fairway containing Barricade and Revolver/Monument-resistant annual bluegrass.

soils, as these conditions have been correlated to potential turfgrass injury.

As with Sureguard, Specticle has its pros and cons. Its pros include long-residual preemergence activity, low use rate and great preemergence effectiveness against crabgrass, goosegrass and annual bluegrass (Figure 2). It has a few cons that can easily be avoided if understood. First, Specticle can cause root pruning in high sand soils. This is especially prevalent with late-winter to spring applications of Specticle when turfgrass is greening up. Second, Specticle can move or be tracked off-target onto sensitive species. Movement is similar to sulfonylureas such as Monument, Revolver and Sureguard, where the herbicide washes down a slope with surface runoff and is deposited on to a sensitive species where damage occurs. Tracking via shoes or equipment can also occur if Specticle is not watered-in properly.

OTHER PREEMERGENCE HERBICIDES

While these two herbicides are referred to as being “new” because the active ingredients are recent additions to the turfgrass industry, there are other herbicides that can be considered “new” due to their added benefits.

First, there is Echelon. Echelon is a prepackaged mixture of prodiamine and sulfentrazone (Dismiss). The addition of these two active ingredients has two potential benefits of increased goosegrass and sedge control. One potential strategy is to apply an initial preemergence application of prodiamine alone in late winter/early spring followed by Echelon, applied late spring/early summer as sedges and goosegrass are beginning to emerge. This application timing would have the added benefit of preemergence and early postemergence control of goosegrass and some sedges.

Tower (dimethenamid) can be used in a similar fashion to Echelon when combined with pendimethalin or other traditional preemergence herbicides. While not a stand-alone herbicide for season-long control, when used in combination with pendimethalin it can provide improved goosegrass and sedge control.

Other preemergence herbicides are available that are not widely used in turfgrass. Some examples are Gallery (isoxaben), Pennant Magnum (metolachlor) and oryzalin (Surflan and Oryzalin products). Gallery is another cellulose biosynthesis inhibitor, but

Continued on page 36

TABLE 1

Preemergence herbicides commonly applied to warm season turfgrasses and their respective modes of action.

Trade Name	Active Ingredients	Mode of Action(classification) *
Barricade or other prodiamine products	prodiamine	Mitotic inhibitor(K1/3)
Pendulum and other pendimethalin products	pendimethalin	Mitotic inhibitor(K1/3)
Dimension and other dithiopyr products	dithiopyr	Mitotic inhibitor(K1/3)
Ronstar and other oxadiazon products	oxadiazon	Prottox inhibitor (E/14)
Gallery	isoxaben	Cellulose biosynthesis inhibitor (L/21)
Specticle	indaziflam	Cellulose biosynthesis inhibitor (L/29)
Sureguard	flumioxazin	Prottox inhibitor (E/14)
Bensumec	bensulide	Fatty acid biosynthesis (N/8) and possible mitotic inhibitor
Surflan or Oryzalin	oryzalin	Mitotic inhibitor(K1/3)
Tower	dimethenamid	Fatty acid biosynthesis (K3/15)
Dismiss	sulfentrazone	Prottox inhibitor (E/14)
Pennant Magnum	metolachlor	Fatty acid biosynthesis (K3/15)

* In column three there is a list of mode of actions along with letter (Herbicide Resistance Action Committee) and number (Weed Science Society of America) codes associated with the select modes of action. These numbers or letters can be used to determine if one is rotating to a different mode of action. The use of the number classification system is becoming more commonplace on labels.

Continued from page 35

it is unique in that it is known for preemergence control of broadleaf weeds. Where dinitroaniline herbicides primarily control small seeded broadleaf weeds and grasses, Gallery can control a plethora of broadleaf weeds of various seed sizes.

Pennant Magnum is a herbicide widely used in row-crop agriculture also known for its preemergence broadleaf weed control and also has the added benefit of preemergence sedge activity. Pennant Magnum has little to no preemergence grass control, thus it needs to be applied with a preemergence annual grass herbicide. Pennant Magnum can delay greenup when applied during warm-season turfgrass greenup.

