

FEBRUARY 2014
golfcourseindustry.com

GOLF COURSE[®] INDUSTRY

SERVING THE BUSINESS
OF GOLF COURSE MANAGEMENT

AGRONOMY OF SCALE



Precision Turf Management (PTM) offers
unprecedented control of turf.

But will the investment pay off?

INSIDE

Miller: Unjustified firings / **P 20**

See no weevil / **P 22**

Career Plan B / **P 44**





The Legend.



Club Car®


ALWAYS DRIVEN



Reborn.



Start with the dependable, reliable, legendary Carryall Turf pedigree. Infuse it with added power, efficiency, versatility and comfort. Let the next era begin. 1,000 jobs; 1 Carryall. Check out the all-new Carryall at newcarryall.com.

 Ingersoll-Rand

AGRONOMY OF SCALE

Precision Turf Management (PTM) offers unprecedented control of turf.

But will the investment pay off?

IN THIS ISSUE

COLUMNS

- 10 **GAME PLAN**
Henry DeLozier: Rut busters
- 20 **THE MONROE DOCTRINE**
Monroe Miller: Moving in a different direction
- 30 **OUTSIDE THE ROPES**
Tim Moraghan: Think first
- 36 **IRRIGATION ISSUES**
Brian Vinchesi: Make the smart choice
- 42 **DESIGN CONCEPTS**
Jeffrey D. Brauer: The value of a good superintendent
- 48 **NOTES FROM THE REPUBLIC**
Bill Brown: The morning after
- 58 **PARTING SHOTS**
Pat Jones: Glo

DEPARTMENTS

- 6 **TEEING OFF: PTM**
- 8 **THE WHITEBOARD**
- 56 **TRAVELS WITH TERRY: Equipment ideas**
- 57 **CLASSIFIEDS**
- 57 **AD INDEX**

FEATURES

- Pest Management*
22 **EVIL WEEVILS**
Experts weigh in on the impact this wild winter will have on annual bluegrass weevil populations.
- Equipment*
32 **KICK THE TIRES**
Acquiring equipment doesn't have to break the bank. What you need to look for when purchasing used equipment.
- Disease Management*
38 **ULTIMATE SURVIVOR**
This winter's frigid temperatures may impact pythium, but don't count it out of the fight just yet.

- Personal Development*
44 **ENGAGE PLAN B**
Your career as a golf course superintendent hasn't worked out. Never fear, says Bruce Williams, you have options.

- Plant Health*
50 **POA PARTICULARS**
Knowledge is the best weapon in controlling *Poa annua* on your course. Our experts give you the rundown on what you need to know to deal with this formidable foe.



TURFONOMICS™

Chapter 2

TIME ISN'T MONEY. PRODUCTIVITY IS.

The challenge today isn't simply to maintain a beautiful golf course. It's to maintain it on a budget. To succeed, you need to work smarter, more efficiently and more economically than ever before.

It's simple Turfonomics.



toro.com/2040Z

TOP LINE THINKING

Bunkers are critical to your course's reputation and to yours. That's why we've engineered the all-new Toro® Sand Pro® 2040Z.

An industry-first, **this zero-turn bunker rake grooms bunkers other machines can't.** By pairing our patent-pending Lift-in-Turn™ system with a flex tooth rake, the 2040Z grooms contour bunkers, steep slopes and tight fingers without leaving tire marks or teardrop mounds of sand.

BOTTOM LINE THINKING

The ultimate in productivity, the Sand Pro 2040Z helps your budget look as good as your bunkers.

Its exclusive zero-turn steering means **you can groom more bunkers with less labor and** **time.** With a top transport speed of 12 mph, operators can work quickly and move on to the next task. Plus, the 2040Z's innovative tooth rake won't damage turf or bunker liners, so you can groom right up to the bunker's edge. All for a price that's less than you'd expect.

REAL WORLD THINKING

We understand the challenges you face every day. That's why we make innovative equipment that delivers **the ultimate in productivity, efficiency and value.** Then we back every product we build with our industry-leading support network. No one delivers more value than Toro.

It's simple Turfonomics.



Sand Pro® 2040Z

Learn more at:
toro.com/turfonomics

TORO.

Count on it.

PTM

I love making predictions. It makes me seem smarter than I am when I pontificate about how I'm certain that some trend or some event will happen soon. I also occasionally suck at predictions. Many of you reminded me of this in 2008-2009 after I'd blithely told everyone for years that East Coast private clubs were recession-proof. Ha!

Well, here I go again.

I predict that over the next five years the term "Precision Turf Management" is going to begin to dominate our conversations about the way golf courses are maintained. In fact, five years from now the term will be so overused that it will become like "sustainability" – a word that means nothing yet is used to suit whatever purpose someone is trying to achieve.

But, in the near future, it's going to be a rolling revolution in the way we approach both information gathering and using inputs. A few quick thoughts:

In my mind, Precision Turf Management (gotta start the trend of calling it PTM right now!) is simply applying the lessons that farming learned years ago about using field mapping, various sensing devices and other measuring tools to gather as much information as possible about the real-time agronomic needs of a piece of land and then using advanced application and cultivation equipment to manage those needs more precisely.

That's a lot of words to say that we're going to start measuring EVERYTHING and only using the inputs we need to keep turf health at whatever is defined as "optimum."

The decade ahead will be the decade of metrics. The art of greenkeeping won't be 100 percent crowded out by science, but there's going to be a huge emphasis on using advanced data to get the art right.

Our cover story examines the beginnings

of this phenomenon and I hope it stirs the pot for conversation and perhaps even accelerates the technology transfer process to bring practices and techniques to our business that farmers have been using for 15 years. It's time we got more precise.

This, however, raises a bunch of questions:

- How many facilities will be able to make the large initial investment or otherwise qualify for the technology? Companies like Toro are testing it as an added-value service for their largest customers while others are coming to market to sell, lease or otherwise distribute the technology directly into the hands of supers. It's expensive and, even if the ROI of reduced inputs is clear, it's hard for many to make that kind of leap of faith.

- Will many superintendents resist the idea of relying on measuring hundreds of factors and

plugging them into some kind of diagnostic system instead of simply using their eyes and noses to spot or smell problems? Like all new technologies, there will be an adoption curve. Will resistance be smart or futile?

- Finally, will the gap between the "haves" and the "have-nots" grow wider at PTM becomes the standard and the vast majority of facilities won't be able to afford it? And, more ominously, will regulatory bodies see what some courses are able to do with PTM technology and simply assume it should be the standard?

All that said, the most crucial issue facing the long-term sustainability (there, I said it) is using water more efficiently. PTM offers metrics far beyond evapotranspiration and other current standards to deliver this precious resource so carefully that golf will be hailed as a leader in water management. That, my friends, is a hope...not a prediction. **GCI**



Pat Jones
Editorial director and publisher

GOLF COURSE INDUSTRY

Serving the Business of Golf Course Management

Vol. 26 No. 2

GIE Media, Inc.

4020 Kinross Lakes Pkwy, 2nd floor

Richfield, OH 44286

Phone: 800-456-0707

Fax: 330-659-0823

EDITORIAL

Pat Jones
Publisher/Editorial director
pjones@gie.net

William Olmstead
Assistant Editor
wolvstead@gie.net

Mike Zawacki
Editor
mzawacki@gie.net

Bill Brown
Contributing editor

Kyle Brown
Associate Editor
kbrown@gie.net

Bruce Williams
Senior contributing editor

SALES

Russell Warner
National account manager
216-236-5802

Dave Szy
Account Manager
216-236-5764

Traci Mueller
Account Manager
216-236-5895

Bonnie Velikonya
Classified sales
330-523-5322

Ted Schuld
Account manager
216-236-5937

Maria Miller
Conferences manager
330-523-5373

ADVERTISING/PRODUCTION INQUIRIES

Jodi Shipley jshipley@gie.net, 216-236-5867

GRAPHICS / PRODUCTION

Andrea Vagas, Creative director
Helen Duerr, Production director

CORPORATE

Richard Foster Chairman
Chris Foster President and CEO
Dan Moreland Executive Vice President
James R. Keefe Executive Vice President
Marco Urbanic Integrated Data Systems Director
Andrea Vagas Creative Director
Helen Duerr Production Director
Lindsey Betzhold Audience Development Director
Maria Miller Conferences Manager
Kelly Orzech Accounting Director
Irene Sweeney Corporate Communications Manager
Kevin Gilbride Business manager, GIE Ventures

Golf Course Industry is a member of:

Golf Course Superintendents

Association of America

National Golf Foundation

Golf Course Builders Association of America

The Irrigation Association

Responsible Industry for a Sound Environment



SePRO Corporation—the leader in aquatic restoration products—has helped golf course superintendents manage and maintain one of the most important aspects of their golf course—water.

Managing golf course ponds and other water features takes the expertise and the right products to control unwanted aquatic plants and algae growth, and maintain the highest water quality possible. SePRO's Guaranteed Aquatic Solutions* program offers an economical package of solutions to effectively manage your ponds for the entire season.

Contact your SePRO Technical Specialist or call **1-800-419-7779** for more information.



SePRO clearly has the solutions to manage your water features.



Sonar® Aquatic Herbicide, Captain® XTR Algaecide and SeClear® Algaecide & Water Quality Enhancer are just 3 of the innovative solutions available from SePRO Corporation. Visit sepro.com

SePRO Corporation Carmel, IN 46032



Always read and follow label directions. *Program not available in Florida or Hawaii. Ask your SePRO Technical Specialist for more information. Sonar, Captain and SeClear are trademarks of SePRO Corporation. ©Copyright 2014 SePRO Corporation.

[EDITOR'S NOTEBOOK]

Temps down, attendance up

GCI's man-about-the-industry Bruce Williams reports back from the Northern Green Expo

Early January saw record low temperatures throughout the US. Imagine temperatures of 23 below zero during the week of a regional Minnesota turf conference and many would presume attendance would be down.

The Northern Green Expo is organized quite well and managed by Cassie Larson of the Minnesota Nursery and Landscape Association. Even with the temperatures staying in the sub-zero zone attendance numbers were up. Collaboratively, the groups involved offered quality education and the show was a strong anchor for the event, as well.

There were several components of this show which account for its success. The show continues to grow with 6,271 attendees. That number is up 3 percent from 2013. Nearly 44 percent of the attendees are categorized as decision makers and are comprised of owners, managers and superintendents from a myriad of companies in the green industry. With the broad spectrum of attendees it is evident that no one single group makes up an overriding focus therefore resulting in a variety of educational opportunities as well.

In speaking with industry veterans like Roger Stewart and Jim Nicol they both indicated that this was an event not to be missed. It saved a lot of time by connecting the commercial side of the industry with the end user consumers. The exhibition hall was nearly filled with 885 booths occupied, 327 total companies exhibiting and total space used was 178,000 square feet.

While the show was an important part of the event there were many other things going on at the same time. In addition to individual meetings of the various sponsoring organizations there was a very broad set of educational programming.

Topics included small business operations, interpersonal skills, human resources, legal and financial sessions, management solutions, plant materials, water management and of course turf management technical presentations.

The organizers did a wonderful job of putting on some additional hands-on training programs on the show floor. Since we all know that trade shows would not exist without the many commercial companies exhibiting it is important to keep show traffic up for a three-day event. A hosted lunch on the trade show floor enhanced that opportunity for attendees to network with the exhibitors.

Hats off to Minnesota's green industry.



FOR MORE

Check out the app version of this story for Bruce's expanded report on the Northern Green Expo.

From THE FEED



The temperate region doesn't seem very temperate with the polar vortex keeping things chilled.

Almost everyone headed to Orlando for the big show is ready to feel the heat. Of course, some superintendents are up for making the best of things if, say, a few trees are damaged.

The Syngenta Business Institute gave superintendents the chance to learn and network, and some of them did a little networking on Twitter as well! There were plenty of opportunities to share some knowledge – and maybe have a little fun in the process.



Jim Dillard @dillard645

10 day forecast in Orlando looks great!



Andrew Hardy @andrewhardyturf

I was taking shorts already. But now I may take my speedo too #notreally



Jennifer Seevers @jenniferseevers

ahhh as I'm staring outside at the frozen landscape this is like the light at the end of the tunnel!



Turf Republic @turfpublic

The warmth cannot come soon enough!



Clay DuBose @clayhomerun

Potential ice accumulation for the Coastal area through Wednesday morning



Tom Taylor @tom_taylor1421

hopefully no "important" trees get damaged. I'd hate to cut them down



Clay DuBose @clayhomerun

I can think of a few that could/need to get damaged!



**Join the conversation
on Twitter @GCIMagazine!**



{ EDITOR'S NOTEBOOK }

Time for change

After more than two decades, Club Car rolled out updated versions of its Carryall UTVs.

For more than 20 years, Club Car has hesitated making any major changes to its Carryall line. But that changed recently as the company, in January, rolled out new models with improvements to fuel efficiency, horsepower and other features.

The company invited media members and dealers to Disney's Fort Wilderness Lodge in Orlando, Fla. to get an up-close look at the new vehicles and to test drive them.

Disney has nearly 3,500 Club Car vehicles on its properties and has a 20-plus year relationship with Club Car. What Club Car has learned through its relationship

with Disney (Club Car actually developed a custom solutions department because of Disney) was implemented into the updated Carryall vehicles.

In addition to lessons from Disney, Club Car sent 12 employees across the U.S. and Europe visiting 46 locations that use Club Car or competitor vehicles. What they heard from that research was customers wanted a more powerful engine, more comfort in the vehicle and a fit-to-task-bed box.

Kurt Meyer, commercial/industrial marketing manager, said landscapers specifically asked for a better bed, and they wanted a pick-up truck-like tailgate that is easy to open. The new vehicle now has a single-handed latch and release tailgate, and a protected aluminum bed that will protect the inside from corrosion from any spillage.

Landscaper feedback also led to the implementation of movable bed dividers and cargo tie-down loops to prevent tools and other cargo from shifting. "You are protecting your assets," he says of the upgrades to the truck-bed's storage capabilities.

The company also wanted a more truck-like look to the interior, and a truck-like feel to the seating area. "We tried to decrease the gap between getting out of the truck and transitioning into this vehicle," says Billy Dakuras, director of sales and business development for the Americas.

The company expects sales increase of 24 percent in the commercial utility vehicle market. UTVs can be a less expensive alternative to pick-up trucks and vans when moving people or tools around a facility. "As budgets and teams shrink, they (facility managers) are always trying to do more with less," says Mike Cotter, commercial/industrial and consumer marketing director.

Brian Horn is managing editor of Lawn & Landscape magazine.





Henry DeLozier is a principal in the Global Golf Advisors consultancy. DeLozier joined Global Golf Advisors in 2008 after nine years as the vice president of golf for Pulte Homes. He is a past president of the National Golf Course Owners Association's board of directors and serves on the PGA of America's Employers Advisory Council.

RUT BUSTERS

Nine tips to kick start your facility's performance.

Is your club stuck in a rut? Do you find yourself entering the new year preparing to face the same challenges with the same strategies and programs? If so, you may be feeling less than inspired, a condition easily spread to team members. It's not too late to put an actionable plan in place that will make 2014 the year you emerged from the proverbial rut. Here are tips to kick start performance.

Talk to your members or regular customers. Most club members and regular customers at daily fee courses have an opinion about your operation. You want to know what that is,

input and opinion from customers and prospects. So should you. Ask questions about hours of operation, mowing practices, greens speed, soap in the locker room and lunch. Your members are a treasure-trove of knowledge and wisdom. Tap into it.

Highly effective focus groups include six to eight people who will talk with you for 60 to 75 minutes. Listen and let the group talk. There is no requirement for explanations or grand pronouncements. Just listen carefully and ask questions to understand fully the real intent of the comments. Consider an inexpensive form of compensation for their time

learn how they answer the phone. Ask them about your club and learn how they view you as a competitor.

MAKE IT EASY AND FUN TO USE YOUR CLUB. Most clubs have silly rules because they've always had the same silly rules. Stop defaulting to history. Your members – and especially their teenage children – can identify the outdated rules that need to go.

1. Eliminate outdated practices that make it difficult or frustrating to be your guest. Philosophers sometimes ask "Why?" five times. Why? Because simplicity is easy to explain and understand. Complicated and arcane ideas require excessive explanation. Busy people don't join clubs to add complication and stress to their lives, so don't allow an outdated rule to undermine your efforts.

2. Ask members, "When will we see you next?" For some reason, many clubs never think to ask a guest to return. So they don't. Make sure that your members and their guests or the customers at your daily fee course know that you're eager to see them again. Repeat patronage is the ultimate prize. Win it!

3. Reward loyalty with recognition and real value. Introduce programs that make being a "regular" very beneficial to the recipient. Eschew up-front price discounts for continuous engagement. That is the approach that is working well for the airline, hospitality and retail giants. Recruit, retain and build the loyalty of great members and customers.

IMPROVE YOUR PERFORMANCE. With so many choices in an over-supplied

“No one wants to play a course in poor condition. The golf course must be a great shape. There is no forgiveness for dead grass, weeds, mud-holes and unfinished projects.”

so you can do more of the things they like. So, ask them what they think, even if you think their answers might sting a little. There's no better way to learn what matters most and discover where you are wasting money.

