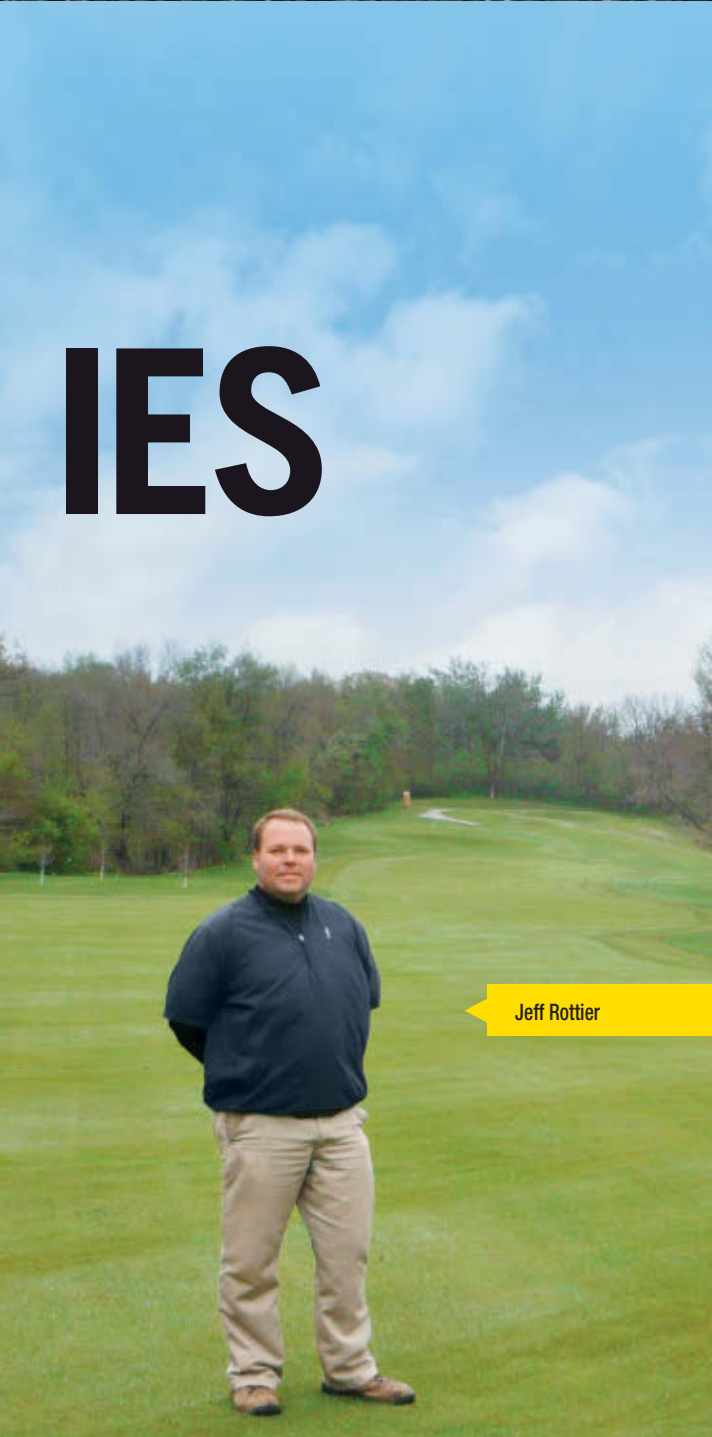


IES



Jeff Rottier

He first worked as a dishwasher in a pizza place, working his way up to cook.

But working in a kitchen wasn't for him. "I swore I'd never work inside again," he said.

Bradford's father knew board members from the local nine-holer, Heather Gardens Golf Club, and worked his connections on behalf of his son.

quickly. I saw a reaction to it in a few days.

"I know it was the Insignia SC because we applied it with a sprayer that has wind guards on it," he continued. "And at the very end of the boom there was apparently a drip off the end of the shield. It left green trails in the greens that almost looked like we overlapped too much."

The effect, Bradford said, lasted several weeks.

"If you can get the added benefit of plant health and it's economical, the decision to use it is simple. If it allows you to stretch the application intervals, it can save money."

When Bradford arrived at Coal Creek 12 years ago, the course was applying fungicide on a 14-day schedule just to stay ahead of disease — especially anthracnose. Since then,

Bradford said, "by improving plant health I've been able to stretch those intervals to at least 21 days."

A healthier fairway

When it's hot and muggy, as it was in 2010, the 15th fairway at Janesville Country Club in Janesville, Wis. is the first to experience anthracnose and pythium blight, says Jeff Rottier, the course's superintendent.

So Rottier sought to learn more about the promises of plant health.

"Our 15th fairway is in a hollow, so there's less air movement, higher temperatures and higher humidity than elsewhere on the course," he explained.

That meant the fairway was subjected to relentless heat

Continued on page 22

While at Heather Gardens, Bradford rose from laborer to assistant superintendent. "I was intrigued by how golf courses looked, and that piqued my interest in turf," he said.

Bradford eventually moved on to an assistant position at Canterbury Golf Course (now Black Bear) in Parker, Colo. The management company he worked for then offered him the chance to become superintendent at Coal Creek. Twelve years later, he's still there.

FAMILY ATMOSPHERE

Rottier's path to golf course maintenance was different than Bradford's.

"I was looking to get free golf. So I started mowing greens on weekends, at Bos Landon in Pella, Iowa," he said. "I loved working on the course."

Rottier started working more and more at the Phelps-designed course. By his third season he was full time, saying goodbye to his father's hardware store.

The Bos Landon superintendent was a Michigan State

Continued on page 22

Continued from page 21
and humidity. With them came disease pressure, especially from anthracnose. Rottier gave the fairway proper attention. Nonetheless, it was damaged every year.

In June 2010, the fairway began to worsen. In early July, Rottier applied Insignia SC. Almost immediately, he says, the turf condition improved. There were virtually no losses on the 15th fairway despite consistently hot and humid weather, Rottier said. Also, fairways that typically fared better than the 15th suffered significant turf loss.

“Overall, we had about 30 to 40 percent loss,” Rottier said. “But the 15th fairway only had 1 to 2 percent loss. The only thing I did differently on that fairway was apply Insignia SC.”