Oryzalin is a dinitroaniline herbicide very similar to pendimethalin and prodiamine. Oryzalin can be as effective as standard preemergence herbicides, but issues with potential volatility and inconsistent control limit its use. I personally have seen it perform very well, but occasionally preemergence control can be underwhelming.

One should also not forget about Bensumec (bensulide). Bensumec is primarily used for preemergence control of annual bluegrass on putting greens. It is commonly thought that bensulide is identical to prodiamine or pendimethalin in its mode of action. While that is not true, the mode of action of Bensumec is not completely understood. While it is thought to be a mitotic inhibitor, it is also classified as a fatty acid or lipid biosynthesis inhibitor.

RESISTANCE TO PREEMERGENCE HERBICIDES

Annual bluegrass and goosegrass have developed resistance to numerous herbicides used in turfgrass. Annual bluegrass resistant to prodiamine is becoming more widespread, especially in the Southeast. Some populations resistant to prodiamine are also resistant to pendimethalin and dithiopyr. Goosegrass resistant to dinitroaniline herbicides, such as pendimethalin and prodiamine, was discovered over 30 years ago. Even more disturbing are reports that goosegrass has developed resistance to

oxadiazon, leaving even fewer preemergence options for its control.

In my view, annual bluegrass and goosegrass resistance to preemergence herbicides has hastened the move by superintendents to herbicides such as Specticle. It is fortunate that there was an effective herbicide available to replace herbicides failing due to weed resistance.

There is no doubt however, that unless proper stewardship is undertaken with newer herbicides, the same resistance problems will develop over time. Proper stewardship means rotating modes of action or tank mixing different modes of action (Table 1). Rotating modes of action is more than just changing to a different herbicide, but rotating to a herbicide that is different in its herbicidal activity. Biologically, proper stewardship also means preventing or limiting seed production of uncontrolled weed escapes. There is likely not to be another active ingredient to replace herbicides failing due to resistance, so stewardship is our only course of action.

Scott McElroy, Ph.D., is a professor in the Department of Crop, Soil and Environmental Sciences at Auburn University. He specializes in herbicide use in turfgrass as well as herbicide resistant weeds, plant growth regulator usage and general turfgrass agronomy research.

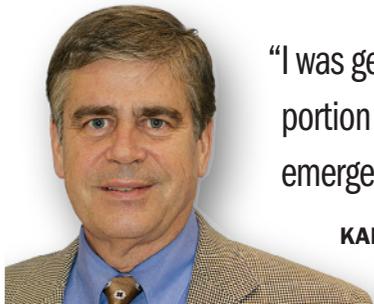
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ADVERTISER	PAGE
AMVAC	15
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John Deere	CV2, 1
Kocheck Co Inc	4
Linear Rubber Products	10
Pearl Valley Organix	17
Petro Canada – Suncor	23
Smithco	CV4
Soil Technologies Corp	4
Specialized Turf Equip Co	9, 27, 43
Syngenta	CV3
Turfco	13
True-Surface by Turfline	42

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“I was getting ready to hit a shot over a portion of a lake, when a hippopotamus emerged, staring me straight in the eyes.”

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

Globe trotting golf courses

The summer of 2014 has been great for many superintendents, as the weather has been ideal for maintaining turf. For me, summer 2014 has been great because I’ve had the opportunity to visit golf courses on the other side of the world.

One common theme among the places I visited — whether it was Malelane or Bangkok, Hong Kong or Brisbane, Bay of Islands or The Gold Coast — people involved in golf course management have a love and dedication to improve themselves and the profession. And in everyday life, there is very little difference in people around the world.

Starting out in South Africa, I had the chance to visit Leopard Creek CC, located just outside of Kruger National Park, one of the largest game reserves in Africa (7,580 square miles). Leopard Creek epitomizes a golf course set in nature with spectacular views and an abundance of wildlife.

I learned during my time there that nature is not a friendly place. Here in the United States we often get lulled into looking at nature through rose-colored glasses, or what I like to call ‘Disney World Nature’ — a world filled with cute, friendly animals, birds and pretty flowers.