1. Use every medium available, from one-on-one interviews and focus groups with members to member surveys to regular social media polling. Make it personal and demonstrate that you intend to be held accountable to their suggestions for improvement. Make sure you include a cross section of membership, and don't overlook your women members, who not only are the decision makers in most families, but also are remarkably observant about club conditions.

2. Gather your own focus groups. Top companies constantly solicit

to encourage a sincere and thoughtful engagement.

3. Be your own "Secret Shopper." When we make calls to our own club, we learn how the club is being presented to members and prospects. That starts with the voice and personality of the person answering the phone and carries over to anyone who might have a member-facing role. Remember, there's no second chance for a first impression.

BUT DON'T STOP THERE. Call realtors in your market area and ask what they know about your club. They talk to people all day every day. Ask the service station attendant down the street for directions to your club. Ask local bankers what they think about your club. Call your competitors and

(DELOZIER continues on page 57)

OARS

BRANCHING OUT FOR BETTER PLANT HEALTH

Now there are THREE Organic Acid Removal Systems. Each with precise purpose & chemistry to provide year round water management.

The ONLY Organic Acid Removal Surfactant Systems. Patented, Tested, Proven and Guaranteed.

OARS.PS

Soil Penetrating Surfactant

Controls soil water repellency and provides uniform moisture for fast, firm playing surfaces.

OARS.

The Original Surfactant

Ideal for use with mechanical agronomic practices for improved plant health and faster healing.

OARS.HS

Soil Hydrating Surfactant

Improved water retention to maintain moisture in hard to wet soils and reduce desiccation in dormancy.

5484 S. Old Carriage Road
Rocky Mount, NC 27803

AQUA-AID

1-800-394-1551
www.aquaaid.com



AGRONOMY OF SCALE

Precision Turf Management (PTM) offers unprecedented control of turf.

But will the investment pay off?

By Kyle Brown

When Brian Hicks was superintendent at Eagle Point Country Golf Club in Wilmington, N.C., he had his work cut out for him with a three-year-old course built mostly on sand.

"There were lots of areas that I'd call bad areas," says Hicks. "We had trouble keeping grass in a lot of places because the sand was so very random. There was no pattern at all."

He was applying nitrogen where he could across the course, just trying to cover problem areas. But the cost was adding up faster than he saw a return in the turf. His application needed to be specific, or he was just wasting the nitrogen.

That's when he started working with Marcus Thigpen, owner of NuTec Soil. Using an

intensive soil sampling program tied to GPS locations, he was able to narrow down the problem areas into more manageable sections.

"That way all our bad areas were good, and our good areas were even better," he says. "It just kept on until we got everything evened out."

Mapping out a fairway or green isn't uncommon, but using the information to build a GPS-accurate map with multiple soil samples is part of a new set of tools for superintendents, including more efficient chemical application. More accurately, precision turf management (PTM) has been in the agriculture industry for about a few decades, and it's finally making its way to the golf course.

"We're 20 years behind the agriculture mar-



ket,” says Emil Miller, marketing manager for Smithco. “It’s a well-established paradigm for a farmer, but it’s gaining traction on the turf side.”

SMART SAMPLES. Most superintendents take soil samples to send in to a lab for testing, but not as many do it like Hicks and his crew at his current post at Carolina Shores Country Club in Calabash, N.C. Since his first days of working with Thigpen, he’s used the soil sampling service to get an in-depth look at his course. The process starts off like taking a regular soil sample, but on a grand scale.

“We took five of my crew and everybody had a bucket, a soil probe and a lot of boxes,” he says. “We’d start in an area, put the bucket down and walk out about eight or 10 feet away. Then we’d start sampling in a circle around the bucket, and that went into the bucket, which went into the box.

“We’d continue moving around, probably 30 paces away from that bucket in a different direction, and we’d keep doing these random patterns from the tee to the green and then also the green in the same fashion.”

Once all the samples are collected, another crew member comes along and marks each of the boxes with its GPS point. The

samples are sent to a lab for testing, and the GPS information is correlated with a host of results, creating a map of the spread of nutrients in the soil.

“Numbers don’t lie,” says Thigpen, who worked in agriculture before starting to use the intensive soil testing in the golf industry. “If we’re taking soil samples, when you analyze that, what you’re able to do is see what your pH is, your phosphorus, your potassium. Then it becomes very easy to understand. For example, if I have a pH of 4.3, I know I’ve got to take it up.”

Tom Bailey, superintendent at Wade Hampton Golf Club in Cashiers, N.C., had seen the whole process in action in his agriculture classes, so he didn’t need much of a push to try it out, he says. He’s been using it since 2007, building up a record of his soil’s health over time with a much more narrow focus than what he could do with traditional soil samples.

“Historically, you would take several samples from a fairway and you’d designate a common theme on that fairway,” says Bailey. “You’re at a 2.5 acre range for that, depending on the size of your fairway. With this kind of sample, you’re taking that accuracy down to a 3-4,000 square foot range. It’s not only knowing what you need to put down, but knowing where you need

Hicks and his crew took soil samples across the fairway, starting from a central point marked by GPS and working outward to create a full soil profile of the fairway.

SHOW AND TELL

Beyond having specific data on how the turf is doing, PTM means having a way to prove what’s been done on the course, says Bailey.

“You can really show the members what’s happening on the course,” he says. “It’s color-coded, and it shows where your deficiencies are. You can load this onto a PowerPoint slide and show it in a meeting, to say, ‘Here’s how we’ve changed over the last two to five years. Based on our applications, here’s my justification on what we’re spending on this.’”

But all that data can show even more about what he’s been able to do with a more specific vision of the fairway and accurate application: It’s part of continuing to show that golf can be environmentally friendly, he says.

“There are counties saying point-blank, ‘You can’t put phosphorus down anywhere, there’s nowhere it’s safe,’” says Bailey. “I think it’s a great thing to have in my back pocket and be ahead of the curve as far as legislation goes. I can say, ‘I’ve been making precision applications and where 10 years ago I would’ve gone out with 3-5 tons, today I’m going with 1,000 pounds, and I’m putting it exactly here because the soil test says I need it here. I won’t be polluting, because I’m doing this exactly.’”



Trust
It's why Garret Bodington changed his entire fleet to John Deere.

With the US Women's Open coming to Sebonack in 2013, Garret Bodington made the decision to go with John Deere. Why? "John Deere gave us tremendous support for the Women's Open, from existing equipment to loaners. Also, the E-Cut™ Hybrid technology was a big selling point, since it eliminates hydraulic leak points in the reels. We use E-Cuts on every fairway and every green." From E-Cut Hybrid technology to heavy-duty utility vehicles, Garret trusts his entire course to John Deere. To see the difference we can make on your course, call your John Deere Golf distributor today.

Trusted by the best courses on Earth.

2500E-Cut™ Hybrid Greens Mower





Sebonack Golf Club, Southampton, NY



to put it down.

"Instead of just a broadcast that may overdo a third of the fairway and underdo two thirds, you're more accurate now because you know what you're putting down, what you need and where you need it."

Having all the information from around the fairway would be useful on its own, but having it mapped out via GPS location takes the information and makes it into something a superintendent can actually use to make decisions, says Thigpen.

Hicks uses the information to keep track of problem areas on his course from year to year, revisiting points from the previous year's tests that raised concern and trying to bring them to the same level as the rest of the course.

"We're looking at soil sampling from a different point of view now," he says. "Instead of just sampling the whole course,



With GPS coordinates and many more samples to work with, PTM draws a bead on trouble areas on the course for specific treatment.

the next year we'll go out and sample all of those areas that we know are bad."

Armed with the map from the previous year's data, he can take the GPS unit to that particular point and sample the same places again to see what change he was able to

make in the soil. Tracking that information is a brand new way for him to micromanage his soil, and by extension, his fertilizer inputs, he says. Overall, his inputs are down between 30 to 35 percent, and he's able to do it without sacrificing turf quality.

PHOTOS COURTESY NUTEC SOIL



Bailey even uses the information like a shopping list when planning his fertilization program for the next year, and the cost of the testing fits inside what he's saved by being more efficient in his orders.

"It leaves me controlling what I want to put down and where," he says. "I know my phosphorus is taken care of. I know my potash is taken care of. I know I've calcium and all those other factors. You can take what you want from the data and know you're working toward the right goal. You don't have to guess."

SPECIFIC SPRAYING. Using an intensive soil sample is one way to determine what exactly the soil needs to support healthy turf, but actually putting that down accurately is one of the more challenging jobs on the golf course due to the sheer number of variables.

“It’s not only knowing what you need to put down, but knowing where you need to put it down.”

– Tom Bailey, Wade Hampton Golf Club

"There's always been a locked relationship between speed, pressure pattern and the tips when spraying," says Miller. "At the end of the day, the tip is the biggest limiting factor that end-users face. You go too slow, it doesn't form a pattern. You go too fast, you create a lot of small droplets that are subject to drift."

Using GPS technology boosted by other mapping services like the Wide Area Augmentation System with cell tower triangulation

or the Real Time Kinematic systems, sprayers can be smarter about application, eliminating overspray by recognizing turf that's already been covered.

"It's assisting the sprayer driving from swath to swath, like lines on a tile floor," says Thigpen. "A human can't judge that and keep it within an inch from one end to the other. When it turns and comes back, it's giving you the exact swath as if it was on a metal bar."

The equipment doesn't drive itself in that straight line — a spray tech still has to push it along. But if he drifts a little bit over an area that's already been covered, "the computer will recognize I've been here and it cuts off," says Thigpen. "It'll even cut off the individual tips as it needs to. The machine takes over that job so it allows him to be more accurate."

The location systems deal with ele-

there's only one SOLUTION.

DIRECT SOLUTIONS™

Your partner in the fight for stronger, healthier turf.

Managing your turf is a monstrous job, with weeds, insects or worse threatening your greenscape. You need a partner to protect your turf – you need Direct Solutions. With industry best products like DEFENDOR® and RADIATE® as well as insecticides like ACELEPRYN®, Direct Solutions will help you defeat the monsters of the fairway.

GET RESULTS TODAY –
visit www.aatdirectsolutions.com
to learn more, or contact your
local Direct Solutions rep today.

DIRECT SOLUTIONS™
Committed to Growth™

© 2014 Agrium Advanced Technologies (U.S.) Inc.
DIRECT SOLUTIONS is a trademark owned by Agrium.



PTM gives superintendents a closer look at what goes into the makeup of a hole, with data mapped out geographically.

“Numbers don’t lie. If we’re taking soil samples, when you analyze that, what you’re able to do is see what your pH is, your phosphorus, your potassium. Then it becomes very easy to understand.

— Marcus Thigpen, NuTec Soil

ments around the course, running along boundaries set up prior to the application using the GPS maps built from intensive soil testing. The equipment is “remarkable, in that once you load that specific hole with that specific element into the GPS, the truck will recalibrate itself as it goes so it’ll put the chemical down where it needs to be and vary the rate as it goes down,” says Bailey.

Hicks is working on getting his own sprayer, since he worked out he would save between 10 to 20 percent on his chemicals just by putting the application exactly where it needs to be.

“You don’t really have to worry about skips, and you don’t worry about overapplying because the machine just won’t let you,” he says.

“When you think about golf courses, there’s a lot of hard areas, a lot of contours and undulations that make it difficult to spray evenly,” says Miller. “When we define a boundary, the sprayer will automatically not spray outside the boundary we’ve created.”

SENSING STRENGTH. One of the newer technologies to make the jump from agriculture to the golf course has everything to do with light. Using sensors bouncing different wavelengths of light onto turf and picking up the response, the equipment can tell the relative strength of the plant, says Gary Roberson, associate professor and extension specialist at North Carolina State University.

“Turf that’s lush and green and growing well and not stressed by lack of nutrients or water, it’s going to have a deep green signature. Turf that is stressed is going to have a different signature.

“You can collect data on the health or vigor of the turf as you’re driving across it,” he says. “A lot of the sensors are Normalized Difference Vegetation Index, and what that means is that depending on what the plant bounces back, we can correlate that to health or stress of the growing plant.” The NDVI comes out as a number rating between 0 and 1, with findings closer to 1 showing more healthy turf.

He worked on a project several years

ago tracking down spring dead spot in turf and was able to pinpoint the location of the disease by reading the relative health of the turf, marking it on a map using GPS. “Now we’ve got a map of where those affected areas are and we can go right back to it later in the fall when it’s time to treat for it, knowing right down to the inch where these dead spots are,” he says.

The sensors give another way to read the health of the turf, which a superintendent can use to map and pinpoint damage on the course at a level closer than a human eye can notice, says Thigpen.

“We can measure exactly where the grass is going off, and we can see a correlation between good fertility and good irrigation that makes everything optimal,” he says. “You can set a guideline on your computer, and as soon as it’s below that threshold, you can see where that’s happening. Your own eye can’t see it, but the sensor can track and analyze that.”

But whether a superintendent is building a groundwork of data through intensive soil sampling or reading the specific health of the turf with reflected light waves, PTM is just more effectively using what superintendents have always known, says Hicks.

“It just goes back to basic agronomy,” he says. “There’s no gimmick to it. It’s just getting back to the way things used to be done, and keeping it simple and doing it right.” **GCI**



No Boundaries

Whether you own a single cart or manage an entire fleet, battery performance matters. And when it comes to deep-cycle batteries, no one goes to the extremes of performance like Trojan. Compared to traditional 8-volt batteries, the **Ranger™ 160** increases travel time by 35% between charges, while the **Traveler™ 8V** delivers over 40% longer life.

We'll keep breaking the boundaries. Where you go after that is up to you.

 **Trojan.**
BATTERY COMPANY

Clean energy for life.

800-423-6569 | trojanbattery.com



Monroe Miller retired after 36 years as superintendent at Blackhawk CC in Madison, Wis. He is a recipient of the 2004 USGA Green Section Award, the 2009 GCSAA Col. John Morley DSA Award, and is the only superintendent in the Wisconsin Golf Hall of Fame. Reach him at groots@charter.net.

MOVING IN A DIFFERENT DIRECTION

More superintendents are out of jobs without decent explanations.



“ Have we reached a point in our society and businesses that years of productive service don't count for anything?”

It is the ebb and flow of our business. Superintendents take new positions and new hires fill the voids. We have retirements, career changes and promotions. Course management as a whole seems to be in a state of flux most of the time, more so now than when I started my career.

Sadly, we also have firings and dismissals to deal with where some are justified, some aren't, and some are neither. I would say some are “neither” because, more and more, people simply do not know why they lost their job. It drives me crazy when a colleague is let go with the admonition, “we're going in a different direction.”

I worked in a different

time. In those years superintendents often stayed at the same club or golf course for many years, and firings were pretty unusual.

Likewise, most of us were the only breadwinner. My wife didn't start working outside our home until our youngest child was going to grade school. She sent her off to school in the morning and met her when the bus brought her home that afternoon. Her work was part-time, a recognition of the high cost of daycare and the endless work that goes into keeping a household going. It also considered that I didn't exactly work a neat and clean eight-hour day. Oftentimes, it was daylight to dark.

I was the principal

income earner and getting fired just wasn't an option. In fact, three of us in town pledged that if one of us suffered a job loss, the other two would offer part-time work to keep the family going until a new job was found.

In fact, I once heard Cheryl tell someone that the thing I was most proud of in my career was that I never missed a paycheck. Those times weren't better or worse, just different.

The past five years have been difficult times economically. That has been especially true for golf. The crisis has led to more firings, layoffs, downsizing and cutbacks than any of us were used to or even could have imagined. Getting fired has happened to the best of people, and tough financial circumstances don't reflect their competence or past successes.

Getting fired happens to even the best of people, and too often those suffering this fate don't know why.

A lawyer friend of mine once told me that there is nothing in the constitution that states you have to let someone work for you or that you cannot fire an employee. Also, employers do not have to provide a reason for letting someone go and there isn't a requirement for any advance notice. Granted, laws and

rules have to be followed, but even they don't mitigate the shock that often follows a pink slip.

I have to admit, there are endless examples – both in our industry and outside of it, as well – of good people getting fired and moving on to bigger and better things. A very public example is NFL coach Andy Reid; who was fired from the Philadelphia Eagles, hired by the Kansas City Chiefs and enjoyed some great success this past season. In this very public example everybody won.

The late Wayne Otto had an interesting take on the subject of long-term employment. Wayne spent decades at the same club. He noted that if you aggravate four or five club members a year, at the end of 20 years you've amassed quite a crowd that doesn't think you are all that great anymore. Sure enough, Wayne was invited to move along; the generous retirement he received didn't salve the emotional blow he felt.

Two firings this past fall really affected me. One individual is a highly respected senior golf course superintendent here in Wisconsin. The other was a well-regarded and well-liked staff person at the Golf Course Superintendents Association

of America (GCSAA). My colleague had just completed an involved, multi-year course renovation project. The course turned out well, from our point of view. One morning this past autumn he arrived at work and was greeted by several club officials who informed him the facility was "going in a different direction." All of this despite decades of superb work and a track record of dedicated service.