Plant health benefits

BASF isn't the only company in the plant health game. Bayer offers two fungicides, Interface and Reserve, with the EPA-approved plant health label. Syngenta, meanwhile, offers Daconil Action, which stimulates a plant's



Stop by www.golfdom.com to see a video interview with Chris Bradford on plant health, Colorado's dry spring and rounds played.



Continued from page 21

University graduate, which prompted Rottier to enter the two-year turf program there.

Upon graduation, Rottier moved on to bigger things. When he saw an ad for an assistant superintendent job at Whistling Straits, he went for it — and got the job.

Rottier's next stop was the much-heralded Erin Hills Golf Course, now tapped to host the 2017 U.S. Open. Rottier grew in the course and stayed for four years. From there, he moved to Janesville Country Club.

Asked about the change, he admitted that working at Erin Hills was a big deal. “Maybe too big,” he said. “I have a family with three young sons, and when we came to visit Janesville we loved it. It offers a great family atmosphere.”

COAL CREEK'S BIG PLAN

Bradford said like many courses, Coal Creek has suffered from deferred main-

tenance. That's why he's implementing a new master plan for the course.

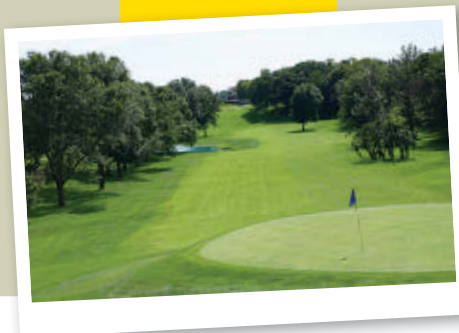
The plan was assembled by Kevin Norby, principal with Herfort Norby Golf Course Architects. Norby said the master plan calls in part for rebuilding bunkers and controlling volunteer trees that have encroached on the playing corridors. Although the projects are necessary, neither will be easy.

Bunker renovations are always expensive, and many golfers feel emotionally attached to trees.

Adding to the need for sensitivity, Norby said, is Coal Creek's wooded environment. “In that part of Colorado, golf courses with tree-lined fairways are the exception,” he said. Nevertheless, the initial work will address some of those trees and set the stage for significant irrigation improvements.

Coal Creek meanders through the course. And in the course's 22-year history, volunteer cottonwoods have grown adjacent to it, affecting

No. 15 at Janesville CC went from being a problem hole to a success story.





It might be hard for golfers to see trees go at Coal Creek, but it's needed to help playability.

defense system in a process called Systemic Acquired Resistance. (*Editor's note: See "Clark Talks Turf" on page 40 for more on Daconil Action.*)

"BASF has studied plant health benefits from the active ingredient pyraclostrobin for more than 10 years in crop and for the last three years in turf and ornamentals," said Brian Lish, business manager for BASF Professional Turf & Ornamentals.

Insignia SC Intrinsic and Honor Intrinsic work by inhibiting mitochondrial respiration, resulting in the fungi's death, he explained.

Inhibiting mitochondrial respiration in plants has its own benefits. It can increase stress tolerance and make plant physiological processes more efficient. The inhibition also enables plants to

retain more carbon dioxide, fueling their growth. And it increases activity of nitrate reductase, the enzyme that makes nitrogen available to plants.

Consequently, more nitrogen is available for plant growth, and enzymes that remove harmful activated oxygen species are more active.

According to Bradford, word is slowly spreading on the efforts chemical companies are putting into creating products with plant health benefits.

"I've talked to a few people about it. They know we've used it," he said. "Everybody wants to do it their way, so it takes a while for people to come around." ■

Contributing editor Ken Moum lives in Topeka, Kan.

the playing corridors. With input from Bradford and Chris Lichty, Louisville's city forester, the Coal Creek team has identified 149 trees that need to be removed because they are either diseased or unsound.

The selective removal of those trees aims to restore the design intent and playing corridors of the course's original architect, Dick Phelps. Removing the trees also creates a safer course with better agronomic conditions.

After the trees are removed, Bradford said, the team will plant new trees that are more viable for golf courses and in more strategic areas.

According to Norby, nothing needs to be done to Phelps' original routing or bunker layout. And, unlike a lot of older courses, the tee sizes are appropriate. He also said USGA regional agronomist Fred Soller gave the greens a positive review, so no major work is planned for them.



Bradford looks forward to the updates at Coal Creek. "The course is definitely aging," he said.

But Bradford doesn't have a GPS map of the irrigation heads, and the system is old enough that many brass heads still are in service. The first phase will replace old heads and include a detailed map of the system. The plan also includes a new booster pump.

The second phase entails improving areas of poor fairway drainage by re-grading and new subsurface drainage.

Beyond that, Norby's master plan involves completely rebuilding the bunkers with lower flashed faces, new drainage and new sand. Phelps' original design featured complex bunkers with capes and bays. Norby said they'll retain

that look while reducing the amount of sand that needs to be maintained.

Finally, the irrigation system will be overhauled, requiring the installation of 2,200 new sprinkler heads, according to Norby.



“Bring the heat, Mother Nature.”



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A SUPPLEMENT TO *GOLFDOM*

PUTTING GREENS SPECIAL

S2 A New Program: Scale it Back!

We've all heard of Tee it Forward. How about a new program for golfers' expectations? **BY SETH JONES**

S3 No. 1 Priority
Superintendents with smaller budgets focus on the single most important aspect of a course.

BY JOHN WALSH

S9 The Secret Recipe of the Putting Green

An assistant ponders the complexities of maintaining a green. **BY JOE SELL**

S10 It Takes Green to Keep Them Green

From height of cut to the right speed, here's what more than 700 superintendents had to say about greens. **BY GOLFDOM STAFF**

SPONSORED BY



A NEW PROGRAM: SCALE IT BACK!



By Seth Jones

Before I get on my soapbox, I'd like to thank our sponsor, The Toro Co., for again making *Golfdom's* Putting Greens Special a reality. We enjoy making this supplement, and I hope it shows.

Each issue of *Golfdom* has a few personal highlights for me. Some issues are better than others when it comes to the highlights. But most happen when I'm out in the field. I'm usually somewhere nice, meeting with a superintendent, on a beautiful golf course.

But one of the highlights of this issue happened while I was seated at my computer. It was the moment I clicked a link and discovered that in only three business days, I was given 704 survey responses from you, our readers.