However, at the top of the food chain, like in Africa, nature is quite different, both exhilarating and dangerous. Hyenas and elephants walk down roads. Leopards rest in trees. Black mambas and pythons infest tall grassy areas like golf course roughs.

Each of these things brings a different perspective to a round of golf. And there is no such thing as “night golf” or couples evening leagues unless you have a death wish to be out when the animals emerge at dusk.

One particular instance that caught my attention was when I was getting ready to hit a shot over a portion of a lake. A hippopotamus emerged, and stared me straight in the eyes. Now in a zoo, a hippo is something you show your kids that makes them point and giggle. But in real life, knowing that hippos are the second major cause of human death behind mosquitos in Africa, I wasn’t giggling... I just stared back in amazement. It may sound like

I was more worried about becoming an appetizer, but the beauty of Africa along with its people and rawness of nature is what I took away from the trip, and something I will always remember.

Moving on to New Zealand, I found a beautiful island nation with the second largest number of golf courses per capita in the world, second only to Scotland. The vast majority of golf courses were staffed by two to four people, including the superintendent. The conditions of the golf courses were exceptional.

I found many courses had greens with two cup locations for the purpose of efficiency. One cup would be the current pin location and the second would be tomorrow’s pin placement.

In Southeast Asia the temperature and humidity were much higher than my previous stops. There are two seasons in most of Southeast Asia; rainy and dry. It’s the rainy season, with the prolonged periods of low-light conditions, that can cause real difficulty in maintaining warm-season turfgrass. For me, coming up with how to maintain quality turf under these wet and low-light conditions was challenging. With the heat and humidity, insects like armyworm and mole crickets are also a problem.

Yet the golf courses, whether in the countryside or a city, are well maintained. Just look at Kaula Lumpur G&CC, which hosts the BMW Malaysian Open.

I would like to acknowledge the following groups that made my summer travel possible: Talking Turf, New Zealand GCSA, Australian GCSA, South China Turf Managers Association, The Golf Course Management Association of Malaysia, Shriro, Jacobsen and Syngenta.

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

Turf plots and more turf plots

Spending a day looking at turf plots is about as good as a workday gets for me. Recently I had the pleasure of spending two days doing just that... life is good.

I was visiting the University of Nebraska and had the good fortune to spend two days looking at a variety of turfgrass research plots with Zac Reicher, Ph.D., turfgrass scientist, Bill Kreuser, Ph.D., turfgrass scientist, Matt Sousek, M.S., turfgrass research associate and Luqi Li, M.S. candidate.

The applied research, or as I think of it, the problem-solving research that the scientists at the University of Nebraska are conducting, helps superintendents solve the problems they are facing today and allows golf courses to keep improving. On a practice fairway at Lochland CC in Hastings, Neb., Reicher and Sousek are trying to refine a method to renovate fairways with newer, improved cultivars of Kentucky bluegrass and/or perennial ryegrass while

controlling annual bluegrass so it doesn't dominate the final turfgrass stand. Craig Ferguson, superintendent at Hastings CC, is a great co-operator. He provides space

THE COOPERATION BETWEEN SCIENTISTS AND SUPERINTENDENTS TO CONDUCT RESEARCH ON GOLF COURSES IS A LONG-STANDING TRADITION IN THE TURF WORLD THAT BENEFITS BOTH PARTIES.

for the experiments and the day-to-day maintenance of the turf. The results will help guide Ferguson when the time comes to renovate fairways at Hastings CC.

The cooperation between scientists and superintendents to conduct research on golf courses is a long-standing tradition in the turf world that benefits both parties. Scientists gain by having a real world proving ground for their ideas and

superintendents gain by seeing the results firsthand. In 2014 Reicher is conducting research on five different golf courses in Nebraska.

At Freemont (Neb.) GC, Reicher and Sousek are investigating ways to control annual bluegrass in a practice putting green that is predominantly creeping bentgrass. Dennis Kitzel-

man, superintendent at Freemont GC, is also providing space for the experiment and maintaining the green. Kitzelman will be able to refine his annual bluegrass control program based on the experiment conducted on his golf course. This same study is being conducted on local golf courses in Illinois and Indiana by Bruce Branham, Ph.D., University of Illinois and Aaron Patton, Ph.D., Purdue University and is being funded in part by the USGA.

