

AUGUST 2013
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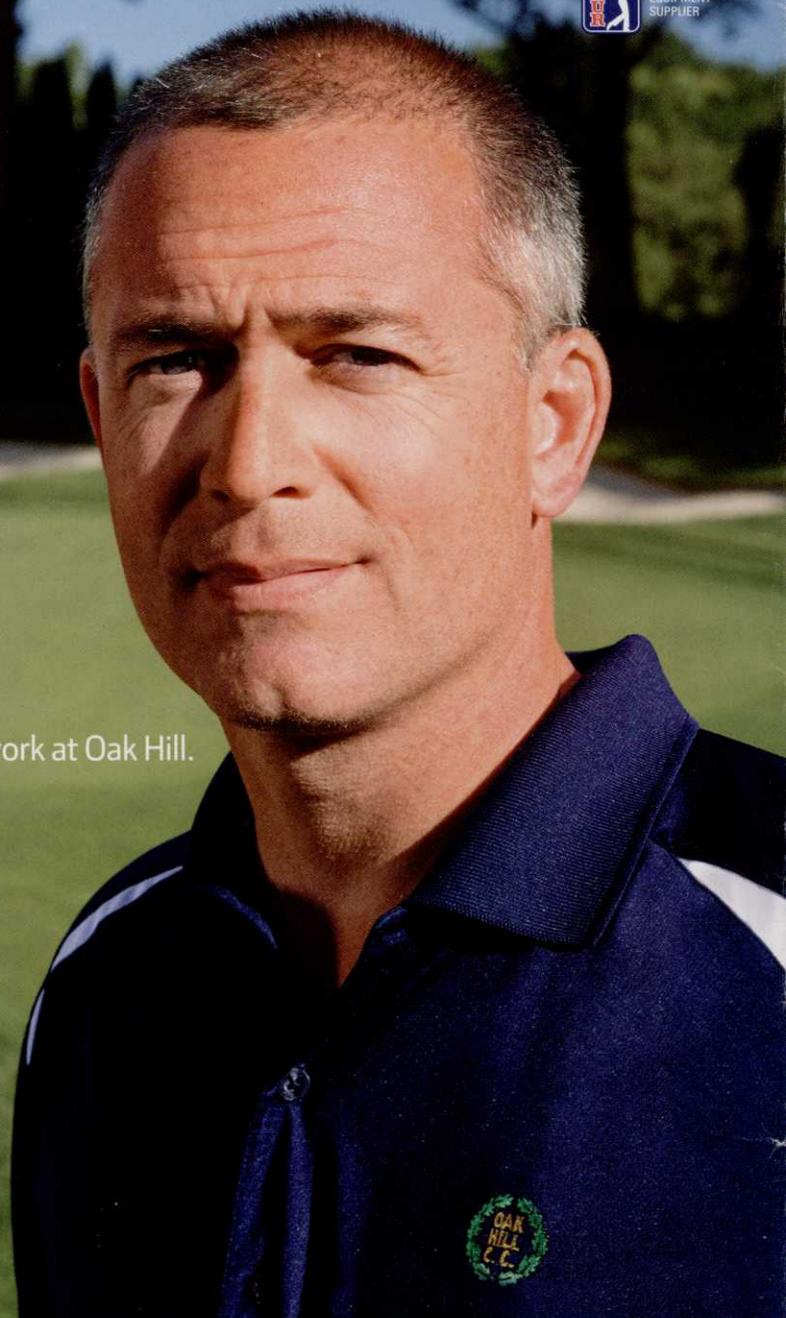
GOLF COURSE[®] INDUSTRY

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Sharpen your APP-TITUDE

13 mobile apps you can't live without. GCI's Bill Brown breaks 'em down so you can load 'em up to your mobile device.



Trust

It's why Jeff Corcoran puts our hybrid technology to work at Oak Hill.

Oak Hill, East Course

The last major of the year, the 2013 PGA Championship, is coming to Oak Hill for the third time. And Jeff Corcoran, manager of golf courses and grounds, will be ready, thanks in part to John Deere. "Most importantly, the equipment does what we ask it to do. There's the peace of mind you get from the removal of the hydraulics from the reels. That, along with the relationships you build with the people in the company, it's been really important for Oak Hill and it's been a great partnership."

So while your course may never host a major, you can have the same performance and support Jeff and his crew experience everyday. Call your local John Deere Golf distributor for a demo today.

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GOLF



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CATFISHED

Backwards readers (that means you Cozette Hadley) will already know that my back-page column addresses the recent positive use of social media by Tim Moraghan. Here, I'll briefly take on a not-so-positive thing that also happened on Twitter recently.

Without going into endless details, we got collectively "catfished" last month. In short, someone created a fake online identity and pretended to be a superintendent. He was pretty adept at it and it went on for months. The imposter even created a fake wife, fake turf problems and fake celebrations. He was found out when chapter leaders and others in his purported home state started wondering who the hell this guy was. He was busted.

A couple of our most thoughtful social-media-savvy superintendents, Greg Shaffer and Andrew Hardy, wrote about the whole sad saga over on our website but the bottom line is we were had and people reacted in a variety of ways. Some were embarrassed, some were angry, some were amused and some said they'd been on to him the whole time.

I knew the guy's handle and may have in-

teracted with him a little, but wasn't nearly as connected to the guy as Greg, Andrew and a bunch of others. So I didn't have a sense of betrayal. It didn't even really piss me off.

Instead, I felt a little sad that our collective naïveté was taken. "Till now, there'd been a kind of "we're-all-in-this-together" spirit among the turfheads who are most active on social media. After all, Twitter has created sort of a new, global version of the local chapter. Ideas are constantly shared, as are opinions, bad jokes and the occasional tacky comment. Most importantly, friendships are made and bonds are formed.

So, this sordid little episode happened to the fraternity only because they are a fraternity. The same culture of fellowship that makes this such a great profession also makes it vulnerable to something like this because we welcome others so readily.

Personally, I think getting catfished is a small price to pay for the camaraderie we enjoy in our industry. I hope it won't deter anyone from joining in or from continuing to enjoy all the amazing benefits social media offers to us. It's a cautionary tale but not a reason to opt out. **GCI**



Pat Jones
Editorial director and publisher

A quick note of apology about the mess that appeared in this space last month. We screwed up and managed to reprint a chunk of a previous month's column on top of it. The correct version of the column is on our website in the July issue section.

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[REPORTER'S NOTEBOOK]



Here's what is IN THE BAG

Back in July, GCI Assistant Editor Katie Tuttle took the trip out to Hershey, Pa., to attend a LebanonTurf media event highlighting their newest product. Lebanon has been very secretive of the product over the past few months, releasing teaser advertisements to draw in curious customers, and even making a website where people could go and sign up to be informed the minute the product information was released on August 5.