I included two open-ended questions in the putting greens survey, which asked respondents to write a short answer. The questions were, "What will be your biggest challenge in maintaining greens in the next five years?" and "What has been the biggest innovation in greens management in the last five years?"

I got 670 and 656 responses, respectively. Many of the answers were fascinating.

I'd like to thank whomever it was who shot me the line, "It takes

green to keep them green." You, sir or madam, gave me the title for the results of our putting greens survey, which begins on page S10. I owe you a beer. (But if over the course of the rest of the year I find myself buying 50 different people a beer, all taking credit for that phrase, I'll know I'm a sucker.)

Many respondents wrote that golfers still expect the same results on the golf course even though maintenance budgets across the country have been slashed.

I get it — you don't do more with less. You do less with less.

I played at Falcon Ridge Golf Course in Lenexa, Kan., recently. It's a beautiful course with splendid views. Superintendent Paul Gunderman and his crew do a heck of a job out there. After the round, I stopped in the restroom, where I saw my regular USGA/PGA public service announcement on the bulletin board. This time it was hosted by PGA Tour star Dustin Johnson. Johnson was asking me, the below-average golfer, to Tee it Forward.

Done and done, D.J. It's my

pleasure to Tee it Forward. I recognize that the back tees, and often the blue tees, are not for me.

Johnson and his message got me thinking about this survey and our problem on the maintenance side of the game: a disregard for the fact that maintenance budgets are half of what they used to be.

That's when it occurred to me: Forget Tee it Forward. How about "Scale it Back?"

Let's make a public service announcement — maybe we can get new industry favorite David Feherty to be our spokesperson, but I'd take Weird Al Yankovic in a pinch — and remind golfers that the greens they're putting were maintained with less labor, more water restrictions, worse weather and fewer inputs, than they've seen in years.

Instead of a chart that shows me, according to the distance of my average drive, how long a golf course I should play, how about a chart that shows golfers what the maintenance budget was five years ago compared to today? Include how big the crew was from then to now. While you're at it, throw in the average cost of a gallon of gas.

Golfers, you know you need to Scale it Back!

Seth Jones (sjones@questex.com) is editor in chief of Golfdom.

NO. 1 PRIORITY

Do more with less.

This has become a worn-out, maybe-not-entirely-accurate phrase almost all golf course superintendents have heard and used continuously for the past several years during the sluggish economy.

Superintendents with smaller budgets — \$500,000 or less — might not be doing more. Instead, they're prioritizing their maintenance. And, of course, the No. 1 priority is greens. As such, other areas of their courses don't get the kind of

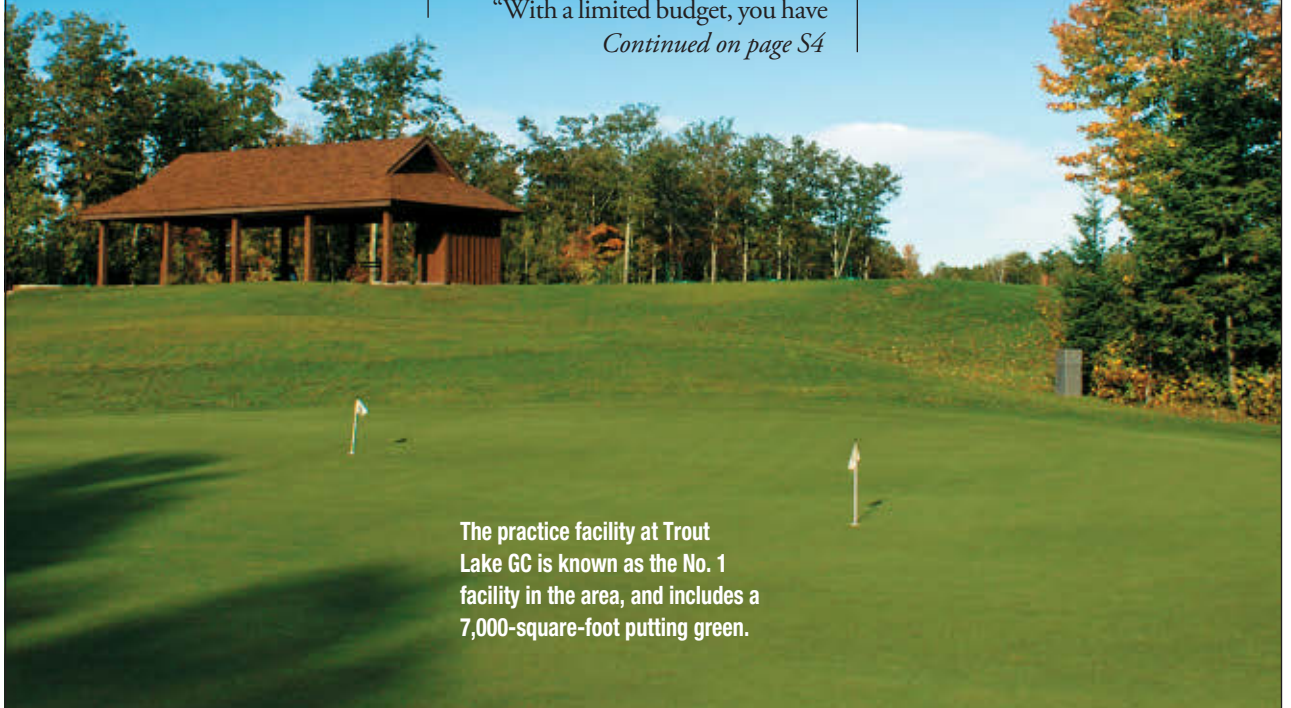
Superintendents with smaller budgets focus on greens, the single most important aspect of a course.

BY JOHN WALSH

attention superintendents would like to give them.