What happened? Did he suddenly become stupid, lazy and incompetent? I hardly think so. And wouldn't it be useful to know what "going in a different direction" means? Why cannot someone suffering such a fate at least be given reasons for the firing?

So, in his late 50s, my friend is looking for work in a tough economy and an even tougher market for turf managers. Scores of us have our ears and eyes open to try to help him, but right now for him it's a game of wait and see.

The other event that has me baffled and upset is the GCSAA decision to let a senior staff person go because they, too, decided they were "going in a different direction."

I have known this individual for 18 years and relied on his help on more than one occasion. This personal has always been pleasant, professional and very capable in his position. My dismay is tempered by the trust and respect I have for GCSAA President Pat Finlan, CGCS. Our friendship goes back to his days as a chapter publications editor, and I know Pat to be a top-notch individual.

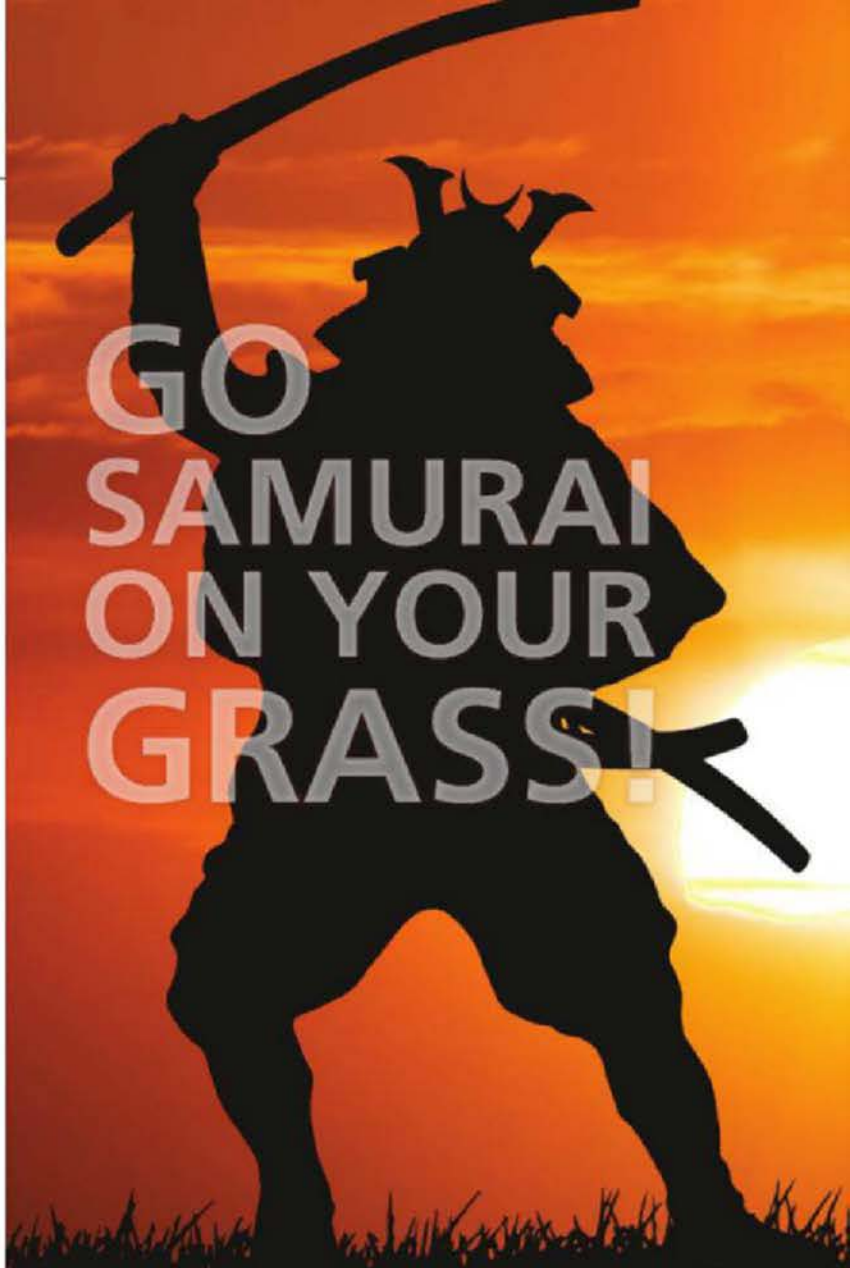
Still, I have to wonder why a GCSAA employee cannot be told something other than the "we're going in a different direction" story line. This individual, I should add, is grateful for his time at GCSAA and speaks glowingly of the superintendents whom he's worked with and interacted with over the years.

The sad thing is that my revered professional organization is guilty of exactly the same thing so many of us resent. If an organization is indeed "going in a different direction," then why can't an employee go in that direction, as well?

I have to wonder whether we have reached a point in our society and businesses where years of productive service don't amount to much of anything?

Maybe I'm somewhat naïve and sentimental about the issue of firing people – a Pollyanna of sorts. I do understand the discretion an employer has in selecting and maintaining a top notch professional turf management staff. Likewise, there can be a slew of complicated legal issues I do not appreciate and can loom large in our overly litigious society.

Finally, I do understand and appreciate the importance of moving on without anger or shame or embarrassment, as difficult as it might be to progress forward. But it is still heart breaking and gut wrenching when it sniffs of unfairness and happens to someone you know and respect. When it happens without reason, it all seems so unjustly cruel. **GCI**



GO
SAMURAI
ON YOUR
GRASS!

Poa annua...Clover...Dandelion...Sedge they're invading your turf. Cut them down with the chosen weapon of masters: **Katana® Turf Herbicide.**

Katana slices through more than 50 sedges, broadleaf and grassy weeds on fairways, roughs and tees. And whether you're using Katana on bermudagrass, zoysiagrass, or other warm-season grasses, weeds don't stand a chance.



Don't Be Just Another Turf Warrior: Be a Samurai. Wield Katana.

G pbi / Gordon CORPORATION
An Employee-Owned Company

800.884.3179 | GordonsProfessional.com/katana

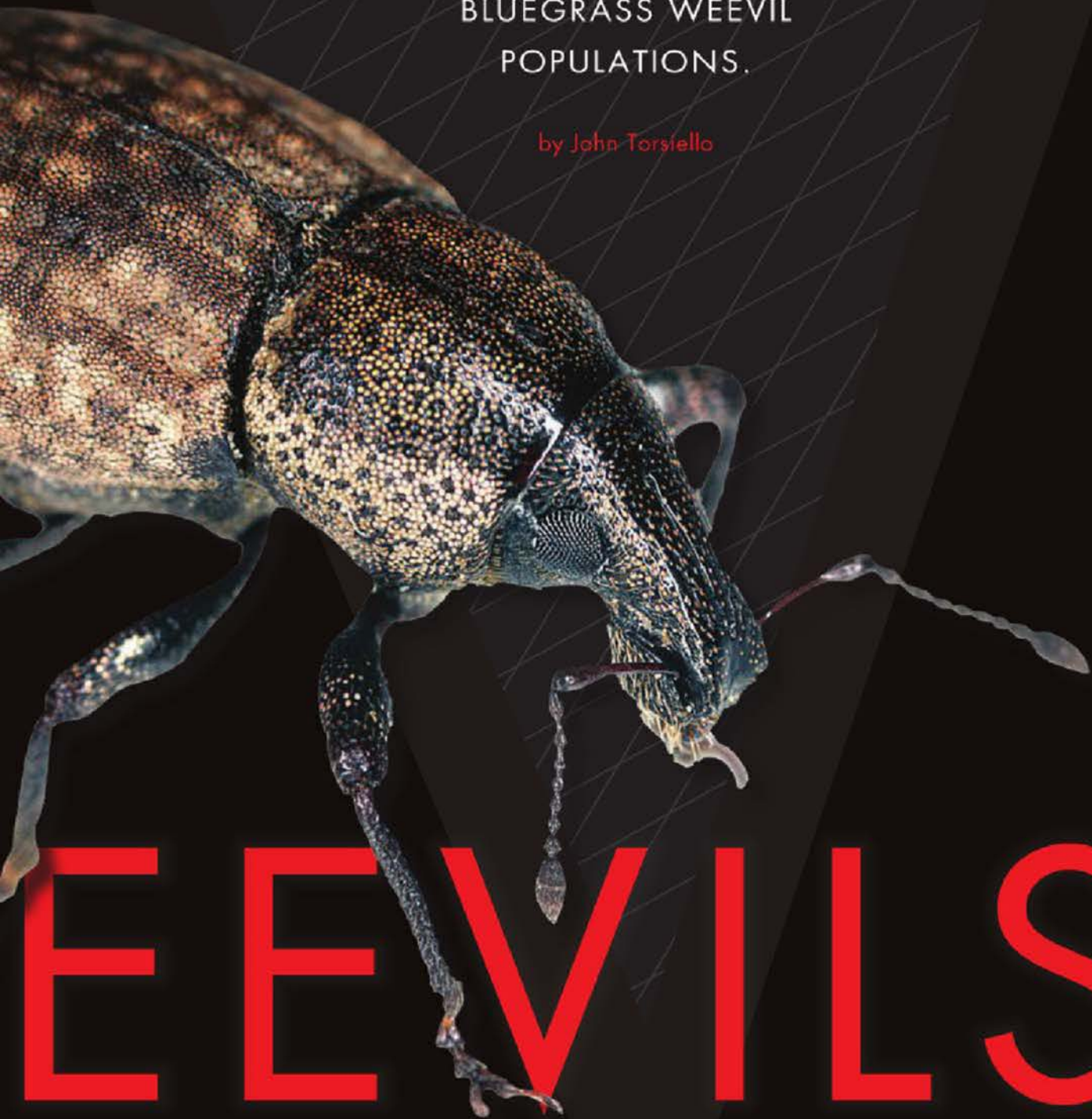
Always read and follow label directions. Checkered Flag/Label Design®, Gordon's® and ProForm® are registered trademarks of PBI-Gordon Corporation. Katana® is a registered trademark of Iihihara Sangyo Kaisha, Ltd. 10/13 03004

EVIL WWW



EXPERTS WEIGH IN ON THE
IMPACT THIS WILD WINTER
WILL HAVE ON ANNUAL
BLUEGRASS WEEVIL
POPULATIONS.

by John Torsiello



EEVILS

FIELDSCOUT[®]

TruFirm[®]

Turf Firmness Meter

New!



Improve Turf Consistency and Playability

- Measure turf firmness for better irrigation decisions
- Portable, easy-to-use design
- Bluetooth capabilities for instant analysis

**See us at the
Golf Industry Show
Booth 1779**

Order online at
www.specmeters.com

Spectrum[®]
Technologies, Inc.
"To Measure Is To Know"

3600 Thayer Court
Aurora, Illinois 60504
Toll Free: (800) 248-8873
Email: info@specmeters.com

ANALYSIS



The annual bluegrass weevil has become a major pain in the pocket for many golf courses in New England and the Mid-Atlantic areas. But now the weevils are slowly moving south and west. In fact, they have been reported in North Carolina, Ohio and even as far west as California. And that's not good news for superintendents in any region.

"The entire Northeast is now in the 'weevil hot spot,'" says Dr. Patricia Vittum, associate professor of entomology at the University of Massachusetts. "But we have had reports of weevil damage from northeastern Ohio, West Virginia, the Williamsburg area of Virginia, and the mountains of western North Carolina. They are also well established on many courses from Toronto to Quebec City, including Ottawa and Montreal in Canada. All of these areas have conditions where *Poa annua* can grow and compete quite well."

The American Entomological Institute shows that the weevil's insipid march along the country's golf trail had been reported in more than 40 states, from Maine to California, says Dr. Harry Niemczyk, a turf specialist and entomologist at Ohio State University and the Ohio Agricultural Research and Development Center. Why, you ask? "The obvious, namely the climate and large numbers of golf courses that support their primary host plant, annual bluegrass (*Poa annua*)."

One of the major questions facing superintendents as winter rolls into spring is how the vagaries of the 2013-14 weather will affect the weevil's over-wintering and potential damage the insect might wreck on turf. Much of the country has experienced a manic winter – warm, then cold, rain then snow cover. So what will give when the growing season begins in earnest?

"I don't think anyone knows yet whether the extreme cold temperatures we experienced in early January will reduce over-wintering annual bluegrass weevil populations," Vittum says. "Most winters the weevils seem to survive just fine – adults find protection against desiccating winds and wait until spring." She adds her "suspicion" is that any areas that experienced extreme cold and did not have snow cover at the same time might see at least a small reduction in weevil populations. Areas where snow remained on the ground



CUSHMAN
LET'S WORK.



The Bear's Club was designed by Jack Nicklaus to offer the finest possible golf experience. To maintain such a lofty standard, they use a fleet of Cushman Haulers. Available with 13.5-hp gas, 48V DC or 72V AC electric powertrains, the Hauler delivers proven Cushman reliability and up to 1,200 pounds of load capacity. So when you're chasing perfection before dawn and after dusk, your vehicles will be working as hard as you do.

See the Bear's Club's story at Cushman.com/BearsClub.

**“OUR CUSHMAN HAULERS
WORK EVERY DAY AND THEY
NEVER LET US DOWN.”**

JOHN KATTERHEINRICH
Superintendent
The Bear's Club





THE TURFCO CR-10 MAKES IT HAPPEN!

Whether you're topdressing your fairway, renovating bunkers or relocating material, the Turfco® CR-10, with a four cubic-yard hopper, is the workhorse you've been looking for. Its patented three-position switch, cross-conveyor flow control and self-cleaning hopper make it the most effective material handler available. And now the CR-10 is available with WideSpin™ technology—allowing you to deliver light or heavy topdressing applications at unprecedented widths and depths. All this—plus a three-year warranty. The CR-10. Don't start a project without it.

Call 1-800-679-8201 for a FREE on-site demonstration or video.

WWW.TURFCO.COM



THE LEADER, SINCE 1961.

Clean Up Your World



Introducing the Industry's Newest, Coolest Sod Cutter!

Featuring effortless operation and maximum productivity for any job on the course!

- ★ Best in class Set and Forget™ blade depth adjustment!
- ★ Variable speed hydrostatic drive transmission!
- ★ Fastest transport speed of any unit on the market!
- ★ Adjustable reverse speed!
- ★ Standard rear swivel caster!
- ★ Oversized handle isolation mounts!
- ★ Unique drive wheels clear mud and improve grip!

ALL NEW HYDRO DRIVE!



Scan the QR code to watch a video!



For more information contact your Billy Goat representative or call

1-800-776-7690

or visit the new www.billygoat.com

Made in the USA

POWERED by HONDA

www.billygoat.com

ANALYSIS



KEY POINTS

- It's uncertain what impact this winter's unusual extremes will have on weevil populations this spring.
- Weevils have proven to be resilient, and factors such as the amount of insulating snow on the ground during cold snaps will impact mortality rates.
- Many insects have a natural "antifreeze" like the component in their hemolymph (blood like substance) that allows them to tolerate freezing conditions.
- Weevils emerging from their winter cover lose some of their winterization protection. A sudden cold snap could leave them vulnerable.
- From late May through the summer, examine the area under spots -- areas that look like anthracnose or similar symptoms. Small, white legless larvae with a brown head, about the size of a small grain of rice are indicative of the annual bluegrass weevil.

during the cold spell may not see any noticeable impact on the population.

Dr. Albrecht Koppenhoffer, extension specialist, Rutgers University's Department of Entomology, doubts a few colder-than-usual days will have much of an impact on them. "Maybe in the already normally colder areas of the distribution, temperatures got cold enough to have some negative impact on them. But in the New York metropolitan area and areas with similar and warmer temperatures I doubt that they will be much affected. It might also depend on how much snow was on the ground at the time of the coldest temps. Snow does a pretty good job at insulating the ground."

It will be interesting to see how weevil populations will be affected by winter's weather, says Keith Happ, an agronomist with the USGA's Green Section's Mid-Atlantic Region, because in most areas the snow cover may have provided an insulation effect.

"We already know that the snow provides an insulation effect for the turf. Remember, the weevils over-winter in the high grass and or leaf litter," he says. Add 12 to 15 inches of snow and it may have been sufficient for the beetle to "get through" the winter.

Dr. Benjamin McGraw, associate professor of golf and plant sciences at the State University of New York-Dehli, doesn't suspect that adult weevils over-wintering off of playing surfaces are likely to experience a major drop off in numbers.

"For one, the adults do not dig very far into the soil profile. You could go out right now and find the adults in the very top few centimeters of the soil (less than an inch down)," he says. "They do not buffer themselves against frosts like white grubs." Grubs will move up and down in the profile to protect themselves from freezing conditions. Many insects, espe-

cially beetles in temperate areas have a natural "antifreeze" like the component (glycol) in their hemolymph (blood like substance) that allows them to tolerate freezing conditions.

The annual bluegrass weevil faces two theoretical winter scenarios, says Darin Brevard, director of the USGA's Green Section Mid-Atlantic Region. However, Brevard adds: "We all know that the pest always wins."