Securing funding for applied research takes continuous effort. In the turfgrass research world funding usually comes from three primary sources: state funding (or hard funds in the vernacular of university scientists), local or state turfgrass associations or organizations and from private industry.

State funding is decreasing as states struggle to

meet budget demands. Private industry funding is up and down depending on the economy, and the discovery and development of new active ingredients. Funding from local and state turfgrass associations is the backbone of much of the applied research that is conducted at universities.

The USGA remains the stalwart in funding turfgrass research beyond the funding sources previously mentioned. Every golf course in the U.S., and probably every golf course in the world, has in some way benefitted from the research funded by the USGA.

If you ever wonder if your support of a university turfgrass scientist through your local turfgrass organization is making a difference, I suggest you tag along with a university turfgrass scientist for a day or two and look at the turf plots. The answer is right there in the turf growing on a golf course or turf research center. University scientists are making advances every growing season to improve turf performance, provide better playing surfaces for golfers and hopefully making the life of superintendents a little bit easier.



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



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NEW PRODUCT HIGHLIGHTS // **SNOW MOLD**

LEAN AND MEAN

A FEW FUNGICIDES TO CONSIDER,
PLUS SOME SAGE ADVICE FROM
ONE TOUGH MECHANIC

BY **SETH JONES** // *Editor-in-Chief*

1. Interface

Manage your disease control under all conditions with **BAYER'S** Interface. Interface's combination of iprodione, trifloxystrobin and StressGuard Formulation Technology provides a solution for diseases and plant stresses under hot, cool, wet or dry conditions. As a non-DMI fungicide, Interface can be applied throughout the year without harmful plant growth regulator effects, and help control DMI-resistant plant pathogens. Interface controls key diseases, provides plant health

benefits and improves turf color and quality. Use Interface alone or in combination with Tartan, Chipco Triton FLO or Mirage StressGuard for pink and gray snow mold control.

bayer.com

2. Tourney Fungicide

The middle of summer reminds us of a lot of things, Christmas in July, back to school shopping, but superintendents are reminded that it's time to think about designing their snow mold programs. Fungicides are very effective at snow mold

THIS MONTH'S PROFESSIONAL GRADE section is mostly on snow mold products. But when running into a tough mechanic like Valhalla Golf Club's Jason Newman, you have to talk iron.

On the Monday of this month's PGA Championship, Newman took the time to give *Golfdom* a tour of his shop. Newman, who has been the mechanic at Valhalla for 20 years, is one of those guys who looks like he's built from the same iron that his equipment is manufactured with. Let's just put it this way: we wouldn't want to have to tell him we broke one of his mowers.

control, but their control is not equal. Two or three modes of action are recommended for the best snow mold prevention. **NUFARM'S** Tourney Fungicide tank mixed with 26/36 is an excellent combination proven to control the different snow mold diseases, including both pink snow mold and gray snow mold.

nufarm.com

3. Enclave

QUALI-PRO'S Enclave is effective on golf courses and commercial turf against pink and gray snow mold as well

as dollar spot, brown patch, anthracnose and more. Multiple trials from Michigan State, North Carolina State, University of Tennessee, Knoxville and the University of Connecticut have all found Enclave, with Quad-Control Technology, provides broad-spectrum control that helps prevent most major diseases found in creeping bentgrass greens.

quali-pro.com

4. Turfcide

According to **AMVAC**, pound for pound, ounce for ounce, Turfcide is the proven performer controlling snow mold and other labeled diseases on golf courses. Turfcide is a contact fungicide to which no resistance has developed after nearly 50 years of use — making it an integral part of your snow mold control program. Used alone, Turfcide provides unsurpassed cost-effectiveness. Used in tank-mixtures, Turfcide makes good products better and better products best. Make Turfcide the foundation of your snow mold control program this year and every year.

amvac-chemical.com

ADVICE FROM JASON NEWMAN

Head Mechanic, Valhalla Golf Club, Louisville, Ky.