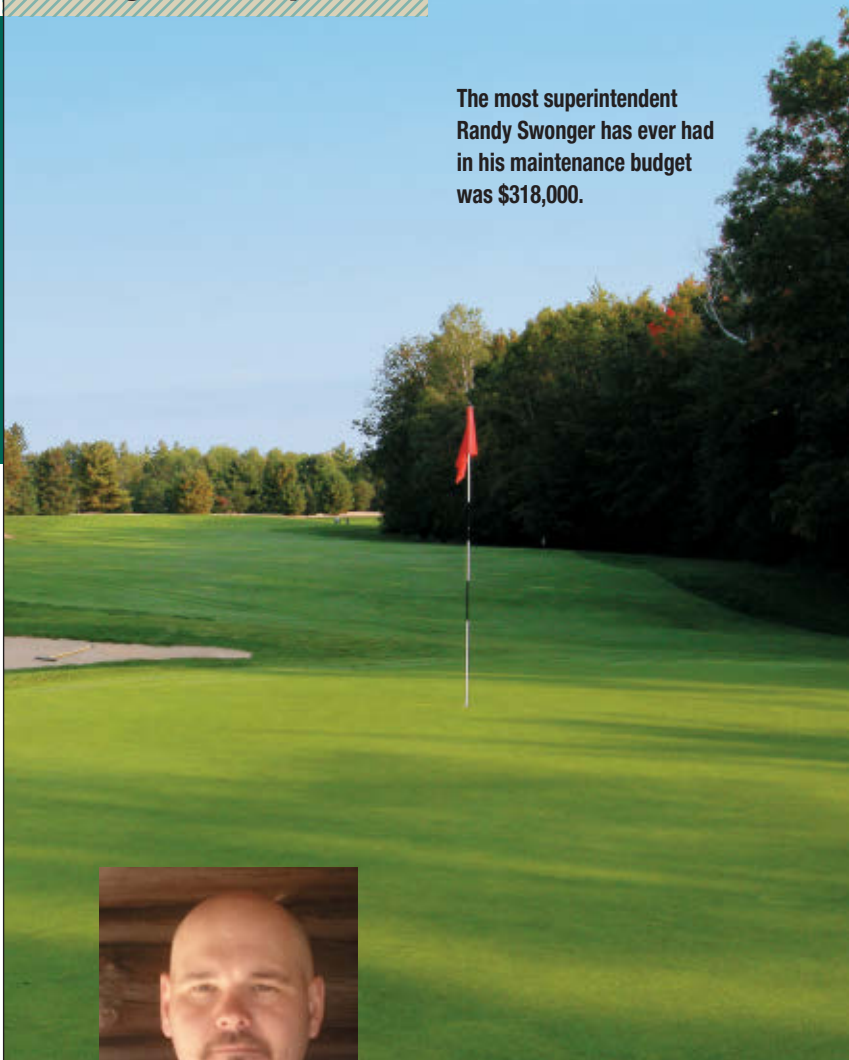
Johnathan Doyle and Randy Swonger are two superintendents who have less but are making the most of what they have. And like any superintendent, they say it's all about the greens.

"With a limited budget, you have
Continued on page S4



The practice facility at Trout Lake GC is known as the No. 1 facility in the area, and includes a 7,000-square-foot putting green.

The most superintendent Randy Swonger has ever had in his maintenance budget was \$318,000.



“My stress is money, which controls me 100 percent of the time.”

— TROUT LAKE GOLF CLUB SUPERINTENDENT RANDY SWONGER

Continued from page S3

to prioritize the maintenance of the property,” says Swonger, golf course superintendent at Trout Lake Golf Club, a public, 18-hole course in Arbor Vitae, Wis. “Let’s be honest, the greens are the bread and butter on any golf course. If they aren’t good your play could really suffer and affect the bottom line. We believe in cultural programs that include topdressing, aerifying and verticutting. It’s cultural, cultural, cultural.”

Swonger maintains the 88-year-old course with a \$305,000 budget, which has stayed consistent throughout the years. The most Swonger’s had to work with during the eight years he’s been at Trout Lake is \$318,000.

Trout Lake is a tourist destination surrounded by summer homes. During the shoulder seasons — spring and fall — golfers are local. But during the summer, half of them come from Chicago and other parts of Illinois.

Doyle maintains the course at Greenbrier Golf and Country Club — a 6,754-yard, championship course in Lexington, Ky. — with an operating budget of about \$500,000. He says since city courses’ budgets in the region start at about \$350,000, his budget falls in the middle of the local market.

The Greenbrier has 300 full golf memberships available and has hosted three Kentucky State Open championships since 1981. It’s also the site of the annual Children’s Charity Classic, a celebrity-amateur golf fundraiser.

Take care of the turf

The Greenbrier’s bentgrass/*Poa annua* greens comprise four acres. They’re old push-up greens that were seeded with bentgrass but now have quite a bit of *Poa* in them. Doyle, who spends about half of his budget on greens, mows them with a triplex mower five to six days a week and rolls them two to three times a week.

Lexington’s hot and humid summers have made maintaining the greens a challenge, so Doyle cut labor in the spring and fall and added it for syringing in the summer.

“We do well until late July,” he says about the condition of the greens, though he admits there’s sometimes been turf loss in August. “With older greens, I seem to spend more money than those who maintain USGA-spec greens. Our soil temperatures are seven or eight degrees higher than USGA greens across town.”

Swonger aerifies his *Poa* greens in the spring. That’s unlike most superintendents, who aerify in the fall.

Swonger, who topdresses greens

every two weeks, verticuts them every spring and fall. And every three weeks, he spikes the greens to prevent crusting on the turf's surface and facilitate better water penetration. He recently purchased brooms for his greens mowers and has been grooming the turf daily.

Inputs

Operating with a chemical budget of \$125,000, including fertilizer (\$90,000 without fertilizer), Doyle applies foliar fertilizer every Monday and a foliar soil amendment every other Monday. Additionally, he applies a granular fertilizer twice in the spring and twice in the fall. With pesticides, Doyle applies fungicides every 14 days and every seven to 10 days during the summer, when disease pressure is greater.

"It's a budget killer," he says. "So, I try to stick to 14 days as much as I can."

At Trout Lake, Swonger operates within a chemical budget of \$53,400, including fertilizer (\$36,900 without it). Like Doyle, Swonger's fertility program for greens includes foliar products, which he applies June through Labor Day. In the spring and fall, he applies granular products.

Swonger's fungicide application frequency on greens is the basic two weeks, starting the first week of June through the fall, when he makes his first snow mold application. Past Labor Day, applications are farther apart — three weeks or 24 days.

"I'm keeping them clean," he says.

Because Trout Lake is located in the snow belt off Lake Superior, getting the course ready for winter isn't easy.

"We've gone to green jackets to cover all greens because we need to stay on top of snow mold," Swonger says. "Green covers were a huge investment, but they paid for themselves."