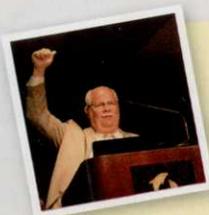
At the event, held on July 27 at The Hotel Hershey, Chris Gray, Marketing Manager - Professional Products for LebanonTurf, finally revealed what exactly is in the bag.

Country Club MD is a new, GN 80, homogeneous fertilizer that Gray says is "the next stage in the evolution of golf course fertilizers." For those curious, the MD stands for Maximum Dispersion, which is what this product offers. Country Club MD is made up of three granular components: Meth-Ex (A slow release, methylene urea nitrogen source), sea plant kelp meal (which helps the plant prepare for the stressful conditions as a result of fertilizing), and humic acid (which serves as a soil microbial stimulator and organic chelator). The last two

components are also the biostimulants that facilitate the particle dispersion.

When it comes down to a competitive advantage, Country Club MD offers superintendents a product that provides stress protection for the turf, no mower pickup, and no particle migration. It can also be used over a wide variety of turf types, because the small particles can drop into the tightest canopies. Gray says they wanted to make sure that no matter what environment, whether it be bentgrass, *Poa annua*, Bermudagrass, etc, the product would work.

More about Country Club MD can be found on the product's website (countryclubmd.com), as well as in the LebanonTurf insert in this month's issue.



GCBA Summer Meeting

GCI was on hand for the Golf Course Builders Association's Summer Meeting, held July 23-25 in Monterey, Calif.

The meeting was three days packed with education, networking and of course a little golf, this year at Bayonet Golf Course located about 15 minutes from the event hotel. Education covered the full spectrum of hot-button issues in the golf industry, and included GCI's own Pat Jones, senior contributing editor Bruce Williams and columnist Henry DeLozier among its esteemed list of guest speakers.

One event highlight was Steve Christman receiving the GCBA's Perry Dye Service Award. Christman, owner/president of Eagle Golf & Landscape Products, received the honor for his commitment to the GCBA and its membership, as well as for being an innovator as a distributor of products to golf course contractors throughout the U.S. and abroad. This was only the fourth time the Perry Dye Service Award has been granted.

Another highlight was the event's various charity auctions, which generated more than \$50,000 for Sticks For Kids.

Check out the app edition for more photos from the GCBA Summer Meeting.



From THE FEED



The golf industry Twitter world felt a little shaken up a few weeks ago when a usually vocal superintendent feed went quiet, and it was discovered that the writer wasn't a superintendent at all. In the end, no harm was done, but it left some feeling a little off-balance. Greg Shaffer (@gtshaffer) and Andrew Hardy (@pheasantturf) put together a response for us that sparked more conversation online. Superintendents said they learned about being careful in connecting with others online – but others said it wasn't even worth notice.

Tom Margetts@tomargetts

Well done Andrew and Greg #LessonsLearnedForSure



Issac Breuer@icerymer

Excellent article. "Social media really does have its place in our industry." Agreed!



Ellie Parry@groundsmaiden

Great article guys that puts Goobergate in perspective and in the past #respect



Patrick Reinhardt@gasouthernngcm

"Let's quit backtracking" ...Haha. Well played @gtshaffer and @pheasantturf.



Dave Wilber@turfgrasszealot

In truth, never underestimate the value of online community, when the community get scammed, it gets stronger.



John Kaminski, Ph.D.@itweeturf

After reading the @GCImagazine article on #goobergate I've realized social media in turf has #jumpedtheshark. Does anyone REALLY care?



↑ Jared Kalina@jaredkalina

No.



Join the conversation
on Twitter @GCIMagazine!



THE WIT AND WISDOM OF GOLF COURSE ARCHITECTS

In the world of golf, its architects are the true artists, the people who mold 150 acres of woods, pastures – and sometimes lava sites – into the playing fields for millions of sportsmen. In the first volume of *Putting a Little Spin on It*, newly released as an eBook for Kindles and Nooks, long-time golf writer Mark Leslie gleans the best from 25 years of interviews with the cream of the architects crop.

"I've been blessed to be able to meet and interview the best golf course designers in the world," said Leslie. "People with the class of Arnold Palmer and Gene Sarazen, the wit of Patty Berg and Jeff Brauer, the downright 'good guyness' of Ben Crenshaw and Jay Morrish, the earthiness and straightforwardness of Bob Cupp and the late Ed Seay, the creative genius of Pete Dye, Jack Nicklaus and, well, scores of their colleagues."

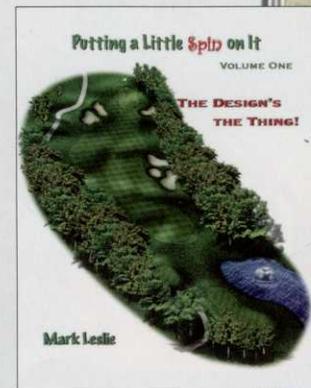
While this first volume, *The Design's the Thing!*, conveys the reflections of golf's designers, the upcoming second volume will allow golf course superintendents and other turfgrass experts to tell their side of the industry.

Leslie, the founding editor of *Golf Course News* (now *Golf Industry*) and contributor to numerous golf trade and consumer publications, added, "I thought it was time to put together a wide range of insights from them – many of which have never been published before."

Volume Two, *The Grooming's the Thing!*, will acknowledge the importance of course architects, but addresses the question: Where would they be without the men and women who groom these playing fields?

Leslie will reveal hundreds of insights, tips, buffs and rebuffs from golf course superintendents and other turfgrass experts in all points of the country – from Tim Hiers in Florida to Ted Horton in California, from USGA Green Section National Director Jim Snow and his colleagues to such university luminaries as Drs. Joe Vargas, James Beard and Frank Rossi.

Leslie, a journalist since 1970, has won national awards from the Golf Writers Association of America, Golf Course Superintendents Association of America and Turf & Ornamental Communicators Association. He resides in Monmouth, Maine.



Mark Leslie



Sharpen your APP-TITUDE

13 mobile apps you can't live without. GCI's Bill Brown breaks 'em down so you can load 'em up to your mobile device.

Mobile devices have become more and more a part of our ordinary daily lives.

Pad, pod or phone. Tablet or 'droid. They've integrated into nearly every facet of our daily routine – work, family, fitness and even sleep. But it's the “apps” that really make these devices come alive.

For turfheads, this is no different. Apps enrich and enhance your life both on and off the course. That's why I am walking you through the various apps that will help you in the daily grind of turf management and simplify some of your daily processes. We will look at apps in productivity, blogging, specific apps to manage turf, cloud storage and some that I think are just really pretty darn cool.