First, the country could have winter weather that remains cold well into early April with a warm-up in mid to late April. "This may, and I emphasize *may*, encourage most weevils to emerge at the same time, which makes targeted insecticide applications to control adults easier to time," Brevard says. "The second would be an early warm-up that encourages emergence of overwintering adults followed by a cold snap. When the weevils emerge from their winter cover, they lose some of that winterization that I mentioned earlier, and may be susceptible to mortality from the cold. But again, these little critters have proven to be pretty hardy and resourceful."

Fluctuating temperatures – really cold followed by mild – especially when there is little or no snow cover, can put "a lot of stress" on a weevil population, Vittum says. The reverse – consistent temperatures with no real extremes – are least likely to impact the weevils. "Consistent snow cover really helps the weevils survive. Either of these conditions would result in higher populations coming out of their over-wintering sites in late winter or early spring," she says.

With tongue firmly in cheek, McGraw explains the reason why the weevil is such a formidable opponent. "I think that weevils, and beetles in general, are so successful because of their body types. They are like little tanks, and pretty hardy to many environments and conditions. Therefore I would say, the best case scenario for weather would be a spring tornado that does not damage the turf, but causes the weevils to be sucked into a vortex and carried out into the Atlantic – like the movie 'Sharknado,' but with weevils."

The signs of potential weevil damage are fairly obvious.

Niemczyk points out that beginning in late May and continuing through the summer, superintendents should examine the area under spots-areas that look like anthracnose or similar disease symptoms. "Look for small, white legless larvae with a brown head, about the size of a small grain of rice. If present, it is most likely the annual bluegrass weevil."

That damage occurs first along the edges of fairways, tees, or collars, and starts as straw-colored patches that spread in size, Vittum says. Almost always the damage centers on annual bluegrass. "You can see medium or large larvae or pupae in the soil if you pull a plug or cut a wedge out of the turf," she says.

Brevard advises superintendents to "scout, scout, scout," and adds, "Use pitfall traps to monitor emerging adults as the weather warms. Closely look at collected clippings from greens, tees, fairways and collars to see if there are any adults crawling around in the clippings. Also, just monitor surfaces for any adult weevil activity in the spring. They are hard to see, so

THE CLEAR CHOICE



KPHITE 7LP SYSTEMIC FUNGICIDE BACTERICIDE

KPHITE 7LP Systemic Fungicide Bactericide is proven effective against pythium, dollar spot, brown patch and fungal diseases. KPHITE is EPA labeled, pH neutral and is uniquely formulated to increase plant health and vigor.



TO FIND A DISTRIBUTOR
OR LEARN MORE
WWW.PLANTFOODSYSTEMS.COM
800.343.7775

NEW from
Quali-Pro®...



2DQ Herbicide

Containing three active ingredients that provide weed control of annual and perennial broadleaf weeds in warm-season and cool-season turf grasses. 2DQ is for use on ornamental turf lawns (residential, industrial, and institutional), parks, cemeteries, athletic fields, sod farms, golf courses (fairways, aprons, tees, and roughs), and similar turf areas to control clover, dandelion, henbit, plantains, wild onion and many other broadleaf weeds.

QUALI-PRO

For more information on our wide selection of turf and ornamental products, visit quali-pro.com or call 800-242-5562

ANALYSIS

TREATMENT

A DULTS CAN BE TARGETED with a pyrethroid or chlorpyrifos when the forsythia plant begins to drop flower petals ("half green-half gold"). But weevils have developed resistance to pyrethroids in many parts of the current range, adding to the challenge. Target the larvae with indoxacarb, spinosad, or trichlorfon when *rhododendron catawbiensis* is in full bloom (often mid-May in the metropolitan New York area), says Dr. Vittum. "Some superintendents use a combination product with chlothianidin and bifenthrin and have been pleased with the results. But in areas where weevils have developed resistance to pyrethroids, the standard way to manage resistance is to avoid using that chemical class—at least for a season or two. Chlorantraniliprole can reduce larval populations as well, but sometimes should be used in conjunction with another product. Chlorantraniliprole should be applied about two weeks after the forsythia bloom."

Any good management program needs to involve regular monitoring. That helps time management protocols better, making them more effective, reducing the number of applications, and ultimately reducing the selection for resistance. "The annual bluegrass weevil will get resistant with intensive insecticide use, and in the worst cases only on active ingredients still seems to work and only against the larvae," says Dr. Albrecht Koppenhoffer, extension specialist, Rutgers University's Department of Entomology. "And there is no reason to believe they would not get around that one eventually if it is overused."



you have to stay still and look very closely for movement." When high numbers of adults are noted, insecticide applications can control adults.

"The best thing that superintendents can do is actively monitor their sites to determine if and where damage will occur, and then use an integrated approach (using multiple tactics)," Koppenhoffer says. "If we spot treat populations rather than treating all areas of the course equally we could save a lot of chemicals and effort."

Once the damage has occurred, typically in June or July, management efforts need to shift toward recovery, says Dr. John Inguagiato, assistant professor of turfgrass pathology at the Department of Plant Science and Landscape Architecture at the University of Connecticut. Light frequent fertilization and irrigation of damaged areas is important to help areas heal. Superintendents might also consider interseeding damaged areas with new bentgrass varieties since annual bluegrass, of course, is the preferred host of the weevil. Previous research has shown bentgrass establishes most effectively when seeded in June or July, he says.

"Post-emergence is always challenging because once you see the damage, most of the larvae are already large," Vittum says. "The larger they are, the more they eat and the less susceptible they are to insecticides. Nevertheless, the chemicals (that) target larvae will provide some control, just not the high levels we like to see."

Numerous insecticides can be used to manage the weevil "if they are not already resistant." Koppenhoffer says. "It is very important to do a good job against the weevil in spring," he says. "Adulticides (chlorpyrifos, pyrethroids, Provaunt) can be applied when forsythia are about half gold, half green." Systemic larvicides (Acelepryn) can be applied between the forsythia bloom (half gold, half green) and full bloom flowering dogwood or eastern redbud to reduce the young larvae inside the plants. And larvicide (Provaunt, Conserved, Dylox) can be applied between full and late bloom of *Catawba rhododendron* hybrids to reduce the larger larvae feeding externally.

It is important to optimize the efficacy of application while reducing the frequency. Again, monitoring is essential. The common practice is to control the adults. "Efforts should concentrate more on the larvae as that allows for more targeted applications, tends to be softer on beneficial insects, and thereby delays or even prevents insecticide resistance development," Koppenhoffer says. **GCI**

John Torsiello is a Torrington, Conn.-based writer and frequent GCI contributor.

MARKERS SLOWING YOU DOWN?

FLEX BACK (360 DEGREES) WITH ALL-FLEX!



19" (48 cm) long
plus 7" (18 cm) spike

- ▶ Super time-saver when mowing.
- ▶ Groundbreaking design. Markers FLEX BACK any direction. (Not intended for use on fairways.)
- ▶ Super tough polyurethane joint for maximum flex.
- ▶ Replaceable, UV-resistant sleeve for added protection.

JUST
\$9.25
PER STAKE



All-Flex Ground Anchor
installs flush to the ground.
Sold separately.



WATCH IT
WORK!



www.standardgolf.com

CALL TODAY!

1-866-743-9773 | WWW.STANDARDGOLF.COM |  | 

**STANDARD
GOLF** COMPANY



Tim Moraghan, principal, ASPIRE Golf (tmoraghan@aspire-golf.com). Follow Tim's blog, Golf Course Confidential at www.aspire-golf.com/buzz.html or on Twitter @TimMoraghan

THINK FIRST

Pursue only those practices that you've thought long and hard about.

Whether dealing with a last-minute problem or a long-term situation, resist the urge to act until you've taken the most important step – giving it some thought.

Graduates of Penn State may recall that Dr. Joe Duich, long-time professor of turfgrass science at Penn State University who, during his academic career taught almost 6,000 graduate, undergraduate, and two-year turfgrass students, would often begin a lecture by writing a single word on the blackboard: "Think."

You might find the subject of this column overly simple or even silly, but like Duich, I am encouraging each and every one of you to begin the new year by keeping that same word in mind: "Think."

We work in a very difficult industry, one dominated by high expectations from our customers and extreme pressure put on us both from outsiders and ourselves. As a result, a great deal of what we do is in reaction to outside forces. And when that happens, we often are quick to act while forgetting to think, which lead to all sorts of unintended consequences, from course damage to job loss.

A small problem pops up and rather than stopping to weigh options, talk to others, make a few phone calls, or do a little research, you want to be the hero and make everything right. But if you act in haste rather than taking the time to stop and think, you could be putting your course and your livelihood at risk.

You could be a terrific superintendent, a dedicated steward of your golf course(s), a terrific boss, the perfect employee. But despite all that, your course could still be affected by:

weather; irrigation and mowing practices; trees, vegetation; diseases and pests; old equipment; poor construction; budget (reduce or cut); industry initiatives or tournaments that divert attention; and so on.

Let's look at some areas of potential difficulty and see how thinking and advance planning could keep small problems small and solvable.

Weather is the ultimate variable, the one factor you can't control. But you can plan for it. Pay attention to the forecasts, long- and short-term,

If you aren't thinking every day about healthy turfgrass, then you are not doing your job. A healthy course should be job #1 because it will make or break your job. And nothing will get a super fired faster than losing the grass on the putting greens. I know you know that, but how much do you really think about it?

About 50 percent of the game is contested on the greens. Are you on top of mowing strategies as they relate to green speeds? Will what you

“If you aren't thinking every day about healthy turfgrass, then you are not doing your job.”

and plan your schedule for the day, weeks, and months ahead. You'll have to change your plans and adapt to changing situations, but without a plan, you'll be a victim of whatever Mother Nature serves up. Use weather resources and online tools to create the optimal agronomic plan so at worst weather becomes an effect, not an excuse.

A challenge facing our industry is water management – dealing with either too much or too little. Again, you must have a plan in place that improves water efficiencies, enhances plant health, and improves soil performance. And you have to have thought about some contingencies if things don't go as planned. And trust me, they won't.

Think about dedicating a person to the monitoring and controlling of irrigation systems and their performances. This includes having a priority list of water sources and irrigation zones, while monitoring water use.

do in June affect your course, and you, in September? (Or for warm-season regions, January and May?)

Superintendents neglect to think about course set-up philosophy. Speeds, pin positions, mowing patterns, cart paths, signage... those little things affect pace of play and course quality, which means they impact players attitudes.

Finally, whenever you hear a new buzzword or read about the latest initiative to grow or save the game, think about how it applies to where you work. Thinking about adopting "fast and firm" or "going native"? Then consider the pace of play at your club. Sometimes these initiatives are not in the best interest of your course.

The solution to all these situations is simple: Think. Pursue only those practices that you've thought long and hard about, and judged that they truly make sense for your course. **GCI**

ANY WAY YOU GRIND IT



SPIN OR SPIN & RELIEF, FOLEY DOES THE WORK WHILE YOU DO SOMETHING ELSE.

Accu-Touch Control provides maximum productivity.

- *Spin* grind in less than three minutes.
- *Spin & relief* grind in less than five minutes.

ANY WAY YOU GRIND IT, YOU GET THE BEST QUALITY OF CUT WITH FOLEY UNITED.





Kick the tires

Acquiring equipment doesn't have to break the bank. What you need to look for when purchasing used equipment.

by Rob Thomas

Whether the greens mower has cut its last blade of grass or the trusty chainsaw has seen better days, every superintendent is faced with replacing equipment – large and small. With rising costs and tight budgets, used machinery is a terrific option. However,

deciphering trash from treasure in the pre-owned market is the real dilemma.

Knowledge is power, says Paul Danielson, manager, financial marketing at Toro, so superintendents should gather copious amounts of information ahead of the purchase.

“Potential customers should deal with



Good used equipment is in high demand and prices typically reflect that need.

reputable sellers,” Danielson says. “Research the market. What is the range of pricing you see advertised for a particular product? The old adage of ‘if it sounds too good to be true...’ applies here, as well. Good used equipment is in high demand and prices will reflect that.”

Rick Baker, general sales manager, Baker Vehicle Systems, echoes Danielson’s thoughts on supply and demand.

“We’ve seen demand for good, late model, low-hour used equipment skyrocket in the last two years and as a result, the price of used equipment had risen significantly,” Baker says.

Buddy Wynn, certified pre-owned manager at Jacobsen, works closely with Baker. Wynn assigned numbers to what a superintendent should be seeking in used equipment.

“When it comes to turf maintenance equipment like mowers and utility vehicles, ideally you want a machine that is late model and low-hour, something that still has value and life in it,” Wynn says. “You’re likely going to get the best value



Mainstream equipment that is used by many customers will retain its value better than some "exotic" equipment that is used by relatively few customers.

from a machine that's 3-6 years old and less than 1,500/1,800 hours."

As for the equipment that historically holds value the best ... Jacobsen has seen several standouts of late.

"From a factory perspective, we're seeing a high demand for Tri-King trim mowers and SLF-1880 fairway mowers, and they are holding their value as a result," Wynn says.

Baker shared that Jacobsen large area rotarys and Cushman Turf-Trucksters hold their value very well.

Herman Bloch of Beard Equipment Company, one of the largest John Deere distributors in the Southeast, says his customers will blend a little used equipment with a package of new as a cost-effective strategy.

"Instead of three [new] fairway mowers, buy two new and one used ... same with greens mowers - needing four and buying two or three new and one or two used," Bloch says. "Superintendents should look out for how much reel life is left on the unit. Second, what was done to the unit after it was traded or taken in off lease? Was the unit serviced-engine, hydraulic oil and filters, as well as air and fuel filters?"

"Brakes are a big thing with me as it can be a safety factor if they are not done before being delivered to a customer," he

adds "And, of course, all safety features are in working order."

Trim mowers, tractors and rotary mowers, according to Bloch, hold their value best because there is a larger secondary market for these, such as schools, sports fields and homeowners.

Danielson says several dynamics often determine what maintains value.

"Mainstream equipment that is used by many customers will retain its value better than some 'exotic' equipment that is used by relatively few customers," he says. "Some equipment, vehicles for example, have a market outside of golf, so that widens the scope of prospective customers and this will influence the supply-and-demand equation.

"Equipment that is relatively 'simple' mechanically may retain its value better than equipment that has lots of 'moving parts,'" Danielson adds. "The amount of usage is also a huge driver in this equation and some products - i.e. sprayers and aerators, that are not daily-use items - will have more years of life, compared to products that are in everyday use."

Conversely, Danielson says there is no easy answer to when a superintendent is better off biting the bullet and buying new - referencing the price-versus-value equation.

A customer's budget and capacity to

"The best value over the long-term is always going to be found at an authorized dealer. You need to know that there is someone who will back that product up with service and support."

- Buddy Wynn, Jacobsen

fix and maintain equipment - either internally or use of a local dealer/distributor - will drive what is best for a particular customer," he says.

When it comes to greens mowers, Baker says he likes to see his customers buy new.

"Greens mowers are out there seven days a week and machine reliability is critical," Baker says. "Greens are the most critical turf on any course and you want to mitigate the risk of hydraulic leaks or other issues that may come with

a used unit. "Plus, the advances that have been made in the last several years with things like the Jacobsen ECLIPSE greens mowers... the new technology alone is worth the investment," he adds.

While turf equipment can be found on the all-inclusive shopping website eBay, Baker warns it's "buyer beware."

"There are websites out there where you can buy used equipment, but you have to be really careful," he says. "It's not like buying books or shoes, these machines need to be serviced. Some of these sites simply take your money, drop off your machine and leave, and you may have little or no recourse in the weeks and months that follow if things don't go well.

"As an authorized dealer, we are held to a high standard by the industry and customers pay a little more for that security and peace of mind because it's worth it," Baker adds.

Speaking of websites, don't expect a computer-generated fox to help force the hand of a seller on the equipment's history.

"If possible, view the maintenance records of the equipment," Danielson says. "The industry has not evolved to a 'CARFAX-type' system given the fact most maintenance is done by the owners, but getting a look at the maintenance records can be extremely helpful (if the previous owner is willing or able to share it)."

Beyond that, examine areas that are readily visible, Danielson adds.

"If the visible items look lacking in maintenance, could that be a clue to what is not readily visible?" he asked. "There are also some tests that can be done (for example, lubricant analysis, compression testing, etc.). Of course, the testing does entail some costs, but could save money later."

There's a certain amount of unknown in any purchase, new or used, but Wynn suggested that avoiding a future headache can be as easy as staying on a tried-and-true path.

The best value over the long-term is always going to be found at an authorized dealer, Wynn says.

"You need to know that there is someone who will back that product up with service and support," Wynn says. "Jacobsen dealers now sell Certified Pre-Owned equipment



Prior to purchasing, consider: What was done to the unit after it was traded or taken in off lease? Was the unit serviced — engine, hydraulic oil and filters, as well as air and fuel filters?

that is rebuilt at the factory and includes a one-year factory warranty."