Irrigation troubles

Despite managing a cool-season grass in hot, humid weather in the transition zone, Doyle's biggest challenge is irrigation. Greenbrier's system has main lines older than 40 years, so it leaks frequently and provides poor coverage. Consequently, Doyle and his crew have made as many as 33 irrigation repairs in a week and 200 in a year. They also have to water green banks with hoses.

"We don't have the labor to drag hoses whenever we need to," Doyle says, adding that he spends between \$10,000 and \$30,000 a year maintaining the irrigation system. "The past two summers have been difficult because of the hot, humid weather," he says. "In spring and fall, when we don't need to water as much, we're a two-man crew and me on weekends until we need to water more. I save overtime costs for the summer."

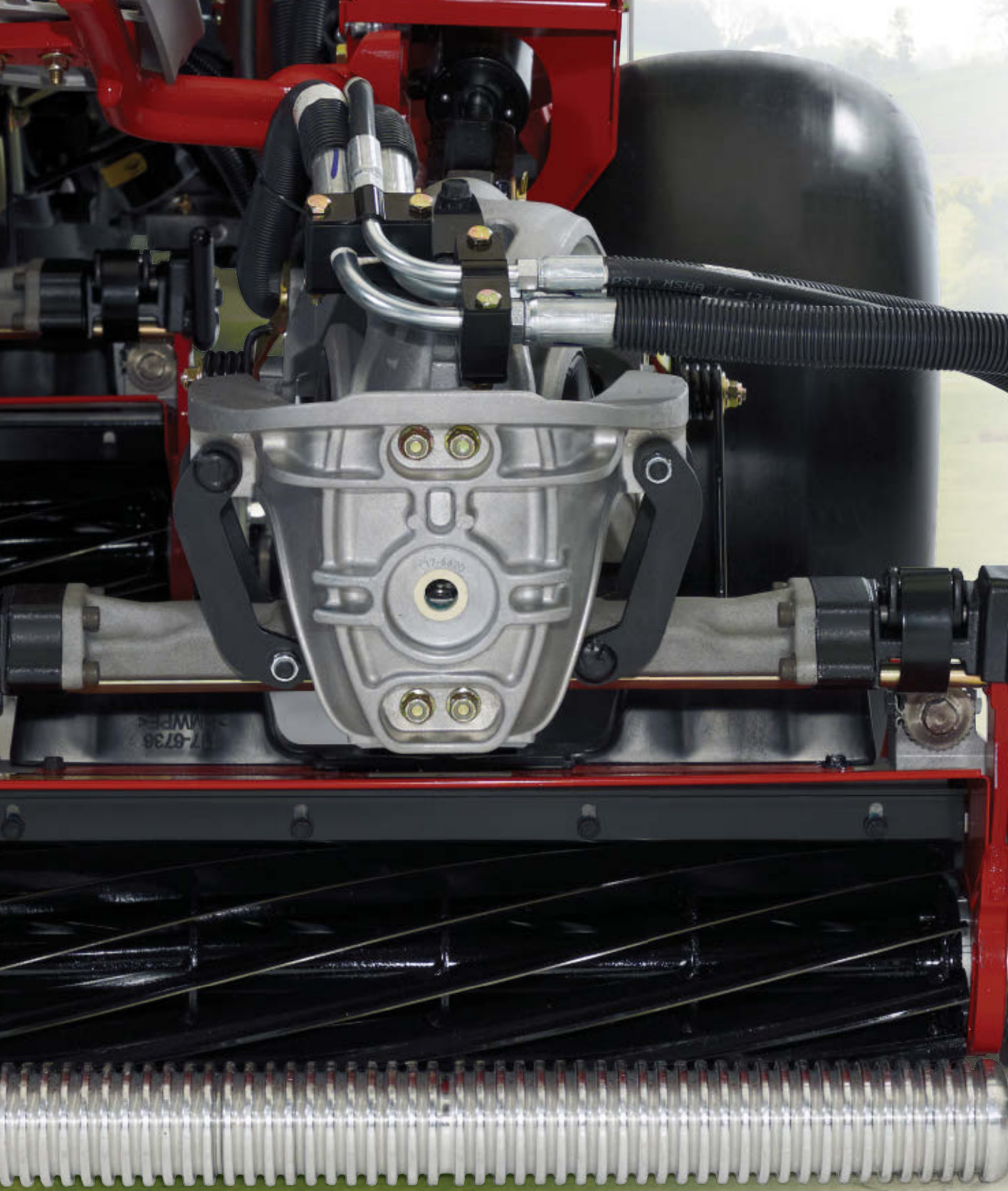
And the three main diseases Doyle battles — pythium root dysfunction, anthracnose and summer patch — are directly related to poor drainage.

"The ultimate solution is to rebuild the greens, but we're not going to do that in the near future," says Doyle, who's worked at Greenbrier for eight years. "We need a new ir-

Continued on page S8

Greenbrier G&CC has hosted three Kentucky State Open Championships, and since 1981 has been the annual host of the Children's Charity Classic.





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“The past two summers have been difficult because of the hot, humid weather. In spring and fall, when we don’t need to water as much, we’re a two-man crew.”

— GREENBRIER GOLF AND COUNTRY CLUB SUPERINTENDENT JOHNATHAN DOYLE

Continued from page S5
rigation system before anything. It sucks up half of our labor in the summer.”

Beyond the greens

Because greens are a priority at Greenbrier, there are times when Doyle goes two weeks without weed eating. Additionally, he slows the growth of the fairways and tees with plant growth regulators and has established more native areas in the rough to reduce maintenance.

“I now cut tees twice a week instead of three or four times a week and cut fairways three to four times a week instead of every day,” he says. “The ratio of labor to PGRs is two to one.”

Like Doyle, Swonger has had to make cuts.

“We don’t rake our bunkers every day, and we’ve had to reduce cutting tees to twice a week,” he says. “But with the use of PGRs on all playing surfaces, we’ve been able to reduce labor and still provide good daily conditions.”

Golfdom’s readers overwhelmingly agree that when money gets tight, the greens get the green. When asked the theoretical question “how much of the final \$1,000 in the maintenance budget goes to keeping greens alive?” 86 percent responded “All of it.” (See page S10 for the complete results of our putting greens survey.)