→ Productivity



Evernote

Where to find it

App Store, Android Market, Web-based

Description

Evernote is a free and easy to use app that allows you to become more productive. Evernote allows you to create reminders, capture photos, create to-do lists, record voice memos and sync all of this across all your mobile devices and your desktop computer. The best part about this app is everything in the app is searchable. A premium subscription option allows you to upload searchable PDF's and share notes for collaboration.

Assessment

Evernote became my digital trunk for managing my course and now my business. This app allows you to create notes that include, voice memos, photos, scanned PDF's or just plain type that can be organized into a Notebook system. Turf managers are using Evernote to store product labels to retrieve for quick reference. Creating invoice tracking and payment systems, to-do's for course staff and even equipment maintenance notebooks. Scouting the golf course with Evernote allows you to take a photo of issues, add a voice note and with the geotagging of notes, will hold a reference point.

👍 Pros

- Integration with third-party apps.
- Allows sharing of notes and notebooks for collaboration with other users.
- OCR for PDF documents lets all your scanned documents become searchable within the app.
- Accessible from any mobile device and your desktop.

👎 Cons

To fully harness the power of this app, such as offline viewing, PDF search, and note sharing you need to purchase a premium account. However, at only \$45 a year, it is a bargain.

→ Productivity

ScannerPro

Where to find it
App Store



Description

Turn your iPhone or iPad into a portable scanning device. Quickly and easily scan receipts, invoices, contracts or even a whiteboard. Save your new document to Dropbox, Google Drive, Evernote or send via email. New update offers realtime border detection which allows you to see what you will be scanning and eliminates the need to manually crop your newly scanned document.

Assessment

This is a great app for turf managers to use in place of a fax machine or in the absence of a copier. This application is great when needing to sign and return documents. This comes in handy in meetings when handouts are limited or information is written on a whiteboard or easel. Taking a picture and creating a document can be completed extremely quickly and saved to your device, cloud storage or emailed to others. Think it's chicken scratch? The character recognition is the best of any scanner app on the app store, providing you with a legible scanned document.

Pros

- Easily integrates with DropBox, Evernote, Google Drive to store all your scanned documents in the cloud.
- Recent update allows for superior character recognition and real time border detection, eliminating the need to manually crop scanned images.

Cons

Won't scan images to color, will output a B&W image.

iMovie

Where to find it
App Store



Description

iMovie for iPhone or iPad allows users to record, edit and publish professional looking videos quickly. Using the multi touch feature, turf managers can intuitively add videos, pictures, music to any movie. Easily drop in transitions, effects or use one of the themes in the application. iMovie offers quick sharing with both YouTube and Vimeo or you can send your finished production to iTunes.

Assessment

Turf managers continue to flex their technology muscles when it comes to communication with their members, shareholders and/or customers. Video has become increasingly more popular and iMovie will help elevate the presentation of these videos. Using iMovie, turf managers can create professional looking videos, literally from their cart, upload them to YouTube

or Vimeo and immediately share them on their websites or blogs. Not using an iPhone or iPad to record your video? No problem. Using the Apple camera connection kit, you can easily connect your digital camera to your iPad or iPhone and transfer videos to iMovie.

Pros

- Simple and easy app to shoot, produce and broadcast videos on a mobile device, period.
- Seamlessly integrates with both YouTube and Vimeo.
- Great use of touchscreen and multi-gestures to make movie producing simple and easy, even for a novice.

Cons

Can eat up device storage quickly if you are a regular movie maker.

- Only works within the Apple ecosystem.



QuickOffice

Where to find it
App Store, Android Market

Description

QuickOffice has recently become the No. 1 mobile office suite. This app allows you to ditch your laptop when viewing, editing and/or creating all Microsoft Office documents. QuickOffice will even view PDF files. If you store your files on a cloud storage service, QuickOffice will connect and provide you access to these files. Use a specific file often and save it locally to your device for offline viewing. QuickOffice even handles complex Excel spreadsheets and workbooks and in the newest release, will allow you to track comments and changes.

Assessment

QuickOffice is the best app on the market for viewing, creating and/or editing Word, Excel or Powerpoint

files. Many companies turn to Excel for their financials and other important operation's documents. This can lead to complicated spreadsheets and workbooks. QuickOffice handles these complicated files extremely well, allowing you to edit these types of files directly on your mobile device. The intuitiveness of the application puts QuickOffice above other mobile Office applications. Menus are visible and document formatting is easy to complete. Other mobile Office suites are cumbersome and slow because they are unable to handle the more complicated Office files. Having QuickOffice connected to my online cloud storage is key as I am able to receive a document via email, open in QuickOffice, make my changes and save to my Dropbox.

Pros

- Supports all versions of Microsoft Office documents.
- Provides an intuitive interface for creating and/or editing Office documents from a mobile device.
- Integrates seamlessly with many cloud services for quick access to documents.

Cons

Price.





Featuring METH-EX[®] Slow Release Nitrogen

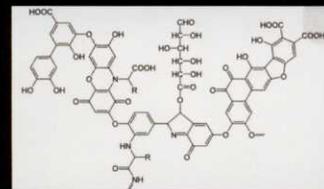
Meth-Ex is a multi-chain length, methylene urea nitrogen source that delivers consistent, extended release nutrition when the turf needs it most. This high-activity nitrogen delivers excellent color response and maximum long-term feeding.

Stress-Buffering Biostimulants

Country Club MD contains both Sea Plant Kelp Meal and Humic Acid which helps the turf grass plant achieve optimum performance by helping it prepare for the onset of stressful conditions. Turf treated with Sea Plant Kelp Meal and Humic Acid will outperform untreated turf in overall quality and playability during stressful conditions.



*Harvesting Ascophyllum
Nodosum in the Bay of Fundy*



Humic Acid

See "MD" at Work

When Country Club MD comes into contact with water, the sea plant kelp meal and humic acid quickly release from the particles during dispersion, becoming immediately available to the plant.



The "MD" Advantages

Stress Protection

The stress-buffering biostimulants incorporated in Country Club MD fertilizer will assist your greens in preparing for the inevitable periods of stress that come in every growing season. These fertilizer and soil enhancers help maintain the high-quality and playability of your putting greens by aiding the turf plant to achieve optimal performance levels before biotic or abiotic stress conditions occur.

No Mower Pickup

Country Club MD rapidly disperses into the putting green's canopy after irrigation to virtually eliminate the possibility of being picked up by the greens mower during the next mowing. This delivery system ensures that the exact amount of nutrients you intended to feed your greens with actually become available to the turf.

No Particle Migration

Due to its maximized dispersion technology, Country Club MD moves into the turf canopy so efficiently that it practically eliminates the threat of particle migration in situations of over-watering or heavy rain events. Ensuring the nutrients reach and stay where they are intended is another MD advantage.