A Caveat Emptor may protect the seller with an "as-is" proclamation, but that leaves the buyer with no recourse but to foot the bill with any mechanical migraines. What you don't know, can certainly hurt you.

"It's never easy to identify a machine that might be a problem down the road," Baker says. "You may not know where that machine has been the past 3-5 years or how it was treated and maintained.

"I would recommend dealing with a local dealer who is capable of providing a thorough inspection of the equipment, has factory-trained technicians who know how to repair and service it, can communicate with the factory regarding any technical issues or mechanical updates, and will stand behind it after it's sold," he adds.

"As a dealer, we are very careful about the used equipment we purchase or take on trade," Baker says. "It is inspected and evaluated prior to purchase to ensure we are getting what we pay for."

Researching on the Internet for potential problems inherent with certain models of turf equipment can alleviate some stress, as well as talking to fellow superintendents and techs to get their opinions,' Bloch says. Having the dealer leave the unit at the course for a day or two to be put through its daily routine is an ideal scenario, he adds.

Again, knowledge is power when it comes to making a purchasing decision.

Before even considering buying used equipment, you really need to evaluate what you own, Baker says.

"If your equipment is well maintained, late model and has low hours, you might be surprised at what you have in value," Baker says. I wouldn't suggest solving one mechanical problem by replacing it with another, though ... be careful with what you buy and find a local source you trust."

Having a guide and assurances can make navigating the pre-owned market for equipment a lot less frightening. **GCI**

Rob Thomas is a Cleveland-based writer and a frequent GCI contributor.

GO GREEN.

[...on your tee boxes]

[...on your greens]

[...on your high traffic areas]

[...on your fairways]



INTRODUCING THE TURFCO® TRIWAVE™ 40

Damaged turf on your #7 tee? Weak areas on your #2 and #12 greens? Want to improve the overall stand of grass on your high traffic areas on #6 and #10? Greening up your course has never been easier or quicker with the TriWave 40. Just hook up to your turf vehicle and **seed them all in one trip.**

- Quickly adjust seed rates and depths to match conditions—no tools required
- Patented floating heads and seed delivery system maximize germination rates
- Patented WaveBlade™ technology optimizes seed-to-soil contact with minimal turf disruption
- Seed while you turn so you can follow greens, collars and contours

It's your grass on the line. Save it with the TriWave 40.

CALL 1-800-679-8201
for a FREE on-site demonstration, or
VISIT WWW.TURFCO.COM
to see the TriWave 40 in action.



THE LEADER. SINCE 1961.



Brian Vinchesi, the 2009 EPA WaterSense Irrigation Partner of the Year, is president of Irrigation Consulting Inc., a golf course irrigation design and consulting firm headquartered in Pepperell, Mass., that designs irrigation systems throughout the world. He can be reached at bvinchesi@irrigationconsulting.com or 978/433-8972.

MAKE THE SMART CHOICE

Don't underestimate a good irrigation installation contractor's role.

Spring is coming and it is time to think about fall construction projects. Construction takes lots of planning and preparing for them to be successful, but all that planning, preparing and time spent will all be for naught if you do not hire the right contractor to install the work. Although this applies to any construction project, there are specific requirements and experience you want to look for when hiring irrigation contractors. The degree of experience required is dependent on the size of the project and also as to whether the irrigation is the majority or minority part of the project.

I always like to point out to superintendents and boards that you can have the best irrigation design in the world, select the best irrigation equipment, sold by the best distributor, but if you do not hire a good irrigation installation contractor all those other things will be useless. That said, what do you want to look for in an irrigation contractor?

First you want experience, and not experience limited to just the individuals working on the installation. You need an experienced foreman who can communicate with you and members and, if necessary, the board. English speaking is important. The company and site superintendent or foreman should have experience with at least five courses and preferably with the manufacturer's equipment being installed, whether it is Hunter, Rain Bird, Toro or another brand. Each manufacturer's system is different and the more they have worked with it the better off your project will be. There should also be an assistant



When selecting an irrigation installation contractor, you will inevitably reap the benefits of your decision or have to deal with the consequences.

foremen or site supervisor with some experience also so the work still gets done properly if the foreman is off for a day or at a meeting. I once had a job where only three things were done not according to plan and they were all on days the foreman was off.

It is imperative that the company also have experience with golf course irrigation installation, not just have an experienced foreman. Golf irrigation requires a company with specialized equipment and a lot of it. It requires a good stable financial base, as it can take a long time to get paid and there is a very large outlay of up front-dollars for materials and for the mobilization of equipment and personnel. Additionally, there are more stringent insurance and paperwork requirements than a residential/commercial irrigation contractors may be used to. The company also needs to know golf. Working on a golf course

requires a degree of etiquette that only people who work on a course know. Don't walk on the greens if not necessary or ever through a bunker. Loud talking should not be allowed and when traveling through the golf course you need to pay attention to play and stop and wait when necessary. Shirts need to stay on at all times.

When you are renovating the golf course at the same time as the irrigation system installation, contractor selection becomes a bit more muddled. Some golf course builders do irrigation and some do not. If they don't, then use the same selection process that you would use if it was irrigation only. If the builder also does irrigation, find out if they do irrigation only on their renovation projects, or do they do irrigation only projects also? You need to do your homework as some builders are good

at irrigation while for others it is just an add-on service that they do not do too often and therefore may not be very good at it. I like to look at it in terms of contract value. When you are looking at a project that is both irrigation and renovation which is worth the most amount of money?

Given the high cost of today's irrigation systems, many times the irrigation work is worth more than the renovation work. When that is the case, I recommend that the irrigations system be bid as its own project to irrigation only contractors as well as the builder. The renovation work can then be bid separately to golf course builders or the renovation work can be run through the irriga-

tion contractor using the builder of your choice as a subcontractor.

When bidding a public project, you have no idea who may bid the project as it is open to any contractor. In this case, the contractor qualifications need to be very strong so you get someone who knows what they are doing. You also need to make sure the public entity contracting the work enforces the qualifications during bidding. If it is a private bid, then you have total control over the bidding process. Keep the bid list short. Remember, the easiest way to keep a contractor from not getting your project is to not let them bid it in the first place. Once they provide a number, it will be a lot harder to get rid of them.

Keep the list to three to five contractors and interview them. In addition to references that you need to check, make sure you are going to get along professionally. Beware of board members who want to put contractors on your list, like the one that did their house – not qualified.

Successful projects start with picking good irrigation contractors. Take the time to do your homework and research prospective bidders. Use your network and other professionals to determine what company will be the best fit for your project.

Remember you will either reap the benefits or have to deal with the consequences of the selected irrigation contractor. GCI

NEPTUNE'S HARVEST TURF FORMULA (2-0-2) ZERO PHOSPHORUS

- New product designed for states with zero Phosphorus laws
- High energy mix, shows greening in days
- Increases microbial activity in soil
- Produces strong, healthy, deep roots
- Improves quality of grass and soil
- Safe for the environment

Ingredients:
Hydrolyzed Fish,
Molasses,
Seaweed, Humate,
and Yucca Extract.
Available in 1,
5, 55, and 275
gallon sizes.

Conventionally
Grown
Grown with Neptune's
Turf Formula



Call for a FREE SAMPLE to test for yourself.
(800) 259-4769

www.neptunesharvest.com.

Neptune's Harvest, div. of Ocean Crest Seafoods,
88 Commercial St., Gloucester, MA 01930

Thinking About a Career Change?

Weed Man
Lawn Care Franchise Opportunity



High Profit Margins • Superior Support • Proven Systems

You know turf. Use your agronomic skills
to take control of your business future.

1-888-321-9333 | www.weedmanfranchise.com





ULTIMATE SURVIVOR

This winter's frigid temperatures may impact Pythium, but don't count it out of the fight just yet.

by Rob Thomas

As the term “polar vortex” was bandied about and record-low temperatures stretched across the country, thoughts turned to what this winter's weather might mean for disease pressure come spring. For superintendents concerned about Pythium, recent history may provide a clue.

Jim Kerns, Ph.D., turfgrass pathologist at North Carolina State University, thinks it is unlikely that an unusually cold winter will impact Pythium much.

“Yes, the survival of the inoculum from the previous year may go down, but these organisms are great survivors,” Kerns says. “They produce thick-walled oospores that can survive for many years in soil regardless of weather conditions. Moreover, the recent polar vortex makes us think this winter has been unusually cold, but when looking at average weather data, our winter

in North Carolina is not much different from 2010 and we observed numerous cases of Pythium root rot during the summer of 2011.”

Dr. Jill Calabro, Valent Professional Products' regional field development manager, says the most common Pythium blight is associated with hot (86-95 F) and humid/rainy weather with nighttime temperatures above 70 F; however, cool-season Pythium is also possible. Cool-season Pythium blight can occur at temperatures between 55 and 64 F, again in wet weather.

According to Kerns, Pythium species are classified in a different kingdom than fungi, but they are still referred to as oomycetes or water molds.

“The key term there is ‘water molds,’ so wet weather generally leads to ideal conditions for Pythium infections,” he says. “It is very important to note that there are



KEY POINTS

- Pythium produces thick-walled oospores that can survive for many years in soil regardless of weather conditions.
- Wet weather generally leads to ideal conditions for Pythium infections.
- The common theme with Pythium diseases is moisture, but the timing of the moisture is different for each disease.
- Spring and summer climate plays more of a factor than winter temperatures.
- Creeping bentgrass, annual bluegrass and ultradwarf Bermudagrasses are the turfgrasses typically seen with Pythium issues.



A number of fungicides can be used in early curative situations for Pythium.



many different Pythium diseases. There is Pythium blight, which is a foliar disease that typically develops during hot, humid weather and is typically associated with native soil fairways or putting greens. However, with ultradwarf Bermudagrass putting greens we see Pythium blight during periods of wet, cloudy weather. This typically occurs during the spring and fall, but it could also occur during the summer if wet, cloudy conditions persist for a period of days or weeks.

"Pythium root rot is a disease of putting greens, primarily, and is associated with hot, wet conditions, as well," Kerns adds. "This disease is also associated with summer stress... it is our biggest issue on creeping bentgrass putting greens in the transition zone. It can occur in Northern climates, as well. This disease is poorly understood with regard to specific weather conditions, but Dr. Lee Miller and I received funding from the GCSAA and local chapters in Missouri and Wisconsin to examine this disease in more detail.

"The final disease is Pythium root dysfunction," Kerns adds. "This particular Pythium disease has only been associated with creeping bentgrass putting greens of high sand content that are relatively young. With Pythium root dysfunction, the pathogens infect when soil temperatures are between 55 and 75 F, but symptoms do not manifest until the plants experience heat or drought stress. This disease is associated with moisture, too, but high moisture contents when soil temperatures are conducive for infection."

Overall, the common theme with Pythium diseases is moisture, but the timing of the moisture is different for each disease, according to Kerns. His suggestion to superintendents: Send samples to a diagnostic lab if they suspect a Pythium issue because all Pythiums are not created equal.

FIND THE CURE

Fortunately, if Pythium rears its ugly head on your course, it's not too late.

"There are several really great fungicides that can be used in early curative situations, such as when the first signs of infection appear, including Stellar," says Dr. Jill Calabro, Valent Professional Products' regional field development manager. "If the disease has progressed, a fungicide such as a Terrazole may be necessary."

Jim Kerns, Ph.D., turfgrass pathologist at North Carolina State University, suggests high rates of Subdue, Segway, Stellar or Banol for curative management of Pythium blight. Pythium root rot and Pythium root dysfunction are more difficult to manage when they develop, though.

"The damage to the root system has already occurred if symptoms develop, however, there are some steps that can improve turf quality," Kerns says. "We have heard from superintendents that curative applications of Terrazole and Segway are effective when applied at high rates and short intervals (5 to 7 days as weather conditions persist).

"For example, an application of Terrazole followed by Segway for 3-4 days has slowed the development of Pythium root rot in our experience," he adds. "Unfortunately, managing Pythium root rot chemically is more of an art form than science. Culturally, this disease is normally associated with low-lying areas of putting greens, so monitoring soil moisture levels is critical. In some circumstances, due to subsurface flow of rain and irrigation water, it may not be necessary to water certain areas of putting greens. I would advise superintendents to map their problem greens, at least, to determine if water is accumulating in certain areas of the putting green, because this is most likely the areas Pythium root rot will be most severe.

Curative applications for Pythium root dysfunction are rarely successful, according to Kerns. He has seen some response from high rates of Insignia and some have reported suppression with mixtures of Signature and Banol.

Kerns says the best way to combat Pythium root dysfunction when it occurs is to raise mowing heights, increase spoonfeeding of N (from a 1/16 to 1/10 or 1/10 to 1/8), alternate mowing and rolling ... basically anything that alleviates physiological stress on the plant. This is also beneficial for Pythium root rot.



Overall, the common theme with Pythium diseases is moisture, but the timing of the moisture is different for each disease.

Considering the variations, no region, nor turfgrass, is safe from Pythium.

“Pythium blight can occur in all parts of the country, but clearly is more common in southern and transition zone areas that normally experience the hot/wet weather conducive for Pythium,” Calabro says. “All grasses are susceptible to Pythium blight, though cool-season grasses are more susceptible.”

Kerns says climate this spring and summer will play a major factor. Perennially, Pythium root rot is problematic throughout the transition zone, while Pythium blight continues to plague some ultradwarf putting greens.

“When I was at UW-Madison, we rarely [saw] Pythium root diseases, yet Pythium blight could be problematic if our summers were warm and wet,” he says. “Basically, I cannot say what area should be most concerned with Pythium diseases. Superintendents in each area should be aware of the weather - which they all are - and if conditions are conducive for a particular Pythium disease, then deploy the appropriate management strategy.”

Creeping bentgrass, annual bluegrass and ultradwarf Bermudagrasses are the turfgrasses typically seen with pythium issues, Kerns says. However, most turfgrasses are susceptible to Pythium infections.

“Perennial ryegrass is the grass species that many turfgrass pathologists use to test fungicides for efficacy against Pythium blight, so if turf managers are growing perennial ryegrass, then beware of Pythium blight,” he says. “It is not one I saw much of in Wisconsin or North Carolina because the grass was not commonly grown in either area.

“Seedlings are particularly susceptible to a disease called ‘damping off,’ so if new seedlings are planned, it is imperative to protect against damping off,” Kerns adds. “Many fungi can cause the disease, so we typically suggest tank mixing a Pythium product (Segway, Subdue, Banol, Stellar) with Chlorothalonil, Heritage, Insignia, Compass or Disarm.”

As for what part of the course that’s generally affected, Calabro says low-lying areas or areas with poor drainage known for standing water, and areas with poor air circulation are most susceptible to Pythium blight (and many other diseases, for that matter). A good preventative measure?

“Increase drainage and air movement as much as possible,” she says. “Consider utilizing fans in closed-in areas. Irrigate early in the morning. A monitoring program is also important: Watch for Pythium development in areas with a history of disease development and keep track of

weather forecasts. Treat preventively with fungicides, such as Stellar Fungicide, when hot/wet conditions are predicted.”

In addition to watching the weather, Kerns suggests communicating with a local turfgrass pathologist now to develop a plan of attack for the summer.

While the variations of Pythium make it difficult to suggest a one-size-fits-all plan, Kerns says developing a sound fertility and watering regime that promotes healthy rooting will help in combating all diseases.

“I also think it is important to ask for help from your peers or local turfgrass faculty,” he says. “Specifically for Pythium blight, limit nitrogen applications during hot, humid periods and schedule preventative applications a week to a few days prior to the development of hot, humid weather. In my experience, superintendents are good with Pythium blight management.

“The Pythium root diseases can be tricky, however,” Kerns adds. “For Pythium root dysfunction, most of the preventative management should be focused when soil temperatures are between 55 and 75F. This would include preventative fungicide applications, nitrogen fertility and limiting watering if possible.

“For Pythium root rot, we typically suggest starting preventative fungicide applications in May in North Carolina,” he continued. “We normally see substantial rainfall in May, followed by hot weather. So if, or when, that happens in other regions of the United States, it is time to manage for Pythium. In some circumstances that may be a short window or in others it could be a very long window. I know some courses in the Pacific Northwest have struggled with a Pythium disease, and scheduling fungicide applications or other cultural practices can be challenging.”

Both Kerns and Calabro suggest sending a sample to a diagnosis lab - most state universities offer disease diagnostic services - if Pythium is suspected. This is especially important in the case of a possible cool-season Pythium blight or Pythium root rot infection, as these can be easily confused with other diseases, Calabro says. **GCI**

Rob Thomas is a Cleveland-based writer and frequent GCI contributor.

Sure, you love the game.

It's what brought you to where you are now. But your passion is for the course itself. Nurturing growth and protecting your turf. That's the game you're really good at. Thing is, demands to do more with less – less water, fewer chemicals, fewer dollars – aren't making it any easier.

Are you up to the challenge?

Committed

See how committed CIVITAS™ is to getting you the results you want. Ask your distributor about our **Money-Back Trial** or visit civitasturf.com.



Always read and follow product label instructions.
Use of the product that varies in any way from the product label instructions is a violation of federal and state law.