Budget crunch

The bottom line for Doyle is, spend more on maintaining the course and less on repairing it. Greenbrier members always have worthwhile ideas for improvements, but their ideas can’t be implemented because the money just isn’t available right now.

“Our financially responsible owners are trying to ensure we’re here for a long time,” he says.

Swonger, who used to work at private golf clubs, says working at a public course such as Trout Lake has been eye-opening.

“My stress is money, which controls me 100 percent of the time,” he says. “However, the club’s owners live within their means, which is why we haven’t hurt ourselves during the past five years.” ■

Walsh is a contributing editor for Golfdom.



Doyle slows the growth of the fairways and tees with PGRs and has established more native areas in the rough to reduce maintenance.

THE SECRET RECIPE OF THE PUTTING GREEN



By Joe Sell

Why do putting greens need instructions? Roll, verticut, topdress...

What are you going to do first?

Being that I'm the third generation of my family to enter into golf course maintenance, I knew from an early age that maintaining a high quality putting surface would be in my future. However, I clearly underestimated the level of experience and knowledge it would take.

We all know everyone gets into this business for the same reason... We love to drive cool stuff! However, at some point we have to stop driving the cool stuff. When you've moved past the cool stuff, you have to answer that tough question: How do you get the perfect greens that everyone wants?

When it comes to the best way of achieving that high quality putting surface, I have learned that even with all the education and work experience out there, it seems my way is still the best way. (Well, that's what we all like to think.)

So what is the secret recipe then? I do not truly have it, but some common sense sure will take you a long way. I like to think about the basics: soil, water and fertility. Technology has brought us a long way, but they were still making golf

courses playable 50 years ago.

Some people think if I keep rolling greens until all the air space is out, then they'll be fast. I have been part of those conversations. I wish I hadn't been. I also have heard you can't overroll sand-based greens. My thoughts are always, "Yeah... maybe new ones." A 5-year-old profile is still quite different than a new one. Some form of aerification is needed, unless you like dandelion putting surfaces.

When you walk into the shed and start thinking about fertilizing, remember what that walk was like and take into consideration the weather conditions. It's March 15 and 75 degrees in Wisconsin. Usually at this time there is snow on the ground. Just because the calendar says it's March 15 doesn't mean I still plan to go shovel snow. Simple, right? So similarly, why would you use the same fertilizer on the same day every year? I'm sure there are a lot of us who do. Because it works? Or because it's easy? It just doesn't make sense to me. Not to mention those using only liquid fertilizer.

If you keep only putting nutrition sources on the leaves, it might look good for a while, but what about the roots? At some point I have to believe the soil will get so stripped of the plant's basic needs that no amount of liquid fertility will help. I am no scientist, but there is a reason farmers — the largest group of plant growers — rotate their crops on fields.

Water smarter, not harder. Use a wetting agent. Be prepared to water even when it doesn't need it. But it's not practical to water 3 minutes every night, either.

Nothing can substitute for a good topdressing program. If you have to use sand mowers for more than 3 days, you put too much sand down. If you are seeing thin spots from traffic, maybe stop verticutting and aerifying that spot. The traffic will keep the organic matter down, and the little that is there will help provide a buffer to the area. It works, trust me.

Not every green is the same, even on the same golf course. Everyone is interested in finding the golden ticket or the secret recipe to the perfect putting green. Guess what? There isn't one.

Joe Sell is the assistant superintendent of the Straits Course at Whistling Straits in Kohler, Wis.



Golfdom Survey

In mid-April, *Golfdom* asked its readers a series of 11 questions relating to greens. The response was tremendous, as 704 readers took the time to fill out our survey. We learned a lot, from how highly regarded the Pro-Core 648 is to how many of you are anxiously awaiting retirement.

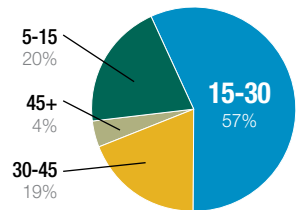
For the complete results of this survey — including over 1,000 responses to questions 10 and 11 — visit the *Golfdom* Daily, www.golfdom.blogspot.com.

IT TAKES GREEN TO KEEP THEM GREEN

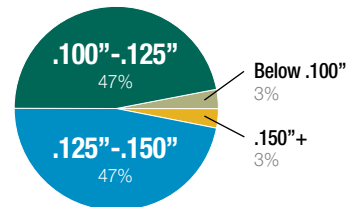
From the preferred height of cut to the biggest obstacle facing greens in the near future, here's what *Golfdom's* readers had to say about maintaining putting greens. **BY GOLFDOM STAFF**



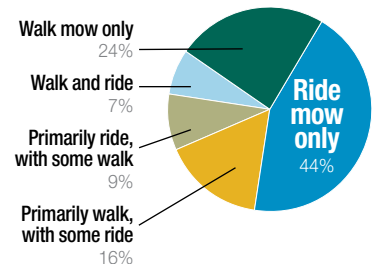
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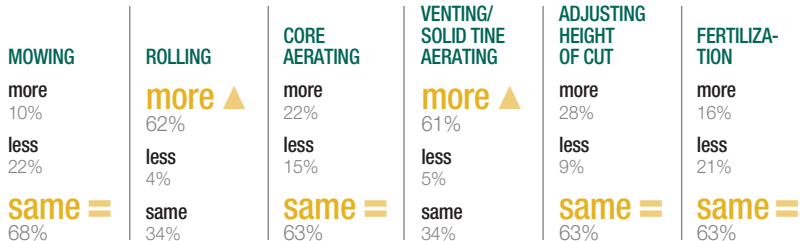
2 WHAT DO YOU BELIEVE IS THE IDEAL HEIGHT-OF-CUT FOR YOUR GREENS?



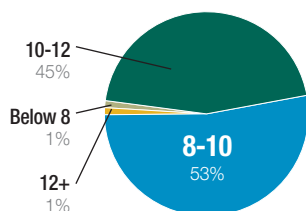
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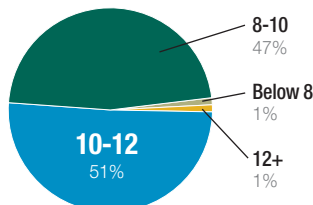
4 HOW DO YOU EXPECT THESE GREENS MANAGEMENT PRACTICES TO CHANGE AT YOUR COURSE IN THE FUTURE?