"We keep our rollers (see page 43 for this month's Professional Grade rollers) greased and lean," Newman says. "That way, nothing falls on the green. Especially this week."

But even in non-Major weeks, Newman abides by this philosophy. "I don't care what it is, anything that has a bearing in it... instead of pumping the hell out of it, and watching the grease pop out of the bearing and on to the seal, just give it a couple pumps. Keep it real lean in there, as opposed to being rich."

Newman says he loves his job and hosting tournaments. "It's the intensity, I hate to say it," he says. "I like being showcased. It keeps me coming back."





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**CONTINUED
ONLINE**

For more listings
of top Snow Mold
products, go to
[golfdom.com/
category/
products](http://golfdom.com/category/products)



1. Instrata fungicide

Take the uncertainty out of snow mold damage this winter with **SYNGENTA'S** Instrata fungicide. For more than 120 days of pink and gray snow mold protection, apply on greens and tees at a rate of 9.0 to 11.0 fl. oz. per 1,000 sq. ft. The three active ingredients in Instrata also suppress spring pressures, such as anthracnose, providing disease control for the year following application. On fairways, applying Concert II fungicide at a rate of 8.5 fl. oz. with Banner Maxx II fungicide at a rate of 1.0 fl. oz. per 1,000 sq. ft. provide up to 120 days of protection.

syngenta.com

2. Eagle 20EW specialty fungicide

DOW AGROSCIENCE'S Eagle 20EW specialty fungicide delivers preventive and curative modes of action to make it one of the most broad-spectrum fungicides available. It works from the inside out and, unlike other locally systemic products, it protects new foliage by translocating to new growth. Eagle 20EW does not display the plant growth regulator effects often found in similar fungicides — so when applied according to label directions, it will not inhibit growth or development of turf or ornamentals. Eagle 20EW controls more than 15 key diseases commonly found in turf and landscape, including dollar spot, anthracnose and brown patch.

dowagro.com



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CONTINUED ONLINE

For more listings of fungicides, go to golfdom.com/category/products



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1. Salsco Golf Course Rollers

SALSCO manufactures five Greens Rollers with Transport Trailers; GGR Model 09065 or 09067, GGR Model HP11, GGR Model HP4, GGR Model HP5.5 and the Electric Greens Roller, QC Model 09074. The Tranz-Former Greens/Approaches/Fairways and Sports Fields Roller was introduced in 2012 followed by the Roll-N-Go Greens Roller in 2013. Both are self-transporting and easy to operate, with steering wheel design and pedals that are easily understood. The operator cannot spin the rollers on the grass due to the roller's large contact with the grass. All rollers are driven, which eliminates any traction problems.

salsco.com



1

2. Ultra Lite Greens Roller

At 605 pounds, the **SMITHCO** Ultra Lite roller has the lightest footprint in a dual roller drive system, the company says. The dual hydraulic roller drive provides superior traction and maneuverability. The hydraulic operation of both 6-inch seamless tapered steel drums eliminates slipping on steep slopes and the damage that can be caused by single-drive rollers. It's also the only roller with direct drive, which does away with the chain maintenance required by mechanical systems. Powered by a 9 HP Honda Commercial Duty engine with a tight turning radius of just over 10 feet.

smithco.com



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3. GreensPro 1240

TORO has upgraded its GreensPro greens roller with the all-new GreensPro 1240. The GreensPro's independent, articulating smoothing heads follow undulations, preserving natural contours on the green while delivering a perfectly smooth putting surface. Unlike any other roller available, the smoothing heads overlap, providing consistent roll across the swath of the machine. The smoothing rollers are split so each end can rotate independently to avoid scuffing the turf while turning. It also features dual-direction seat adjustment and tilt steering to perfectly fit most any operator. The new transport system features a QuickLatch coupler, making transportation from green to green quick and simple.

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The 19th Hole with...



Chris Ortmeier

SUPERINTENDENT // Champions Golf Club, Houston, Texas



Drinks are on me. What are you having? A cold beer. I'm not particular.