™Trademark of Sunco Energy Inc. Used under license.





Jeffrey D. Brauer is a veteran golf course architect responsible for more than 50 new courses and more than 100 renovations. A member and past president of the American Society of Golf Course Architects, he is president of Jeffrey D. Brauer/GolfScapes in Arlington, Texas. Reach him at jeff@jeffreymbrauer.com.

THE VALUE OF A GOOD SUPERINTENDENT

We still undervalue and take for granted what you do. This must change.

In the past, my column has addressed the value of master plans, contractors, architects, tree removal plans, and other things. In looking through my titles, while I have written about the things superintendents do, but I have never addressed the value of a good superintendent.

I put myself through college working golf course maintenance. As a result, I have always favored the superintendent's viewpoint on all things golf related. Right or wrong, I have developed the opinion that golfers all too often overlook the difficulty of the superintendent's job.

While it's hard to summarize, I can give you a few ideas, even if quoting others. Some of my favorite pithy quotes concerning superintendents:

"You'll never be able to define a great superintendent until you had one."

"A really good superintendent is much less expensive than a mediocre one."

"Anyone can maintain a golf course with a big budget. A great one can do it on a modest one."

"Your superintendent is part scientist (entomologist, meteorologist, agronomist, edaphologist (soil science), environmentalist, etc.) part engineer (drainage expert), part financial manager and part purchasing agent. Budget management is important – and time consuming – but they still need to make time to get out and ride their golf course. No one can manage a golf course from an office."

Of course, he/she is also an HR director who needs to hire, relate to, and inspire lower paid workers (who often don't speak English) every day. I am always amazed at the productivity differences I see between similar golf course crews. A good superintendent

gets a lot out of a crew.

On most days, they also need to work with corporate chieftains with equal aplomb, often switching gears in a matter of seconds. Personnel management isn't taught in turf schools, and probably only lightly touched on in even business schools.

Short version, example No. 1 – growing grass is easy, managing people isn't.

And yet, for all of the above, most people hear "superintendent" and see Bill Murray in *Caddy Shack*, and many expect to see him (her) in overalls and driving a tractor.

“When they have a problem, they don't call an outside consultant. They usually call the superintendent next door or across town, who more often than not willingly shares all the information – and sometimes equipment – they have.”

As regular readers of this magazine know, fellow columnist Terry Buchen can spin a phrase while talking course maintenance. He puts his respect for the qualifications of a good superintendent this way, "All you need is brains and common sense... and the ability to be a team player... and work long hours... and love and understanding of golf....and..."

Short version example No. 2 – the list of things a superintendent must do – and do well – goes on and on.

The hardest part about the job is that it's so easy to measure the results – you can see absolutely everything they do, right and wrong. Nothing doesn't show up. All actions are reflected on the ground and in golfers

eyes... if not immediately, then soon. But, rising expectations blind most golfers to the "right" and they usually see only the wrong or mistake the best that can be attained given the superintendent's prime assistant is none other than Mother Nature with a mistake by the superintendent.

Superintendents are inventive problem solvers. When they have a problem, they don't call an outside consultant. They usually call the superintendent next door or across town, who more often than not willingly shares all the information – and sometimes equipment – they

have. They may not have invented networking, but they have perfected it for their own use.

Somewhere in the average superintendent's routine, is taking time to mentor their fellow superintendents, including the next generation. Most attend local, regional and national meetings of their associations to further their education, and share what they know with others.

We still undervalue everything a good superintendent does. We take them entirely too much for granted. We think we understand their job as well as they do... and often let them know that. It's time for that to change, and I nominate 2014 as the right time to do it. **GCI**

It's not just an ordinary app. It's a **bold**, new interactive experience.



1. Download on the App Store.
2. Click "Subscribe" if you are a new subscriber, or "Validate" if you currently receive our magazine.
3. Enjoy full access to the industry's best news and product information, including app-exclusive content.



Engage Plan B

Your career as a golf course superintendent hasn't worked out. Never fear, says Bruce Williams, you have options.

by Bruce Williams, CGCS

People aspiring to be golf course superintendents spend a lot of time and money to move up the ranks in the profession. It is not uncommon for superintendents to spend four years in college and as many as 10 years working on the crew, learning as an intern and eventually joining the management team as an assistant golf course superintendent. Golf course management is a very specialized industry and it does require a lot of training and education to manage facilities worth millions of dollars with equipment fleets at close to \$1 million and budgets from \$300,000 to \$2 million for an 18-hole golf course.

I often get calls from people who are looking to the future, some are just planning ahead, and others find themselves unemployed and looking for a new job or even a new career path. Typically, golf course superintendents are good planners when it comes to their courses, but they are lacking when it comes to thinking ahead about their careers. With more golf courses closing than opening it's obvious golf is not growing. This has made employment into a game of musical chairs. Fewer jobs are available and many of those are being filled internally or with recent grads. Considering all of this, there is no time better than the present for superintendents to develop Plan B in their careers.

Plan B may or may not be a direction you currently want to go, but it provides alternatives should the need or desire arise to make a switch in your career plans.

TYPICAL RESPONSE. Whenever I ask a superintendent what he would do if he wasn't a superintendent there are always the typical answers. They usually start off with the main three answers of selling equipment, fertilizer, or chemicals in the turf market. Yes, that is a viable career path and many have been successful in those endeavors. We all know how many of those jobs open up in our areas in any given year and it may be even less than the amount of open superintendent positions. If one goes that route it is beyond knowing the products and managing turf.

Good salespeople will be successful when they learn how to sell, build a book of business, service their clients, and bring value to their customers. It may take time to grow sales to make the new boss happy and don't expect it to happen overnight.

MOVING UP. Another obvious career alternative is to move on up in the management structure and become a director of golf or a general manager. I am seeing more and more clubs taking a good look at their superintendents to fill the top jobs when they become available. Owners and boards

recognize the commitment, education, expertise and skills superintendents have qualify them for a top job. As costs are being cut it is not surprising to see more golf facilities downsizing at the management level. Where it once was standard to have a pro, manager and superintendent, now there will be fewer people in management providing opportunities for supers to vie for the top job.

Consider moving outside of your comfort zone to open up new career opportunities. For example, some people are very good at their hobbies and could easily transfer those skills into a new business. A fellow who worked for my father enjoyed the outdoors and flying. Eventually he turned his offseason job of being a bush pilot into being a full-time pilot and guide in Alaska. Another fellow was an avid photographer. He took those skills and has risen prominently into one of the best landscape and outdoor photographers around. A neighboring superintendent in Chicago loved to fish. He liked it so much he started a charter boat business to take clients out fishing on Lake Michigan and it became his full-time job. These are a few examples of people who have taken a passion and turned it into a business venture.

THINK OUTSIDE THE BOX. One we run out of the standard alternatives and the few


TRANSFERABLE SKILL SETS

Sadly, many believe all they know and can do is to be a golf course superintendent. Being a superintendent is a wonderful career path. But things are changing in the industry and I suggest people look at what skills they have and what skills they need to develop to be marketable in the current economy and employment picture. Here is a list of typical skills many superintendents possess that transcend into other employment opportunities:

- Scheduler
- Administrator
- Logistics
- Fleet manager
- Purchaser
- Planner
- Organizer
- Communications
- Tech savvy
- People manager
- Motivator
- Trainer
- Budget management
- Resource manager
- Negotiator
- Educator

Of course, there is advanced training, as well. These specialized areas include:

- Horticulture
- Environmental science
- Plant diseases
- Vegetable and crop production
- Tree care
- Landscape
- Drainage
- Landscape design
- Soil



Typically golf course superintendents are good planners when it comes to their golf courses but lacking when it comes to thinking ahead in their career.”

hobbies or passions we might have it is time to do some real thinking. As usual, I don't intend to tell you what to do. Rather, this article is intended to get you to think about other possibilities should you choose to change career paths or have hit a dead end at your facility.

The easiest examples of successful transition come from friends. I admire their entrepreneurial spirit and for having the courage to take the leap to think outside the box. Some transitioned before leaving their superintendent positions while others had to do it on the spur of the moment.

Greg Wojick is a well-known superintendent in the Connecticut market. At the height of his career he opted to step back and build a business. Greg used some of the skills he needed as a superintendent and added a few more. Currently, his business develops websites and also works with planning and mapping for golf courses.

Wolfgang Mueller was a neighbor of mine in Chicago. He managed Onwentsia Club for many years. Wolfgang had some very prominent members and one decided to develop his farm into a wonderful golf course (Conway Farms Golf Club) and also to develop part of the parcel into housing and commercial real estate. It took quite a few years for Wolfgang to develop the site for Mr. R.D. Stuart and his partners, but land planning, project management and such were the skills that allowed Wolfgang to manage the process and the property. In addition, Mr. Stuart also had other properties in Wyoming and South America that required attention so Wolfgang became a property manager in several states and around the globe.

You may remember Danny Quast who did a great job as superintendent at Medinah CC in Chicago. After his stint at

Medinah, Danny decided it was time to use his business and organizational skills to develop several businesses in Wisconsin. Danny has a tree nursery and landscape business and also has a very successful distributorship from which he sells a variety of materials to the horticulture industry.

Mike Harmon was working for Toll Bros. building Moorpark Country Club. Once that course was built out there were several opportunities to work in other areas of the organization. Mike had the right skills to move into such a position. Today, he still works for Toll Bros., but his days are spent negotiating contracts, obtaining permits, planning infrastructure. Mike's story is a case of not leaving an organization, but rather changing roles and utilizing a number of his superintendent skills to take on greater responsibility.

We all spend considerable time communicating. Now that may be as a writer, a blogger, a speaker or as a planner. It is easy to see a few of us who have taken those skills and put them to use after our superintendent days were over. Publications are always looking for solid writers. Hone your skills and submit articles to publications like Golf Course Industry. Then there are some writers who have gone on to develop complete books like Mike Bavier and his book "Practical Golf Course Management – The Magic of Greenkeeping."

Superintendents are problem solvers. Thus, there are times when we must invent new tools and equipment to accomplish the tasks at hand. A few superintendents have turned that into a viable manufacturing and distribution operation for their products. Some have even sold their patents or rights to a few of the major manufacturers. Recently a new product has been developed and is sold as Sun-Screen. This product is superintendent driven and sold. Without Gary Grigg, who was a superintendent at the time, there

would not be Gary's Green and a variety of other products from that company. Gary walked away from a prominent job as a superintendent to start his own business which has become very successful in the last 17 years.

A FEW MORE TO ADD TO THE LIST. Several of my friends gave up their jobs to venture into golf course architecture and design work. Now they may never equal the heights of Tom Fazio or Robert Trent Jones as architects, but a few have found sufficient work in smaller projects and remodels that bigger firms may turn down.

Lots of businesses hire professional trainers. These people learn the technicalities of a product line or principles that they share with audiences. Good communication skills prepare you for this and it is an easy transition.

I have met a fair number of former superintendents now working in the government sector, especially for water agencies. We understand water. We understand projects. We understand processes and we understand project management. Altogether, those traits makes for a good fit.

While not all turf is the same it is fairly easy to switch the type of grass areas we maintain. Superintendents have become sports turf managers for minor league teams, parks systems, school fields and even cemeteries.

For those wanting to stay closer to golf, consider becoming an agronomist for the USGA or a regional agronomist for a management company. Start your own management company or golf course maintenance outsourcing? Better yet, buy a golf course at rock bottom prices and you can be your own boss.

Superintendents have many skills. We do many things inside or on the peripheral of our existing jobs. Think about your alternatives and develop a Plan B. It is always nice to have options, especially when it comes to our careers.

Bruce Williams, CGCS, is principal for both Bruce Williams Golf Consulting and Executive Golf Search. He's GCI's senior contributing editor.





GRIGG BROS.

INTRODUCES
the next generation of
soil specialty product

RHIZONIFY™

6-4-4

- A new product from Grigg Brothers designed to improve plant and soil nutrients, carbohydrate and moisture status.
- Contains a specifically designed wetting agent formulated to improve nutrient placement and uniformity of the wetting front in challenging soil conditions.
- Readily available plant nutrient (N, P, K + minors) plus reactive non-plant food ingredients including fulvic & humic acid, plant sugars, amino & organic acids to enhance and stimulate the rhizosphere
- Useful to manage and promote recovery from localized dry spot (LDS)
- Promotes root growth and recovery from environmental stress, disease or insect damage



For more information
scan or link.
<http://gri.gg/info1314>

For a Distributor Near You Call:
1-888-246-8873
or find us on the web at: www.griggbros.com



VISIT

<http://griggbros.com>



JOIN

<http://gri.gg/join>



LIKE

<http://gri.gg/fb>



SUBSCRIBE

<http://gri.gg/tv>



Bill Brown, CGCS, is CEO of Turf Republic and founder of iTurf Apps. Bill has spent 20 years on golf courses, including the last 5 years at Hartefeld National Golf Club. He's served as an officer and board of director for the Philadelphia Association of Golf Course Superintendents, as well as served on national committees. Contact him at billbrown@turfpublic.com.

THE MORNING AFTER

As the Golf Industry Show hype wears off and the adrenaline returns to normal, how to best maximize your show experience.

By now we have all returned from hopefully a warm and sunny Orlando and a very successful 2014 Golf Industry Show experience. So it's not unusual to come off that show high and now have to deal with an unusual sense of emptiness.

Think about it. You're invigorated and ready to keep going. You've spend a week meeting friends for breakfast or coffee. You've participated in networking that spanned throughout the day and night.

Now what?

It's similar to the morning-after feeling superintendents have to deal with following a major professional golf event. In some cases, the preparation takes years. In the months leading up to the event the controlled chaos begins to kick in. And during the week of the event the feelings of excitement and elation are difficult to describe to those not in the industry. With the event over the tents come down and the attention fades just as quickly. You're almost left with a lingering sense of event withdrawal. You're left asking: "Where did everyone go?"

Attending the Golf Industry Show has a similar effect on our psyche.

Social media allows the hype of an event like the Golf Industry Show to steadily build well in advance. Vendors create and launch their campaigns to show the latest and greatest in equipment and chemistry. Attendees are busy discussing with friends and colleagues what they plan on doing during show hours. Classes, trade show booths, and even planning the week's evening entertainment becomes all-consuming.

If you have never attended a Golf

Industry Show, the feeling I get inside is hard to explain. For me, it seems like one really long, exciting day. You get tired, your feet hurt, your back groans from the constant stretching, and your throat goes hoarse from the seemingly endless conversations. Nevertheless, you just keep pushing forward – learning, networking and having fun.

So what do you do when you get back home? Here are some ideas for you to consider, and hopefully implement, in the days following your show experience.

“With the event over the tents come down and the attention fades. You're almost left with a lingering sense of event withdrawal.”

TO THE CLOUD! For those who attended, you spent the week networking with like-minded individuals from all over the world. If you didn't utilize a mobile app at the show, you are probably emptying out that portfolio bag with at least a hundred business cards. Let's get them into the cloud so you can continue networking with these individuals.

You can utilize an app called World Card Mobile. This app for both Android and iOS lets you literally take a picture of a business card and have it entered into your address book. This will save you hours.

Attending educational seminars and sessions, or just walking the trade show floor, can leave you with a mountain of pamphlets and packets when you arrive home. If you did not

utilize Evernote at the show to collect all this, no problem. You can use an app called ScannerPro. This application allows you to photograph documents and automatically load them to either Dropbox, GoogleDrive or Evernote or all three. Having these documents uploaded into Evernote allows them to be completely searchable for future reference.

GET SOCIAL. For many of us, we will exchange social media contact information. When you arrive home, be sure to update your lists on Twitter to continue to remain connected with your growing network. Remain engaged with those you meet because they will become not only a valuable resource, but also great friends.

For vendors attending the show, arriving back home means it is time to see how successful your social media campaigns were at the event. Download the metrics and analytics to look closely at how your social media campaigns were received by show participants. If you utilized multiple platforms and hashtags to engage your target audience, then be sure to understand what works and what didn't. Likewise, you have the opportunity to expand your social media network, and remember those individuals following you are going to be hungry for more – and new – information. Take advantage of the excitement and increased social authority you gained at the show to continue to engage and grow your business.