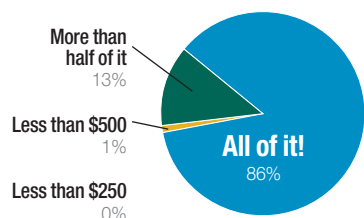
5 WHAT IS THE IDEAL SPEED OF YOUR GREENS?



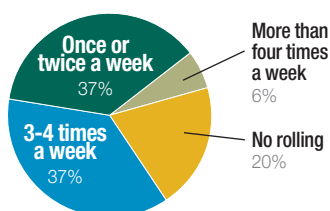
6 IF YOU WERE ABLE TO READ YOUR GOLFERS' MINDS (SCARY THOUGHT, WE KNOW), WHAT SPEED DO YOU THINK THEY'D PREFER?



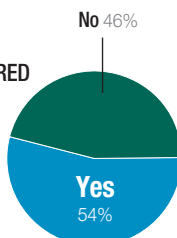
7 BAD NEWS! IT'S THE MIDDLE OF SUMMER, AND YOU'RE DOWN TO YOUR FINAL \$1,000 IN THE MAINTENANCE BUDGET. HOW MUCH OF THAT MONEY DO YOU THROW AT KEEPING YOUR GREENS ALIVE?



8 HOW OFTEN DO YOU ROLL GREENS?



9 DO YOU FEEL THAT ALTERNATIVE FUELS, SPECIFICALLY ELECTRICALLY POWERED EQUIPMENT, WILL BE INCREASINGLY IMPORTANT IN YOUR FUTURE EQUIPMENT SELECTION?



10 WHAT WAS THE MOST SIGNIFICANT CHANGE IN GREENS MANAGEMENT DURING THE PAST 5 YEARS?

"The decrease in money because of the economy. Everyone still holds the expectations of when budgets were larger but do not want to pay for it anymore. It takes green to keep them green."

"Hands down it would have to be the alternative mowing/rolling strategy that has allowed greens to hold desired speed without sacrificing quality."

"It's been more than 5 years, but the Toro ProCore has changed the aerification game. Also, more people are using "flushing" on greens to manage water and salts better."

"We have had two of the hottest years back to back that I can remember in 45 years working on a golf course. We have had to resort to much more hand watering than ever before and returned to a more frequent spiking regimen."

11 WHAT WILL BE MOST CHALLENGING ABOUT GREENS MANAGEMENT FIVE YEARS FROM NOW? WHY?

"H₂O. Water management is coming to a town near you. Soon."

"Currently, there are two significant challenges for us. One is the loss of Namacur and the lack of another product to produce consistent results. Another is the pressure to produce the quality of ball roll five, ten, 15 or more years down the road after setting the bar very high in our first four years with an ultradwarf."

"This place may be a corn field by then."

"Two things: Pesticide management due to increasing restrictions on pesticide use by the EPA; Water availability and quality, due to the increasing demand from growing cities and golf's place on the totem pole in that water hierarchy, which is near the bottom. Golf courses will have to use less water and probably a lower quality water."

"I hope I will be retired!!! I have been a superintendent for 35 years and hope my fellow supers will get back to what we used to do — IPM!! We invented the words 30 years ago. The good old days when the profession was enjoyable and didn't have all these TV expectations."

"Probably fertility management and water use. Our area is starting to push toward voluntary fertilizer restrictions and I can see this becoming more intense and even government intervention."

"Outdated equipment. My facility has not purchased new equipment in 4-5 years due to the economy."

"TV golf tournaments. They don't explain to the average golfer how golf courses are maintained for daily play. They don't have PGA-sanctioned moments before or during commercial times that could educate the public on the need for all of the etiquette that used to be in the game."

"Rolling: To relieve excess stress, I don't have to lower to ridiculous heights for arm-chair agronomists and golfers who think they have a Tour game... the only game they play well is video game golf, even there they have the yips."

"My Procore is the best piece of equipment ever! It is clean, it is fast, and it hasn't caused any damage since I got it back in 2005. The healing time has been almost cut in half."

"Unquestionably, the introduction of handheld soil moisture meters have given superintendents the opportunity to make much more intelligent decisions in the area of moisture management."

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ENEMY AT THE GATES

Fire ant control products stock supers' arsenals

BY STACIE ZINN ROBERTS

What if you had been warned of an impending invasion yet knew there was nothing you could do to defeat your enemy? You couldn't build a fortress, dig a trench, stockpile artillery nor muster an army to fight off the impending danger.

Joe Starr knows exactly how that feels. He remembers sitting in a turf meeting in 1996 listening to a researcher say that fire ants were heading toward Tennessee.

"They said they were coming. At that time we didn't have them," says Starr, general manager and golf course superintendent at Chatata

Valley Golf Club in Cleveland, Tenn. "We've gone from the mid-90s, where you didn't see them, to now they're everywhere."

The invasion began in Alabama in the 1930s, when red imported fire ants reached the U.S. on a South American cargo ship that landed at the Port of Mobile. Since then, the pests have cut a swath of pain through a dozen southeastern states, from Maryland to Texas, according to the most recent USDA map. The map shows infestations severe enough to classify the areas as quarantined. Fire ants also have hitched rides on products shipped to Puerto Rico, California and Hawaii. And

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some USDA maps predict fire ants will continue to spread.

Aggressive ants

Dr. Lawrence “Fudd” Graham is coordinator of the Alabama Fire Ant Management Program at Auburn University. Graham says he’s seen some fairly intense infestations of fire ants on golf courses in his state, the worst of which was on an Alabama course that had as many as 70 mounds per acre.

Fire ants aren’t just pests out to disturb soil; the highly aggressive ants also produce a toxic venom. Some people who are stung feel a burning pain; one in 100 people are at risk of allergic reactions to the venom; and about 1 percent of them are so allergic, without treatment they could go into anaphylactic shock and die.

And it’s rare that only one fire ant stings. Fire ant expert Dr. David Williams, retired research leader for the USDA’s fire ant program, says between 200,000 and 300,000 worker

ants in a colony are capable of stinging. In the context of a golf course, “a professional can spot mounds, see the soil disturbance,” Williams says, but “a lot of people would never know it and stand right in it. The ants will boil out of the colony, latch on and sting you. Not one but maybe a thousand.”