→ Productivity

Insatiable App-etite?

Looking for more apps? Last month Turf Republic was excited to announce the iTurf Apps Market. We provide an "App Store" experience geared towards the turfgrass industry mixed in with some apps we think are a must. Our App descriptions will explain how these apps will benefit you as a turf manager and how they can be incorporated into your operation or business. The iTurf Apps Market is interactive! Do you use an app we have on our market? Tell us how you use it, give it a rating. Do you have an app you can't live without or are you a business that has an app? Let us know about it, we would be glad to add it to the iTurf Apps Market.



Reminders

Where to find it
Native to iOS devices.

Description

Reminders is a native app for iOS devices that is a simple, yet powerful, way to remember those important to-do's.

Assessment

This is an app I believe overlooked by many. Reminders is a very simple app, but sometimes those are the ones that work the best. Quickly add To-Do's into your iPhone or iPad with the very simple interface. Too many To-Do apps on the app store overly complicate this process. Set a time to remind you or use the geofencing ability of the iOS device to remind you when you either arrive at a location or leave a location. I used this app often to remind me when I would arrive at my shop to do something as I was often distracted with other issues before arriving to my next destination.

Pros

- Integrates across all iOS and Desktop devices.
- Allows for reminders at a location and not just a time.
- Sharing feature allows you to share your reminder lists with other staff.
- It's free

Cons

- Only works in the Apple ecosystem.
- Need Cellular enabled device to use geofencing capabilities.

Apple iWork Suite

(Pages, Numbers and Keynote)

Where to find it
App Store



Description

Pages, Numbers and Keynote were specifically designed for iOS mobile device. These apps allow you to create rich documents, spreadsheets and presentations utilizing the multi touch feature of the devices. The iWork suite of apps uses Apple's iCloud to store your files on the cloud for viewing and editing on any device and soon your desktop.

Assessment

Apple suite of Office programs are my work horses. Keynote is the perfect presentation tool for turf managers. This app allows you to create stunning presentations directly from your iPhone or iPad quickly and easily. Using multi touch, users can quickly drop in photos, videos and even music to a presentation. Adding transitions and animations is done with ease. Take your presentation from the course to the board room and connect your iPad directly to a TV or projector and WOW your members, boards, committees or customers. Pages is a great alternative to Word and like Keynote, uses the multi touch feature of

the iPhone and iPad to allow you to create documents with ease. Pages will quickly convert Word files, allowing you to view and/or edit without losing the original formatting. Numbers is another great alternative to Excel on a mobile device. Numbers does lack the ability to handle complicated workbooks and spreadsheets.

Pros

- Full-scale office suite takes advantage of Apples touch screen and multi touch gestures. Allows users to create professional looking documents and presentations quickly and easily.
- Integrates with device's media to allow user to quickly add photos, videos and/or music to any document or presentation.
- Apple's iCloud integration allows for editing or viewing a document on any iOS device.

Cons

- Only works within the Apple ecosystem
- Price
- Numbers cannot handle complicated workbooks and spreadsheets.

→ Productivity

RadarScope

Where to find it

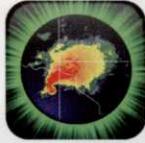
App Store, Android Market

Description

Radarscope is not for the untrained weather person. Designed for meteorologists, Radarscope allows viewing of NEXRAD level 3 and super resolution radar data along with weather warnings issued by The National Weather Service. Offering a variety of viewing radar options, this is a very powerful forecasting tool for turf managers with enough meteorology knowledge to be dangerous. This app utilizes the GPS receiver in your mobile device to provide you radar data for your exact location, not simply a queried zip code.

Assessment

This should be the go to radar app for turf managers. With some basic understanding of meteorology, Radarscope is an extremely powerful radar tool for predicting precipitation and other severe weather. This was my go to app for predicting incoming weather. Radarscope does not



use smoothed GIF's or PNG images to reflect what the radar return is. When you

open Radarscope you are seeing raw radar data, the same data professional meteorologists use to predict weather. Radarscope's ability to use the GPS radio in your mobile device to provide you with impending weather at your EXACT location can mean the difference between finishing a spray and heading for the shed.

👍 Pros

- Provides radar return of your current location using your device's location services.
- Full suite of radar products such as storm velocities, precip rates, severe weather alerts.
- Integrates with Spotter Network.

🗨️ Cons

This is a real radar application that outputs raw data. If you are used to viewing radar on the TV or websites like The Weather Channel, this is not the app for you.

Turfpath

Where to find it

App Store, Android Market



Description

Turfpath is a powerful turfgrass resource built by turf professionals to be used by anyone from the average weekend lawn warrior to professional turfgrass managers. Turfpath has an extensive library of pests consisting of images, videos and descriptions. The focus of Turfpath are the users, it is the community aspect that makes this app so powerful. See what your peers are dealing with, receive disease updates from the field or submit photos of your turf concerns. Turfpath has brought social media to turf pest problem solving.

Assessment

Other industries have turned to crowd sourcing for gathering intel and in an industry so tightly knit, it only made sense to incorporate the community aspect into turf pest problem solving. This app has brought a worldwide network of turf managers and their knowledge to the palm of your hand. I regularly check in on the Turfpath

community and it is easy to see why so many have turned to using this app to help them in their daily grind. Turfpath should be on every turf manager's tool belt.

👍 Pros

- Free
- Extensive library of turf pests that include descriptions, photos and videos.
- Discuss pest issues directly from within the app.
- Post your pest questions to pathologists in the app.
- Integrates with Twitter and Facebook.
- See updates on map of what users are seeing.

🗨️ Cons

I would like the ability to view social media updates on this app from outside this application. Currently, when an update is posted on Twitter or Facebook from within the app, when a user clicks on that update, it prompts them to the app's download page and not the update. I do know the developer is working on this feature.

→ Field Applications



Ignition and Logmein

Where to find it

App Store, Android Market

Description

Remote into your work desktop from a golf cart, clubhouse, home or even vacation. Ignition allows you to use your device's WiFi or cellular signal to remote into a desktop, Mac or PC running the Logmein software (which is also free). If you want the ability to transfer files, photos or stream audio, update to Ignition. Ignition is a free app that requires a \$39.99 annual subscription

Assessment

Whether you're with Toro, Rain Bird or any other of the companies that offer control systems for your golf course, each of them offer some type of remote access to your control system. Many of these options come at additional costs that maybe is not in the cards for your facility.

Logmein offers a free alternative to industry, by providing you remote access to your work desktop and/or irrigation computer from a mobile device. Initial remote access applications were clunky and weren't worth the time. These applications, specifically Logmein has greatly improved, harnessing the intuitive multi touch gestures these mobile devices offer.