Getting back to the office the first day after a big show and doing the things I've outlined will soften the inevitable post-event letdown. It'll also ensure the value of attending the show remains high and leaves you hungry for San Antonio and #GIS15. **GCI**

Musketeer®
Triple PGR technology that encapsulates the benefits of paclobutrazol alone, yet is gentle to both your budget and your turf



Legacy®
The all-around PGR excelling in extending the duration of growth regulation and reducing the "rebound effect" and *Poa annua* encroachment in cool- and warm-season turfgrasses

Cutless® 50W/MEC
The premier PGR providing unsurpassed turf quality and color in both cool- and warm-season turfgrasses while efficiently suppressing out *Poa annua*

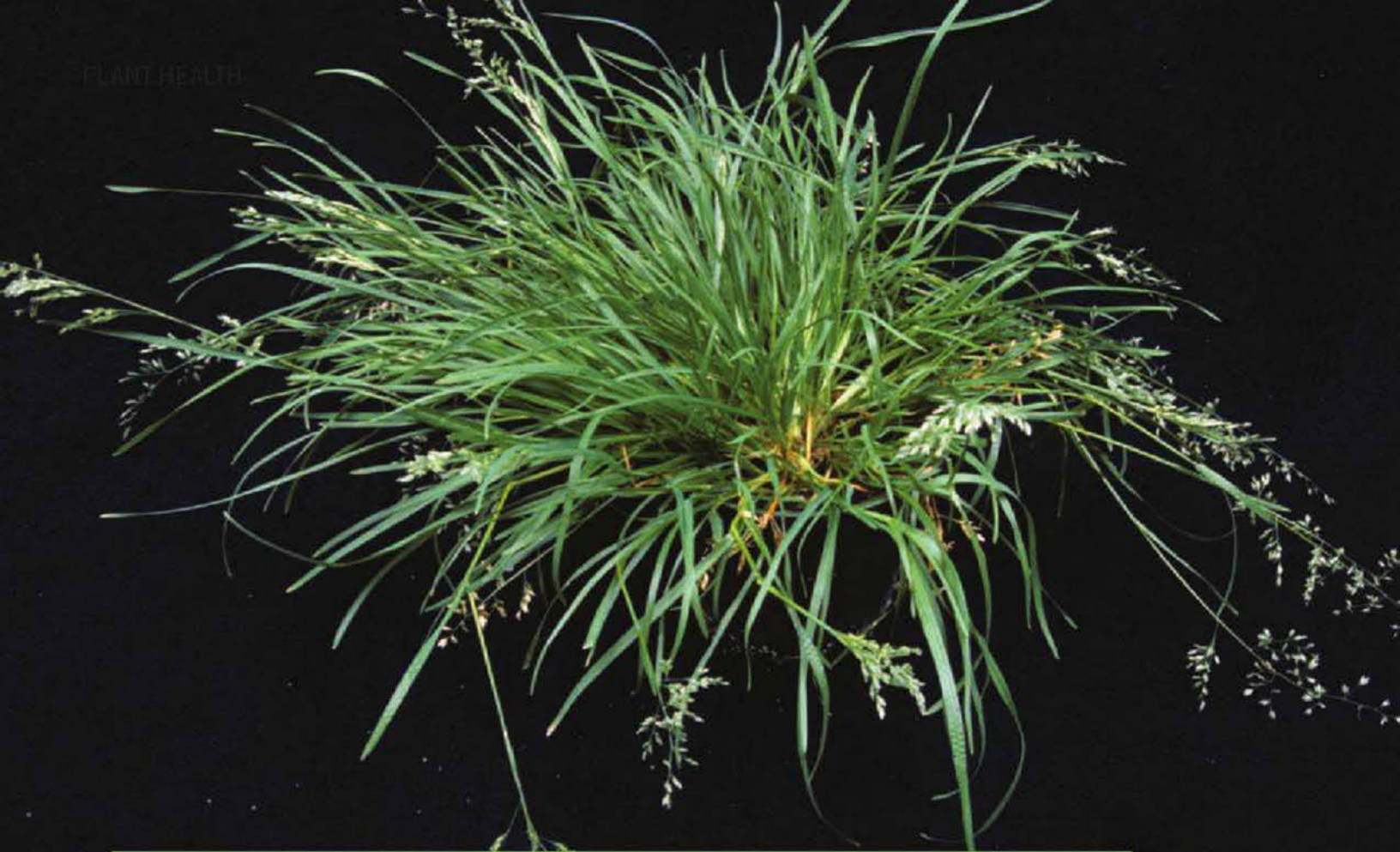
SePRO. Leader in Turf PGR Technology

From the reintroduction of Cutless 50W in 2002 to the patented breakthrough of the dual synergy of Legacy, and now the latest PGR innovation of the combination of three PGR technologies with Musketeer... SePRO has been at the forefront of turf PGR leadership. For more information about the innovative solutions from SePRO, contact your SePRO Technical Specialist or call 1-800-419-7779. Visit sepro.com



SePRO Corporation Carmel, IN 46032

Always read and follow label directions. Cutless, Legacy and Musketeer are trademarks of SePRO Corporation. © Copyright 2014 SePRO Corporation



Poa particulars

Knowledge is the best weapon in controlling *Poa annua* on your course. Our experts give you the rundown on what you need to know to deal with this formidable foe.

By John Torsiello

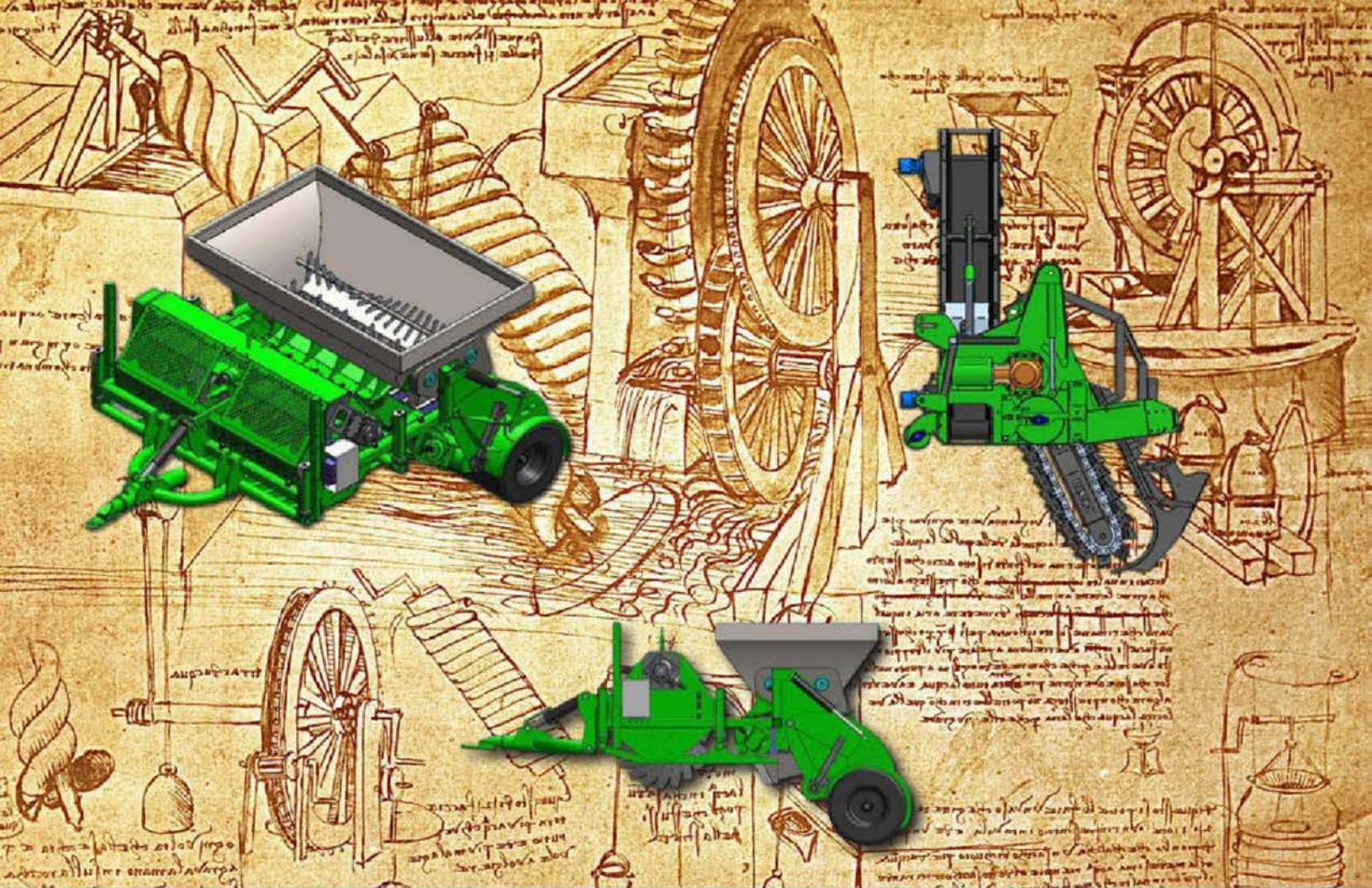
Controlling *Poa annua* remains on the stickiest problems superintendents face on a year in and year out basis. Eradication, where desired, is extremely difficult, while management in areas where superintendents must live grudgingly with the grass by incorporating it into the spectrum of their course's strains is equally challenging. But that hasn't stopped researchers and superintendent from continuing to study the issue as they seek ways to, if not conquer their testy foe, then at least allow turfgrass managers to live somewhat amicably with *Poa annua*.

A recent report by Dr. Zac Reicher and Dr. Roch Gaussoin, professors in the department of agronomy and horticulture at the University of Nebraska-Lincoln, calls *Poa annua*, or annual bluegrass, a "formidable foe." They say chemical controls have evolved over the years and are to a degree

effective, but controlling any grass strain is difficult because of similar physiology and a lack of selective herbicides.

What makes *Poa* such a stout opponent is the simple fact that it is one of the most widespread plants in the world, with the grass found near the Arctic Circle to near the tropics. Obviously, *Poa* has learned to adapt and indeed thrive in a multitude of environments. If, as wags say, cockroaches would be the only animal or insect to survive a nuclear winter they might be munching on *Poa annua* to stay alive.

The UNL report says that controlling annual bluegrass starts with cultural controls because chemical controls have shown to be effective only in the short term and without solid control controls aimed at omitting annual bluegrass re-infestation. And, control is often regional and even course specific.



Da Vinci was ahead of his time...

We are too.

The latest equipment innovations are at
www.stecequipment.com

1-888-325-2532
sales@stecequipment.com

STEC
SPECIALIZED TURF EQUIPMENT COMPANY

 Follow us
[@STEC_Equipment](https://twitter.com/STEC_Equipment)



KEY POINTS

Controlling any grass strain is difficult because of similar physiology and a lack of selective herbicides.

Poa annua is one of the most widespread plants in the world and has learned to adapt and thrive in a multitude of environments.

Poa control is very site specific because of the differences in the level of severity and weed pressure that vary around the course.

There are tested and effective products to control annual bluegrass, and a few new ones in the pipeline.

However, there is no silver bullet method. It's advised that multiple control methods – post-emergence, plant growth regulators, pre-emergence, cultural practices – must be put in place to effectively control *Poa*.

"*Poa annua* control is certainly region specific," says Paul Giordano, a graduate research assistant in the Plant, Soil and Microbes Department at Michigan State University. "Annual bluegrass is impressively genetically diverse, thus adapted to a wide range of environments. The annual types (*var. annua*) and the perennial types (*var. reptans*) of this species often differ greatly in their susceptibility to herbicide applications, diseases, drought, heat, and other management strategies." He says climate (air and soil temperature, humidity, etc.) also play a role in whether or not particular control strategies are effective. "Often times the survival and proliferation of *Poa annua* on a golf course is dependent on the disease pressure in the region. For example, anthracnose and summer patch are two limiting diseases of annual bluegrass, which of course can be much more severe in certain regions of the country than others."

Patrick McCullough, assistant professor and extension specialist at the University of Georgia, agrees that cultural and chemical practices used for annual bluegrass control vary by region and even golf course.

"The history of herbicide use will eventually affect the biotype of annual bluegrass that is prevalent on one golf course," he says. For example, exclusive use of dinitroanilines herbicides (pendimethalin, proflaminate, others) for annual bluegrass control over time may shift the population from a susceptible biotype to a resistant one. If this happens, it may take ten years or more using other herbicides with different modes of action to shift the population back to one that is susceptible to dinitroanilines herbicides. The presence of perennial biotypes will also vary by location, and are much more difficult to manage with herbicides than annual biotypes.

Aaron Hathaway, a research assistant II at the Hancock Turfgrass Research Center, concurs that *Poa annua* control is "definitely region and course specific." He adds, "Depending on the age of a site, especially a golf course, the question of controlling annual bluegrass may be a tougher decision. Golf courses that have been around for decades may have much more perennial type *Poa* (*Poa annua* *var. reptans*) than annual types. This annual bluegrass can produce less seed heads, be less susceptible to various stresses with deeper and more developed root systems, have more stoloniferous and tillering growth habits, and produce a beautiful stand for fairways and putting green surfaces."

However, he adds, the above-mentioned perennial types are much more difficult to control than annual types. "There are all kinds of *Poa annua* plants that fall somewhere in between the perennial and annual types and they all may respond differently to herbicides and plant growth regulators, and to cultural practices as well." All of

these biotypes may respond differently to weather such as heat, drought, and winter condition prone to causing winterkill (snow mold, desiccation, and freezing).

Hathaway believes winterkill causes superintendents to think more about controlling annual bluegrass on golf courses. "One winter can do a lot of damage to a fairway or green or many fairways or greens that are made up of some or mostly annual bluegrass. Creeping bent grass doesn't have this high susceptibility to winterkill and easily makes it a better choice for areas on golf courses that are prone to ice or have no wind breaks to prevent desiccation, etc."

McCullough claims *Poa* "was a tough weed to stay ahead of" last fall in the southeast because of a cool and wet summer. "We had annual bluegrass germinate a few weeks early in Georgia this year, and we may be setting up for a tough winter and spring. Timing pre-emergence herbicide treatments this year was difficult and we may see a lot of cleanup applications needed this winter for uncontrolled annual bluegrass from pre-emergence herbicides applied too late." Superintendents may need to switch chemistries of the herbicides they are using, and have an appreciation for how resistance in weed populations may develop as a result of repeated use of herbicide or modes of action year after year, he says.

Dr. Jason Fausey, regional field development manager for Valent Professional Products, says *Poa* generally survives in shady, wet, compacted soils where desirable turfgrass is weakened. "The weakened turf allows for an opening and *Poa* will take advantage and fill in those areas. *Poa*, being a weed with a tremendous amount of

“Often times the survival and proliferation of *Poa annua* on a golf course is dependent on the disease pressure in the region. For example, anthracnose and summer patch are two limiting diseases of annual bluegrass, which of course can be much more severe in certain regions of the country than others.”

—Paul Giordano, Michigan State University

Turn on the color.



Vision Pro™ HD

High Definition Turf Colorant

Take your greens and tees from standard to picturesque with **Vision Pro™ HD** turf colorant. **Vision Pro HD** turf colorant provides a natural-looking, long-lasting green color that won't fade to blue. Specially formulated for chemical compatibility and can be used alone or in combination with many plant health and protection products.

betterturf.basf.us

 **BASF**

The Chemical Company

natural diversity in the gene pool, makes it very difficult to control. There are annual, biennial and perennial biotypes that all show varying degrees of sensitivity to herbicides."

Focusing on the basics, i.e. proper use rate, timing, product choice and application techniques, can help. "Managing all the different aspects to maximize a *Poa* control program is essential to either keeping *Poa* out or reducing the amount of *Poa* on the course," Fausey says.

Putting green height turfgrass is a bit more difficult to manage since fewer options exist for selective annual bluegrass control, Giordano says. Many of the products like Velocity are not labeled for use on greens. The best approach on putting greens is likely an integrated one, he adds, using management strategies that favor the growth and development of creeping bentgrass rather than annual bluegrass. "Over watering, for instance, can favor annual bluegrass invasion, as well as extremely low mowing heights that may create voids in the turfgrass stand," he says.

Reicher and Gaussoin's report states annual bluegrass in roughs can be controlled by turning off irrigation in July and/or August to force the desired grass into dormancy, which should kill the annual bluegrass. Apply any labeled pre-emergence herbicides (other than siduron) and start regular irrigation to bring the desired turf out of dormancy. The desired turf should recover fairly quickly, whereas the pre-emergence herbicide will prevent the annual bluegrass from germinating. A second application may be needed later in the fall or early next spring to maximize annual bluegrass control. Since some seed will remain viable, continue the late summer pre-emergence herbicide application for two to three years or until annual bluegrass is no longer a problem.

There are tested and effective products to help superintendents control annual bluegrass, and a few new ones in the pipeline. "Sureguard (flumioxazin) is a new herbicide we have been working with for the last several years in Bermudagrass," says McCullough. "This is a new chemistry for pre- and post-emergence control of annual bluegrass with significant residual control of annual weeds, such as crabgrass and goosegrass. Sureguard is the only chlorophyll synthesis inhibiting herbicide (protox inhibitor) available in turfgrass, and offers a new mechanism of action for post-emergence annual bluegrass control. It also picks up annual broadleaf weeds pretty well including henbit, hop clover, and chickweeds."

Giordano offers, "Some golf courses with extensive budgets may employ any measures available, including frequent use of growth regulators like paclobutrazol and flurprimidol, as well as post

emergent herbicides like bispyribac-sodium on creeping bentgrass fairways." These strategies are used to progressively shift the stand in favor of creeping bentgrass, slowly and gradually phasing the annual bluegrass out.