Graham says fire ants generally live in weak turf, in unmown areas, in flower beds, around trees and in bunker faces. They are less likely to be found in denser, tighter turf. With the consistent mowing done on greens and fairways, Graham says, “they get tired of getting mowed after a while” and the fire ants will move the colony.

Starr sees most fire ants on his course on the less frequently mowed driving range and around tee boxes. He says he’s tried knocking down the fire ant mounds by mowing and using insecticide baits. He’s even poured gasoline on a mound, which kills the ants but also kills the grass.

Many baits work well on existing mounds

1 Fire ants aren’t just a problem in grassy areas. The pests also love the warmth of bricks and cart paths. **2** Fire ants generally live in weak turf and unmown areas.

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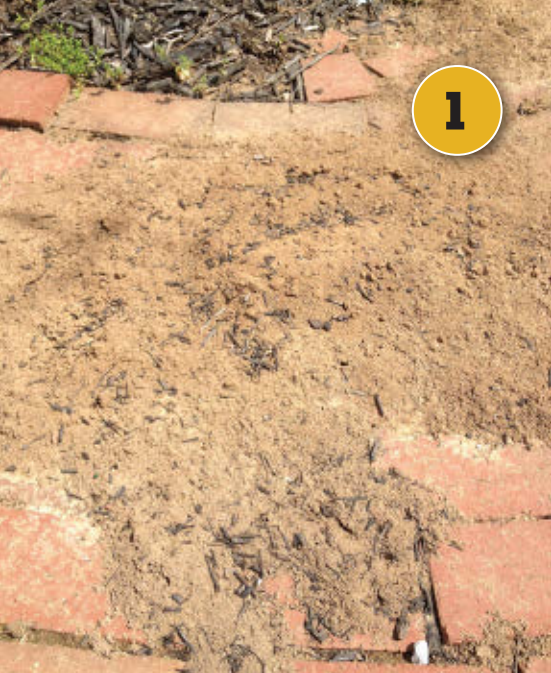
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but are dissolved by water, achieving little residual control. But controlling fire ants on golf courses is getting easier. Featuring the active ingredient fipronil, Top Choice from Bayer has been successful in controlling fire ants. Applied annually, it can be broadcast spread, has a long residual and works in all weather

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conditions. It can take up to four to six weeks for initial control.

“It stays in the soil for a long time before it breaks down. It might not be as fast-acting as a bait, but once it breaks down, it’s in place and stays there for up to a year,” says Cynthia Gigandet, marketing manager for Bayer’s insecticide products. “With a pyrethroid, you get an instant whack, but it’s not going to last as long.”

Speedy control

In March, a representative from FMC Corporation stopped by to see Starr at Chatata Valley. He demonstrated a product called Talstar XTRA GC, a new version of the Talstar fire ant control product introduced at this year’s Golf Industry Show.

Starr says the rep tested some of the Talstar XTRA GC on a mound that fire ants had built on a brick paver walkway. “He sprinkled the granules in there, watered it in, and in a couple of seconds they started freaking out, wigg-

out, jerking around,” he explains. “Within a couple of minutes most of them were dead. A few every now and then were coming out of holes, shaking and twitching. I went back an hour and a half later, raked the pile off the brick, and there was nothing left. It wiped out the mound in a couple of minutes. It was pretty impressive.”

Adam Manwarren, turf and ornamental product manager for FMC Professional Solutions, says Talstar XTRA GC is known for its speed.

Dr. Fudd Graham tested the Talstar XTRA GC granular insecticide, a greens-grade, sand-core granule. He says the difference between the original Talstar, whose active ingredient is bifenthrin, and the new Talstar XTRA GC is an extra active ingredient, zeta-cypermethrin. The combination, Graham says, “gives it a faster kill.”

Dr. Williams also tested it and noted its speedy control. “If you spread it like they recommend it in a sand-type granular over a





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treated a mound with boiling water.”

Arysta LifeScience is registering its Aloft product for fire ants as well. Aloft already is on the market for ants, cutworms and white grubs and other pests. The active ingredients in the current Aloft GC G are bifenthrin and clothianidin. Based on the results of tests conducted at North Carolina State University, Clemson University and the University of Florida, Aloft is expected to control fire ants quickly and have a longer residual.

All of this is good news for golf course superintendents in the fire ant war zone. After all, it's the people on the maintenance team who are on the front line.

“It's a painful experience if you step on a mound,” says Starr. “That happens more to our crew than it does golfers. Those are the guys who get stung, and I want to protect my crew.” ■

Contributing editor Stacie Zinn Roberts lives in Washington state.

large area, it's amazing the speed with which it kills. It's faster than anything I've seen: two-minute counts. We were getting high percentage control at two minutes, some were 93 percent control. After four hours, we had 100 percent control... It was almost as if you

3 Golfers who hit a ball in this area have more than their score to worry about. They'll also find fire ants waiting.

4 Superintendent Joe Starr near a mound.



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HENDO'S

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LIST

Kansas City super Matt Hendren dishes on the best of the GIS.

BY MATT HENDREN

Over the past year and a half, I've had the opportunity to travel to some pretty awesome places, meet some great people and play some amazing courses. The most memorable experience I've had since writing for *Golfdom* has to be the 2012 edition of the Golf Industry Show.

I've worked in the golf industry for more than a decade yet this was my first time attending the show — simply because I haven't had the jack to attend, not to mention the clubs I've worked for weren't willing to foot the bill. Vegas changed that for me. The GIS was everything I thought it would be, and more.

Hopefully you made your way around to the *Golfdom* booth to catch up with the crew and learn the location of the 2012 Summit. If you didn't, you missed a rare sight... yours truly rocking a suit! It was Vegas, after all.

The first thing I saw when I hit the trade show floor was one of the latest and greatest spray rigs, complete with boom enclosure. I knew then and there I was going to have a great

week. Call me crazy, but I'm more comfortable sitting on a spray rig than on the softest Italian leather sofa.

The bottom line is, when I have a convention center filled with the newest innovations in golf course maintenance to peruse at my leisure, that's as good as it gets in my book. While I don't have enough time or magazine space to fill you in on everything I saw, I do want to share a few products that caught my eye for those of you who couldn't make the trip.

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OK, so Hendo can't hold fire. But he sure can spit it.



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