👍 Pros

- Remotely access your desktop (free)
- Transfer files and photos between desktop and iOS device

🗨️ Cons

The need for \$39.99 per year subscription for Ignition



Overseeders

Precision Seeding Technology



Ground Quake Sand Injector

RotaDairon™ Soil Renovator



Turf Surgeon Verticuts and Collects

Trenchers



Vacuums



Topdressers and Spreaders



Verticutters

Welcome to our Newest Dealers!

- » A-OK Turf Equipment, Coventry RI
- » Bonneville County Implement, Idaho Falls ID
- » Commercial Turf and Tractor, Chillicothe MO
- » Show Turf, Boynton Beach FL
- » Turf and Industrial, Santa Clara CA
- » G.C. Duke, Ontario Canada
- » Storr Tractor, New Jersey & Long Island



864.225.3666
www.stecequipment.com

→ Field Applications

SunSeeker

Where to find it

App Store, Android Market



Description

Sunseeker was an app originally designed for companies who install solar panels. It was used to determine the best location for maximum sun exposure. This app is used within the turf industry to identify shade issues on the course. Bring the Sunseeker app to a meeting to show aerial shade coverage; any given day, any given time. Take this app outdoors and use the 3D feature and your device's camera. The 3D Augmentation feature allows you to get a LIVE look at the sun's path.

Assessment

This app has become a very powerful tool for turf managers to handle one of the most political issues on their property, tree management. This app will

provide the superintendent with an objective, factual representation on how trees are causing shade issues on their golf course.

Pros

- Price - \$6.99
- Ability to see sun's path on any day and time, not just current day.
- 3D "Live" view to see the actually sun's path of the trees you are looking at.

Cons

No export feature. You have to take a screen shot of your mobile device to save anything.

MeasureMap

Where to find it

App Store



Description

MeasureMap allows you to quickly and more importantly accurately measure distances and areas. Done measuring, save these measurements to your cloud storage service, Evernote or email them. Are you working with Google Maps? Your MeasureMap files can be exported as .kml files and imported into your Google Map.

Assessment

This app is really a must have for any turf manger. MeasureMap provides you with a powerful tool to measure both lengths and areas directly from your mobile device with extreme accuracy. The import and export feature is what sets this app apart from others. Not all of us have it in the cards to have our properties mapped. Using MeasureMap and some sweat equity, you can easily map your entire property from your mobile device and export to Google Maps or just continue to view within this app. Bidding out cartpath work or presenting a project to a committee? You can take your measurements in this app, save them to your cloud storage or email them to those who are collaborating on the project.

Pros

- Very precise measuring of distances and areas.
- Wide range of units.
- Export and/or share to Email, Excel, Google Earth or Photo Album.
- Import other .kml files into program.
- View multiple measurements at one time.
- See elevations between measurements.
- Integration with iCloud to allow use across multiple iOS devices.

Cons

- Functions are hard to find within app. Takes time getting used to.
- No instructions or assistance guide with the app. GCI

Bill Brown, CGCS, is CEO of Turf Republic, the founder of iTurf Apps and author's GCI's new tech column.

Instagram

Where to find it

App Store, Android Market



Description

Sharing images with Instagram is as easy as one click. With instant sharing to social media platforms like Facebook and Twitter, Instagram can be a powerful communication device for a turf manager. In the most recent update, Instagram now allows users to create up to 15 second videos and immediately share across your social media platforms. Instagram packs many great filters for both stills and video, but it is the sharing feature that makes this app a must have for turfgrass professionals.

Assessment

Turf mangers have expanded their communication to Facebook, Twitter, websites and blogs to communicate with members, stakeholders and customers. The Instagram platform allows turf mangers to take a picture with one button and have their photos instantly shared and or posted to their social media platforms, websites or blogs. I used Instagram during a recent renovation to document the project with photos. Having Instagram loaded into my blog, project photo albums were updated the instant I took the photo, saving valuable time for what is really important.

Pros

- Streamline your media publishing. With a little setup on your blog, website, and/or Facebook page, users can simply take a picture and have their photos publish instantly to their sites or social media platforms.
- Now allows users to take up to 15 seconds of video.
- Add filters to photos and videos.

Cons

Read privacy statement carefully. Instagram has the right to use your photographs.

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HAVE YOU HUGGED YOUR GOLF PRO TODAY?

It's August, which means the golf world's attention is on the final major, the PGA Championship, and the organization that runs it, the PGA of America. So turn your attention to your local PGA representative – your co-worker, the golf professional.

I know, you're probably jealous of the pro at your club, who gets to sit in the air-conditioned pro shop all day, stacking shirts and joking with members, while you're running around in heat and humidity slinging hoses, whacking weeds, and trying to keep your crew working.

But take a step back. Think about it. Aren't we all in this together? Don't the superintendent and the golf professional have the same goals? Don't we both want to create an environment where golfers want to come and want to return for more? Don't we want to grow the game, since that will ultimately help us keep our jobs?

The days of the super and the pro crossing swords should be over. Where once there was wariness, there should be respect. Competition should be replaced by cooperation.

Which is why our two organizations – the GCSAA and the PGA of America – should work more closely together. We both want the same things, and working together will make us stronger and more effective in achieving them.

Our organizations and their members have the biggest impact on how real golf is played at clubs around the country and around the world. Working in tandem, we can make the game better for golfers and ourselves.

We need to start by understanding each other's jobs. Don't assume the pro has it all that easy. We have more in common than you might think. For starters, we both deal with two forces we can't control – weather and people.

Weather can be the downfall of a superintendent, but it can also have it in for the golf professional, as well. Bad weather can cancel or ruin events that have been in the works for months or years and have significant financial impact on the club. A lousy day also leads to cancelled lessons, rounds, and merchandise sales, taking money out of the pro's pocket.

But where we can really feel each other's pain is as scapegoats. While we get blamed for everything from grass that won't grow to tough pin positions, the pro is criticized for the golf course, tournament formats, the merchandise selection, a bad lesson, lost balls, dying carts, rude valets, lazy caddies, even the wrong beer at the halfway house. He, or she, is the point person for everything "golf" and has to listen to, and respond to, every criticism or complaint with a smile.

But that's just what people see. Behind the scenes, especially at private clubs, we both have to deal with boards of directors: volunteers who get to oversee and manage our budgets and influence what we do, whether or not they understand just exactly what that is.

Be glad we don't have to talk to members or casual golfers about long putters or other Rules issues. I'd rather explain why we are taking down a tree along the sixth fairway than the correct stroke-and-distance procedure.