Hathaway says the product PoaCure (methiozolin) is "the newest and most promising product for poa control." It is not yet labeled. "The best thing about PoaCure is that it is extremely safe on other cool season turfgrass species, like creeping bentgrass and Kentucky bluegrass. Xonerate (amicarbazone) is new and I would say comparable to Velocity--it will injure creeping bentgrass some. You must make multiple application with a short application interval to achieve subtle conversion from annual bluegrass to creeping bentgrass, and it works best in warmer temperatures."

Trimmit (paclobutrazol) and Cutless (flurprimidol) are common plant growth regulators that have been around for a while and have proven to work well for annual blue grass control. "But you must just keep using them as a program approach year after year for the most part," Hathaway says.

It is important to understand the active ingredient in the new products they are using, says McCullough. "Although there have been new products released recently that have improved turf tolerance or efficacy for annual bluegrass control, many of these herbicides are old modes of action with significant resistance issues." Turf managers trying new products need to do their homework on the active ingredients, he advises, and consider rotating modes of action to minimize resistance issues in annual bluegrass populations.

"Time will tell," he adds, on whether there is a breakthrough *Poa annua* control product in the not too distant future. "We have been testing several new herbicide chemistries with significant potential for controlling annual bluegrass. However, the cost, selectivity, and labeled areas may not be suitable for all golf courses, if and when they are released."

New herbicides or plant growth regulator will aid in the fight against *Poa*, says Dr. Fausey. "However, long-term, the best management programs in the future will intergrade all available control options."

Hathaway adds, "Supers should know that there simply is no silver bullet method for *Poa annua* control. If control is desired, multiple control methods (post-emergence, plant growth regulators, pre-emergence, cultural practices) must be put in place to do it well." GCI



Annual bluegrass is impressively genetically diverse, thus adapted to a wide range of environments.

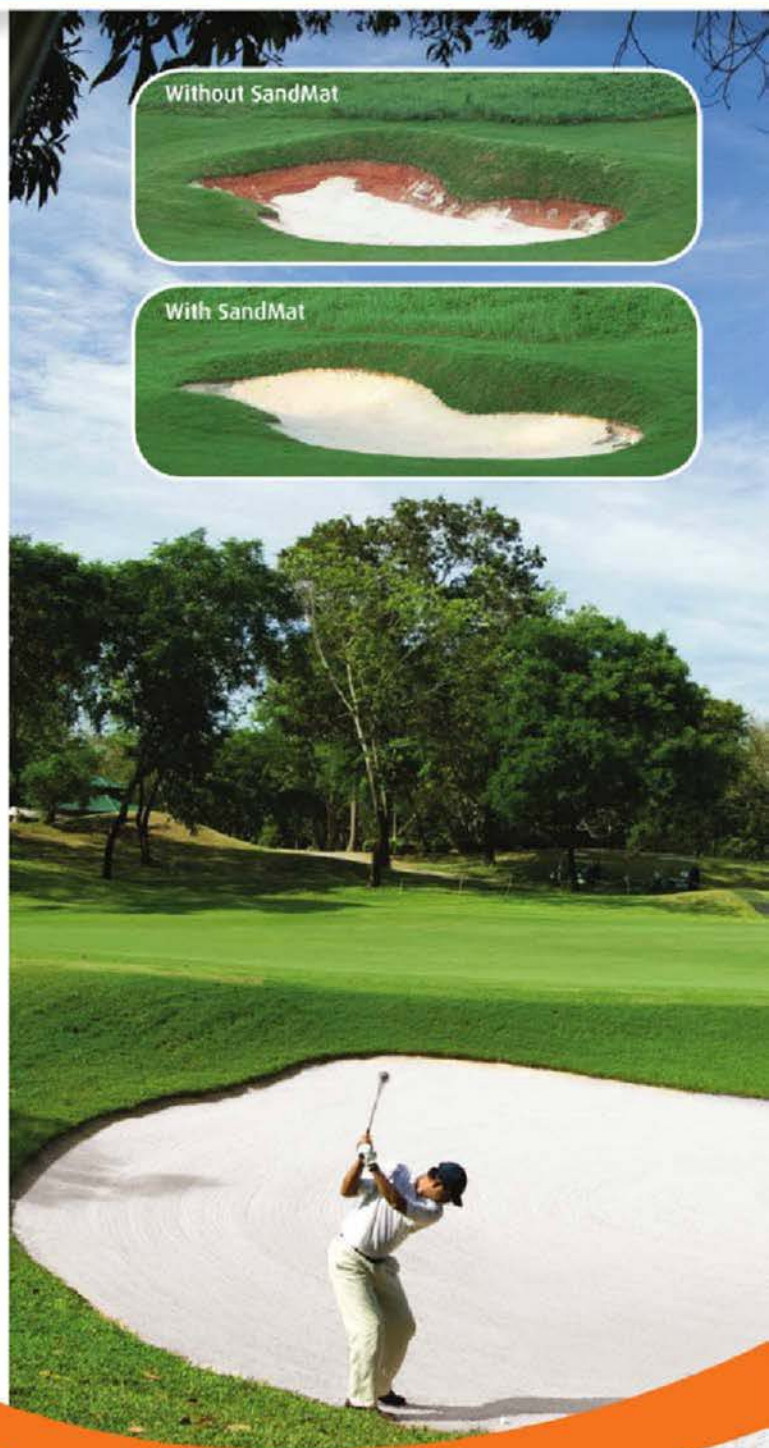
John Torsiello is a Torrington, Conn.-based writer and a frequent GCI contributor.

SandMat

SandMat is a revolutionary product that has been engineered for superior drainage and erosion control. Used by high profile courses around the world, **SandMat** is the professional's choice for bunker lining.

- Chosen by premier Golf courses worldwide
- Improve drainage
- Reduce bunker maintenance
- Extra wide for faster installation
- Saves labor
- Saves raking
- Available in 5 different grades to meet any requirement

Take the **SandMat** Challenge and call now for your **FREE SandMat Trial**. **1-877-SandMat**.



SandMat
Bunker Liner





Terry Buchen, CGCS, MG, is president of Golf Agronomy International. He's a 41-year, life member of the GCSAA. He can be reached at 757-561-7777 or terrybuchen@earthlink.net.

Travels With Terry

Globetrotting consulting agronomist Terry Buchen visits many golf courses annually with his digital camera in hand. He shares helpful ideas relating to maintenance equipment from the golf course superintendents he visits – as well as a few ideas of his own – with timely photos and captions that explore the changing world of golf course management.

FOAM MARKER

This 2010 John Deere Model 4520 Tractor with a 2010 Lely Model L2010 fertilizer spreader has a Richway Industries Model TF2020SD foam marker that is used when fertilizing fairways and roughs. The holding box was built using a 3/4-inch by 1/2-inch thick angle iron welded together that then is mounted to the ROPS using existing bolts. The electric harness, included with the foam marker, was wired to an on/off switch on the tractor's right side control panel. The 1/2-inch-diameter discharge hose has a special "collector head" nozzle for foam disbursement that is placed next to the tractor's differential approximately 8-12 inches above the ground. Foam Trail is used at 2-4 ounces per gallon of water where the control knob adjusts the foam discharge rate as desired. The cost for the installation materials was about \$7 and the labor time was about 2 hours. This very exclusive private golf club requested to not be identified.



MECHANIC'S SERVICE VEHICLE

This 2008 Club Car Carryall 295 started out life as a beverage cart. The cargo box was built in-house using 16-gauge sheet metal and 14-gauge diamond plate on the bottom with a 1-inch-by-1-inch by 1/2-inch square tubing frame. Spare tires, fuel cans, shop rags, tire-repair kits, straps, cutting tools are some of the items carried in the box. The materials, including the paint and bed coating, cost about \$400. The 2010 John Deere Model AC2-CG35H-P Compressorator combination unit has a 3500/2300 watt generator that also powers a 15.4 cfm @ 175 PSI air compressor with a 3/8-inch diameter, 25-foot air hose mounted on a retractable hose reel. Mounting used rubber mounts and 5/16-inch-by-3-inch bolts and lock nuts. The 2011 Craftsman Model C931018 tool box was mounted to the front-mounted factory-installed Class III 2-inch receiver hitch with a mounting frame built measuring 26 3/4 inches by 12 3/4 inches by 11 inches made with 1 3/4-inch angle iron and supported by 2-inch-by-2-inch square tubing with side reinforcements made of 1-inch-by-1-inch square tubing inserted and bolted together. The materials cost about \$70. The two large Balkamp Model BK827459 side rear view mirrors, and mounting hardware, were installed by drilling holes in the front cowl per manufacturer's directions. They cost about \$35 each. About 16 labor hours were required. This very exclusive private golf club requested to not be identified.



COMPANY	WEBSITE	PAGE
Aqua Aid	www.aquaaid.com	11
BASF	www.betterturf.basf.us	53
Billy Goat Industries	www.billygoat.com	26
Club Car	www.ClubCar.com	2-3
Cushman	www.cushman.com	25
Direct Solutions	www.aatdirectsolutions.com	16-17*
FMC	www.fmcprosolutions.com	belly
Foley United	www.foleyunited.com	31
Grigg Bros.	www.griggbros.com	47
Jacobsen	www.jacobsen.com	60
John Deere	www.JohnDeere.com/Golf	14-15
Neptune's Harvest	www.neptunesharvest.com	37
PBI/Gordon Corp.	www.gordonsprofessional.com	21
Petro Canada	www.civitasturf.com	41
Plant Food Systems	www.plantfoodsystems.com	27
Qualipro	www.quali-pro.com	28
SandMat	www.sandmat.com	55
SePRO	www.sepro.com	7, 49
SipcamAdvan	www.sipcamadvan.com	59
Spectrum Technologies	www.specmeters.com	24
Standard Golf	www.standardgolf.com	29
STEC Equipment	www.stecequipment.com	51
Toro	www.toro.com	5
Trojan Battery	www.trojanbattery.com	19
Turfco	www.trufco.com	26, 35
Weed Man	www.weedmanfranchise.com	37

*denotes regional advertising

(DELOZIER continued from page 10)

market, the winners are the clubs that consistently perform at the highest level. Think of these three actions that can be launched immediately and with very little added expense:

1. Elevate course conditions. No one wants to play a course in poor condition. The golf course must be in great shape. There is no forgiveness for dead grass, weeds, mud-holes and unfinished projects.

2. Clean up! Thoroughly clean the clubhouse and keep it clean. Malcolm Gladwell points out in *The Tipping Point*, his best-selling book about trends

of change, that the first step in reducing crime in New York City was eliminating graffiti and broken windows. This simple step reinforces brand standards, admirable personal and professional habits and the sense of well-being for members, guests and employees.

3. Engage your staff. Ask the staff for ideas that will add to members' enjoyment and the operational efficiency of your club. Remember, everyone wants to play for the winning team and great ideas are hiding inside of every employee.

A few simple steps can make 2014 the year we get out of our ruts. **GCI**

FOR SALE

Discount Small Engines & Parts

Small engines & parts from Briggs & Stratton, Kohler, Tecumseh, Robin and more.

www.smallenginesuppliers.com

Also, look up your own parts and buy online at

www.smallenginepartsuppliers.com

MERGERS & ACQUISITIONS

ATTENTION OWNERS/BUYERS Thinking of buying or selling your Golf Course Business/ Commercial Real Estate?

Specializing In:

- GOLF COURSES
- GOLF COURSE COMMUNITY'S
- ACQUISITIONS

CALL: Eddy A. Dingman, CNS
Coldwell Banker Commercial NRT

National Golf & Marina Properties Group

847-313-4633

Eddy@nationalgolfandmarina.com
www.nationalgolfandmarina.com

SEEDS

NATIVE SEEDS

Largest distributor of native seed east of the Mississippi, from Canada to Florida! We specialize in upland to wetland sites, including bioengineering for riparian sites.

Your native seed source.

Contact **ERNST SEEDS** today.

www.ernstseed.com - 800/873-3321

SERVICES

Providing Bulk Transportation
of golf course sand, landscape gravel,
& other bulk materials

www.edgewaterbulk.com

info@edgewaterbulk.com
610-837-3867



Pat Jones is editorial director and publisher of Golf Course Industry. He can be reached at pjones@gci.net or 216-236-5854.

GLO

During a painful ordeal, one superintendent bares his soul on social media.

I met Jason VanBuskirk a year ago at the GIS when Bill Brown introduced him to me as part of the fledgling Turf Republic team. Honestly, the only thing that struck me about him at the time was that he was another sharp young guy committed to using social media to communicate with his members at Stow Acres CC in Massachusetts and industry peers. I knew him more by his Twitter handle – @URITurf – than as a person.

That's a funny thing about social media. It's sometimes awkward when you actually meet people with whom you've chatted endlessly with on Facebook or Twitter. There's a disconnect for a minute. The virtual relationship gets lost in translation when you're actually shaking someone's hand.

Flash forward to early December. I was talking with Bill and he mentioned Jason was dealing with something unexpected and terrifying: His wife Gloria was hospitalized after suffering a series of horrendous seizures. No history, no warning signs, no nothing. Her brain was short-circuiting badly. The doctors had no idea what to do and the picture was bleak.

I looked at pictures of Gloria on Jason's Facebook page. Young, healthy, fitness nut, pretty, always smiling... vivacious! Yup, that's the word: vivacious. Full of life and madly in love with her husband and two toddlers.

Then I imagined that same woman lying in an intensive care unit, wired up to a respirator to keep her alive and surrounded by physicians who apparently had no clue why this woman's central nervous system was going completely haywire.

Then I imagined Jason facing the reality that his wife was gravely ill. It must feel like the world has turned

upside down. Every bit of hardship I've gone through pales in comparison to sitting next to the woman you love in an ICU and wondering why something so terrible could be happening.

I talked with Bill again and he confirmed the seizures were getting worse and the doctors were putting Gloria into a medically induced coma.



Jason VanBuskirk with his wife, Gloria.

Not good. Then he told me Jason was blogging about the experience. I gulped hard and clicked on the WordPress link he sent and found... well, something completely unexpected.

For two months, Jason has been sitting in her hospital room at night and writing about Gloria. To me, he seems to be trying to capture both the beautiful and mundane moments of their life together. Each entry is a warm memory... some little thing she'd done that exemplifies what kind of person she is, something funny she'd said. He's painting a lush and gorgeous portrait of her with words and images. Promise me you'll follow this link to go read Jason's blog. You absolutely won't regret it.

<http://bidmcgvb.wordpress.com/>

Jason's writing is magnificent because it's coming from the very core of his soul and he's doing it for the highest possible purpose. No matter what the future holds, Jason has given an amazing gift to his children, his family and all of us by portraying the vivacious, funny, warm and wonderful woman he loves very, very deeply.

Each blog entry ends with an update on Glo's condition. As I'm writing this on Jan. 31, she was out of her coma, breathing on her own and showing signs of recovery. She's still trapped inside a dysfunctional body and unable to speak, but she smiles and giggles! And she gives kisses! She inspires everyone around her by fighting through this crazy awful thing to be a wife and mother again... to again be the vivacious Gloria that Jason has animated so beautifully with words.

This is chancy business writing this now. Much is still unknown about Gloria's condition and the road ahead is risky. But I have faith. And that faith is powered by the fact that many, many people are praying for Glo and thinking positive healing thoughts for her. I'd appreciate it if you'd join us.

I'd also appreciate it if you'd consider doing something more to help. Jason, Gloria and their children are already facing enough without having to worry about stupid medical bills. Just pitch in and help with any gift big or small. If everyone reading this just gives \$10, we can help the VanBuskirk family focus 100% on the important business of healing. Please help... it's the right thing to do.

(You can help support Jason & Glo by going here and making any donation you can: <http://www.gofundme.com/Medical-Bills-for-Gloria>) GCI



“ETQ fungicides are pretty much all I use on greens, tees and fairways.”

“Echo® Dyad ETQ™ is great because I don't have to worry about resistance with chlorothalonil. I also use Eclipse and Sipcam Clearscape® ETQ for season-long protection and to meet the required restrictions. We've seen great color, quality and a dramatic reduction in hand watering. Pre-mix convenience and affordability are other benefits and the money saved allows me to do more in other areas.”

Scott Goniwiecha
Golf Course Superintendent
The Glen Club
Glenview, Illinois



Discover what Scott Goniwiecha already knows. ETQ fungicides from SipcamAdvan deliver all the advantages you expect. And plenty more you never thought you'd see. Trust in ETQ technology. Because accomplishing more with less is the new normal.



SipcamAdvan
The Natural Choice™

www.sipcamadvan.com
800-295-0733



WILL THE MOWER WITH THE MOST POWER IN ITS CLASS PLEASE RAISE YOUR ARM

NEW AR722T™

Nothing is more powerful than the all-new seven-gang AR722T™ contour rotary mower from Jacobsen. With a massive 65.2 horsepower Kubota® turbo-charged diesel engine, the AR722T powers its ultra-productive 124-inch width-of-cut without slowing down. The AR722T glides over ground contours and climbs hills with ease – thanks to the exclusive SureTrac™ four-wheel drive traction and weight transfer control. See for yourself why the powerful and productive Jacobsen AR722T contour mower is at the head of its class – call your local Jacobsen dealer today.

JACOBSEN