Congrats on the new job! Tell me about it. It's great. Six weeks ago I took the position of superintendent at Champions GC in Houston, after being assistant superintendent at Colonial CC (Fort Worth, Texas) for seven years. I feel very blessed and very privileged. It's a 36-hole facility. Similar to Colonial, it's an iconic, classic Texas course, steeped in history.

So does that mean you're a Texans fan now? You know, I'd been looking for a reason to dump the Cowboys...

You get to green light any research study you want... what would you choose? In general, it'd be awesome to have some good data on various cultural practices...the effects of topdressing sand — frequency, quantity and physical make-up, on the health and performance of ultradwarf putting greens.

You played college baseball, right? Where? I spent two years at Navarro Junior College (Corsicana, Texas), then a couple years at Texas Tech.

What position? Pitcher. Coming out of high school, I was drafted in the 31st round by the Chicago Cubs. I went to junior college because if you go to a division one school, you have to wait three

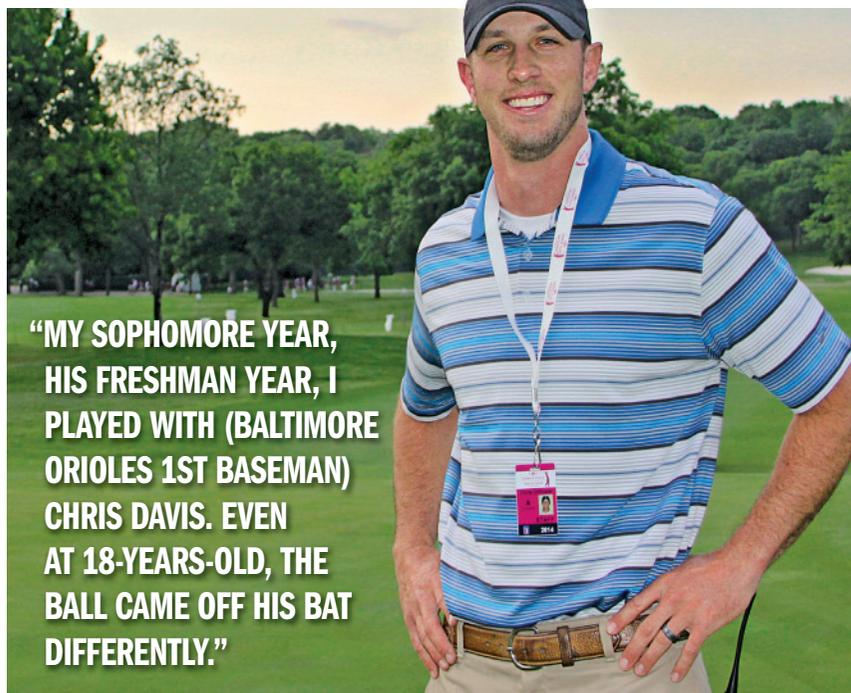


years before you can go pro. So I went to Navarro, ended up having shoulder problems, played a little bit but nothing spectacular. I came back for my sophomore year, everything was going great,

then I relapsed with the shoulder. I walked on at Texas Tech, declared turf-grass management as my major. I didn't make the team my junior year, and that's when I shifted my focus to turf. I found out that was my calling in life. They called me back my senior year, I decided to give it another shot. I made the team. Playing Big 12 baseball will always be some of the best memories of my life.

Do you regret not signing with the Cubs after high school? I don't have any regrets at all. Baseball was a big part of our family, my brother did make it to the big leagues. Even though I was drafted, the likelihood of my success, being drafted in the 31st round, was slim to none.

Fill in the blank: College athletics helped me prepare to be a superintendent because it ____. I could give you 15 different things, but if it had to be one? I experienced firsthand the correlation between hard work and success. As interviewed by Seth Jones, July 30th, 2014.



"MY SOPHOMORE YEAR, HIS FRESHMAN YEAR, I PLAYED WITH (BALTIMORE ORIOLES 1ST BASEMAN) CHRIS DAVIS. EVEN AT 18-YEARS-OLD, THE BALL CAME OFF HIS BAT DIFFERENTLY."

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