Look at the golf pro and you'll probably see someone with the same worries and headaches as you. Job security, uncontrollable consequences, poor employees, you name it. We're in the same boat.

So what should we – collectively – do about it? First, communicate. Start talking to your golf pro, and not just about where the water collects on the 11th fairway. Make him or her your friend, a confidante. Share informa-

tion you learn about the club, what's going on, who's really in charge, where the bodies are buried. Be there to help him and he'll help you.

Here's another suggestion: We should piggyback our annual industry meetings so we actually meet, talk, and learn together in a non-threatening environment. Joint educational seminars and roundtables, too.

Together we should be the ones creating plans to promote and grow the game that don't rely on the tour pros. In fact, if the pro and the superintendent are on the same page, maybe we can begin educating the average golfer as to why what he sees on television is not what he wants or needs at his club or in his game.

In teaching the golfer to play better, running events, selling merchandise, and representing the club, the pro is instrumental to the game's growth at the grass level.

Meanwhile, tending to that grass level is the superintendent, who can (and probably should) get more involved setting up and maintaining courses so they are more welcoming and enjoyable for the most golfers. That means widening fairways, picking hole locations, managing green speeds, and maintaining course conditioning that promote a good time. Talk to your pro about this and it's likely he'll feel the same way: He wants golfers happy and coming back, too.

Of all the major organizations in golf, only two – the GCSAA and the PGA of America – are really responsible for growing the game. What we do day in, day out attracts and keeps real golfers playing and having fun. This shared concern for the golfing public – and by extension, our livelihoods – forms the basis for what could be the strongest pairing in the game.

The pro and the superintendent. Now that's a winning team. **GCI**



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Count on it.

ROUGHING IT

Keeping rough looking healthy and uniform can be challenging, especially with limited resources. By Jason Stahl

They don't call it "rough" for nothing. It's rough on golfers whose errant shots nestle deeply into it, and it's rough on golf crews trying to maintain it with limited resources to the liking of linksters.

Adding to the aggravation is last year's extremely hot and dry conditions and recent economic constraints that have forced many superintendents to redirect resources away from rough maintenance.

James E. Skorulski, USGA senior agronomist for the Northeast Region, wrote last summer how courses were pretty banged up from drought, saltwater flooding and gray leaf spot, which impacted mostly perennial ryegrass. Traffic and not-so-perfect irrigation coverage also contributed to



SUREGUARD® HERBICIDE: OUTSTANDING POA CONTROL IN DORMANT BERMUDAGRASS

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When Damon Dean rooted around in his Bermudagrass roughs, looking for any sign of surviving *Poa annua* after a fall application of SureGuard® Herbicide, he came up happily empty.

"You dig down in there and you can't find any *Poa*, and that's awesome," said Dean, the superintendent at Keith Hills Golf Club in Buies Creek, N.C. "SureGuard is the only one I know of that has that ability—giving you postemergence control—and I think that's awesome."

SureGuard provides turf professionals with fast-acting postemergence and season-long preemergence control of *Poa annua* in a single application when applied to dormant Bermudagrass in the fall (typically November–December). SureGuard also delivers consistent postemergence and long-lasting residual control of winter annual broadleaf weeds such as chickweed and henbit.

"SureGuard has a unique fit for fall treatments after *Poa annua* has germinated, providing postemergence control as well as season-long preemergence control," said Dr. Jason Fausey, regional field development manager for Valent Professional Products. **"No other product can be applied once and work this well on *Poa*."**

Flexibility of application

SureGuard has low water solubility and binds tightly to the soil. And, unlike many other preemergence herbicides, SureGuard does not inhibit root growth. This can help turf recover from winter injury and spring dead spot damage. Plus, SureGuard will not delay spring Bermudagrass green-up.

For optimum postemergence control, SureGuard should be applied when *Poa annua* is young and actively growing during Bermudagrass dormancy.

"If you put out SureGuard at dormancy, you don't have those ragged weeds popping up and making things look bad. You get a smoother transition," said Dr. Bert McCarty, professor of horticulture at Clemson University. "People don't mind Bermudagrass going dormant as long as it's not full of weeds. SureGuard helps ease that going into winter."

New mode of action

SureGuard also provides a novel mode of action that supports resistance management strategies for *Poa annua* and other tough, glyphosate- and ALS-resistant weeds.

"SureGuard fills a need," McCarty said. **"It provides good *Poa annua* control in the fall... and it's a pretty versatile material that gives us another rotational option to help with resistance issues."**

Making quick work of *Poa*

Despite generally cooler temperatures in late fall, SureGuard performed well in McCarty's trials when applied at a rate of 12 oz/A.

"SureGuard is a lot quicker-acting than existing products, which slow down when it cools off," McCarty said. "SureGuard seems able to do its thing regardless of the temperature or the weather. You start seeing activity within hours instead of days."

At Keith Hills, the home course for Campbell University golf, Dean remains impressed with the results delivered by SureGuard.

"It was clean," he said of his roughs. "I plan on using SureGuard again, that's for sure."

For more information on SureGuard, contact your Valent territory manager or visit www.valentpro.com/sureguard.



Untreated Control
Image Taken: Jan. 18



SureGuard 12 oz/A —Nov. 1
Image Taken: Jan. 18
(78 Days After Application)

SureGuard provides excellent control of *Poa annua* when applied to dormant Bermudagrass in the late fall.

Source: Dr. Scott McElroy, Auburn University.



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MOWING

rough damage, not to mention white grubs and skunks, crows, etc. going after them. All in all, however, he feels most courses have bounced back pretty well.

"This year, with the rain we've had and the work done last fall really attacking those areas that were damaged, I really haven't seen an issue in my visits earlier this year," says Skorulski. "Now that they did have some gray leaf spot damage, some that maybe didn't do it before might be more willing to treat at least a band of primary rough around the fairways. But many had the attitude with ryegrass that, 'Well, if it goes, it goes. I'm just going to get grasses on there like Kentucky blue or turf-type tall fescue that won't be impacted by that disease.' It's a more holistic approach."

Some superintendents may have had the idea of fertilizing more than usual to speed up recovery, Skorulski says, but with all the rain the Northeast and New England has received, that may have been regrettable.

"That has become an issue – trying to keep it cut and playable for members. There are more complaints from golfers that the rough is so thick, but we've had

the resources to fertilize and treat areas outside of "down the middle" for white grubs and other insects will do so. And they'll also core aerify these areas at least annually.

"Some will overseed, if they feel they need to, with perennial ryegrass or a gray leaf spot resistant type of ryegrass," he says. "Many are trying to interseed with turf-type tall fescue or Kentucky blue."

Those courses will also apply fungicides, and weed management will be better.

Courses that don't have the resources will have to focus on primary playing areas and attack some areas where there is a history of problems, says Skorulski.

"Maybe it's a traffic issue they will try to correct, or switch out grasses," he says. "They will go after those problem areas and try to get them regrassed and reestablished and maybe get money for treating for grubs and an extra weed application."

Chris Hartwiger, USGA senior agronomist for the Southeast Region, says weather conditions have been ideal for explosive Bermuda growth. At first, Bermuda was slow to come in, with March being as cold as January – a plus

"If you want Bermuda to just explode and grow, give it more than enough water, fertilizer and warm, tropical temperatures. That will put some clubs in trouble."

– Chris Hartwiger, USGA

10 inches of rain in many places over the last four weeks," he says. "A lot of the problems of last fall have been forgotten because of all the rain we've had, so it has almost gone to the other end of the spectrum. Now it's too much of a good thing."

Many times, having a solid rough maintenance program comes down to resources. Skorulski says courses that have

for golf maintenance and not a problem for plant health. The heat, however, arrived the first week of June – what Hartwiger nicknamed "kudzu weather" for the 85- to 95-degree days and 70-degree nights – with a wet period following it.

"If you want Bermuda to just explode and grow, give it more than enough water, fertilizer and warm, tropical temperatures,"



EQUIP YOURSELF

Proper equipment is integral to an effective rough management program. Without it, you could be sacrificing the aesthetic appeal and health of your turfgrass...and maybe yourself when your members riot.

Obviously, there are many contours and hills in rough areas that mowers must negotiate, and Jacobsen has just the machine to handle them.

"The hilly and contoured roughs of golf courses are just as challenging for superintendents as they are for golfers," says Rachel Luken, product manager for Jacobsen. "The peaks and valleys of these areas can be very difficult to maintain, especially in inclement weather. Our new AR522 contour rotary mower is equipped with SureTrac four-wheel drive traction and weight transfer control, allowing it to glide over ground contours and climb hills with ease – even in wet, slippery conditions."

The ability to power through large areas of lush grass is important, too.

"On your less-contoured roughs and native areas, power and productivity are most important to superintendents," says Luken. "Our R311T wide-area rotary answers those needs by pairing a 59-hp Kubota engine with an 11-foot width-of-cut – a combination that allows superintendents to knock down tall grass quickly and easily."

Safety of players is also a consideration, given that some courses mow roughs during play and run the risk of debris being thrown from side- or rear-discharge mowers. An option for the TurfCat out-front rotary reduces that risk.

"One deck option is a 60-inch fine-cut flail, an industry exclusive," says Bryan Holby, product manager for Jacobsen. "Superintendents love the flail deck on the TurfCat for roughs and native areas because it safely discharges clippings and debris down into the turf instead of projecting out the side or rear of the mower."

John Deere Golf's 8800 TerrainCut Rough Mower is also designed to allow operators to easily tackle rough terrain. The 8800 features the GRIP All-Wheel Traction System providing hill-climbing and traction capabilities, 43.1 horsepower and a turbo-charged diesel engine so users can mow, climb or do both. The double-acting steering cylinder helps to equalize turning efforts, which allows the operator to hold a straight line with less effort.

"At John Deere Golf, we know precision is key when it comes to turf care in the golf industry, so with that in mind, the 8800 was designed to offer a double-yoke mounting system needed to closely follow terrain around the course," says Tracy Lanier, product manager, John Deere Golf. "Once the decks are in the mowing position, the double-yoke system provides a full range of motion independent of the hydraulic lift system. Also, to help create a flawless cut, the 8800 has five 21-inch rotary mowers with superior ground following across an 88-in. cutting span. The lightweight design of the 8800 will also help reduce the impact during times of stress or above normal rain amounts when the rough can become harder to manage and still maintain the after-cut appearance."



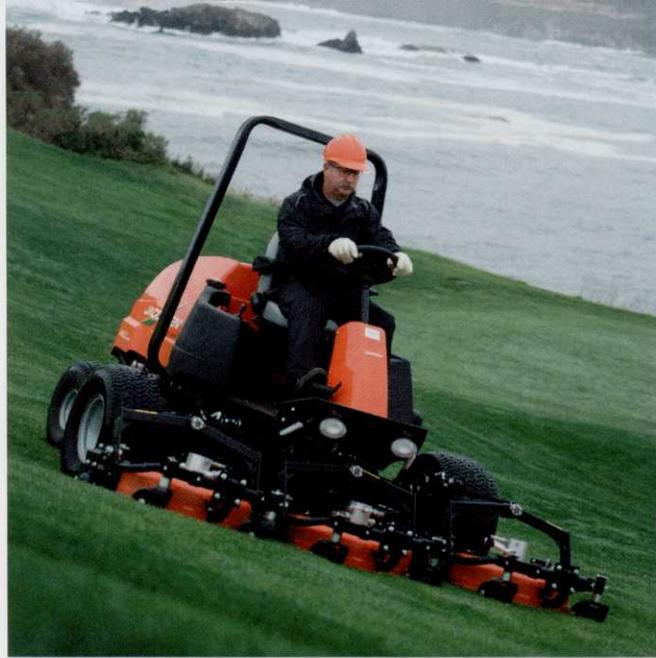
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MOWING



Many times, having a solid rough maintenance program comes down to resources.

says Hartwiger. "That will put some clubs in trouble."

Courses that couldn't mow their rough one week because of rain will be faced with longer mowing time when they can get out, plus scalping and large

quantities of clippings.

"And bottom line, the thicker, longer rough makes it more difficult for golfers," Hartwiger says.

Golf courses need to consider three things when approaching rough management: first, that

rough comprises 50 percent of the turf on most courses.

"That's staggering," Hartwiger says. "It's very time consuming to maintain. Often in the southeast, it will take the better part of a week to get it mowed once with

one rough mower."

The second consideration is, how are you going to prepare the rough for play? How difficult are you going to make it? Are you going to set it up for the bottom 25 percent of the handicappers

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and then run the risk of the top 25 percent thinking it's too hard and no fun? Or do you set it up for the median handicappers and get comments from the better players that there's no advantage to being in the fairway?

The third thing is, how good do you want to make the rough?

"If it's half your turf and there is no significant amount of resources going in there, how important is weed control and twice-a-week mowing considering it's a place you ideally don't want your ball to be in and there are areas on the golf course like greens, tees and fairways that should probably get preferential treatment?" says Hartwiger. "What kind of commitment are you willing to make in light of the fact that there are probably more pressing needs on the course?"

Superintendents in the southeast who may have neglected their roughs last year for various reasons may get away with it due to Bermuda's low maintenance requirements. Cool-season rough, however, would have to be re-seeded and reestablished.

"Bermuda can be neglected and the plant will still be there," Hartwiger says. "It comes down to making sure it's fertilized adequately to handle traffic and sustain itself. Then, you have to decide what kind of commitment you want to make to weed control."

Given that the southeast receives plenty of rain and it's no problem growing grass under little irrigation and courses generally have significant acreage that never sees a golf ball, Hartwiger believes superintendents could segment the rough into "important" and "not-so-important" areas.

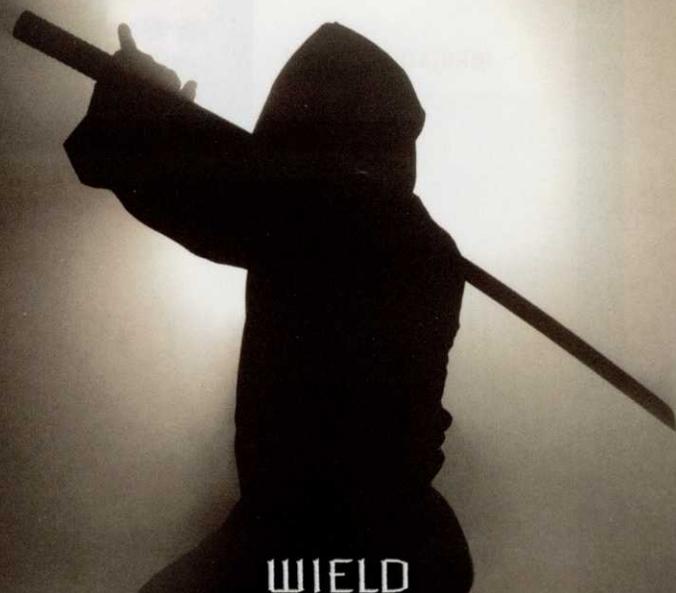
"The 'more important' would be adjacent to landing zones, and the 'less important' would be around the tee complexes," he says. "After all, if someone tops the ball, you want them to be able to walk over and find it."

Hartwiger also believes courses can consider using growth regulators on non-essential areas of rough so they don't have to mow them as often.

"Or maybe the better question is, are there grasses out there that would be better suited to sustaining themselves under very low inputs? If we don't have to add water and fertilizer and also don't have to control weeds, then how often would you have to mow that?"

"The economics of the game are driving people to the point where we can't do things under the old model. We have to be more intentional on where we want to be really good and find ways to cut back on non-essential parts of the course." GCI

Jason Stahl is a Cleveland-based writer and frequent GCI contributor.



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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.

IRRIGATION THE HARD WAY

Last month I had the opportunity to travel down to South America to Bogota, Columbia, to teach a one day seminar on the basics of golf course irrigation systems. Each year the Columbia Federation of Golf (Federacion Colombiano de Golf) provides a two-day educational seminar on various aspects of golf course maintenance to the Columbian golf industry. There are about fifty golf courses in Columbia. The first day of the seminar was presented by Dr. Erik Ervin from Virginia Tech who discussed greens maintenance techniques. I had the second day. The seminar was well attended and very professional with instantaneous translation being provided through headphones, which made for an interesting way to teach.

Bogota is a large city with a population of around 6.7 million people. It is also high, at an elevation of

ing turf in Bogota is not too difficult as most of the grasses on the fairways and most of the tees is kikuyugrass and, as a result, does not necessarily need irrigation. Greens are *Poa annua* and bentgrass in Bogota and in other parts of the country where the climate is less mild, Bermuda is common.

As in the United States, golf is quite varied in Columbia, with some older and newer high end clubs, struggling private country clubs, public courses and newer resort courses. Dr. Ervin and I visited several courses while we were there. The first one was a very old course and had irrigation only on the greens, consisting of four Toro 2001 athletic field type sprinklers, a quick coupler, a 2-inch (50 mm) PVC ball valve and a filter all in a home-made valve box. The foreman for the course was complaining that the filters – one per green – clogged up within two or three minutes of use and hence he had stopped using the “system” and just hand watered the greens. The water source did not look too bad so we



300-micron (50-mesh) filter at the pump system would be more efficient than having one at each green, even if it had to be manually cleaned.

The second course was a mid-range private country club. Its irrigation system consisted of just a 1-inch (25-mm) ball or gate valve at each green and lots of hoses. At one time, the golf course had quick couplers in the fairways, but no one could remember when they had been used. During my visit the irrigation pump was out being serviced and had been gone for some time. The golf course looked great and had no real need for irrigation.

The third course visited was quite interesting. The course had been recently renovated and had a modern irrigation system. Greens were ins and outs and fairways were double and triple row valve-in-head on a 65-foot (20-meter) triangular spacing. The control system was decoder. To our surprise, the superintendent operated the entire system from his smart phone and iPad and was very proficient with them. Tee irrigation was an issue as they were all watered with residential type Rain Bird 5000 series sprinklers. The tees were sand

(VINCHESI continues on page 58)

The use of chemicals and drainage and irrigation systems are **rare due to availability and cost**, but the golf course superintendents and foreman are eager to learn.

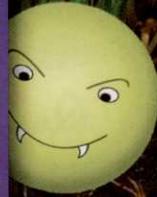
about 8,660 feet (2,640 meters). The climate is very mild with average temperatures of 70-75 degrees Fahrenheit (21-24 Celsius), much like San Diego. As with most Latin American countries, there are lots of buses and diesel fumes and, like New York, what seems like thousands of taxis. Grow-

took apart the filter to see what kind of debris was in it. As it turned out, it was a 200-mesh (74-micron) disc filter, which is finer than even drip irrigation needs. There was a lot of debris as the filter was catching everything. Normally for golf you would use 300-micron or 50-mesh filtration. One

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Separated at birth

Sometimes it's hard to tell one weed from another. Five commonly misidentified weeds and the telltale signs to ID them right the first time. By Katie Tuttle

Depending on your geographical location, your golf course may see a different number of turf weeds throughout the season. Some of them may be easy to identify, while others can easily be mistaken for something else. Before you go ahead and misdiagnose your turf, it's important to take the time to properly identify what you may be dealing with.

"If you're going to employ something to control a certain weed or pest, the proper ID is obviously fundamental," says Laurence Mudgem, of Bayer Green Solutions Team. "You've got to know what you're trying to control so you use the right product. A big reason is a lot of our herbicides that we use, both pre-emergents as well as post-emergents, a lot of these products now are very specific. They control a certain weed very well, but other weeds not at all. You may think you have a certain weed listed on the product's label, you spray it and it doesn't work."

According to Ramon Leon, assistant professor of weed science at the University of Florida, there's more to worry about than a product not working on a misidentified weed.

"If we don't identify the plant correctly, we might end up using weed management practices, or weed control tools; such as herbicides, mowing or mulching; that will not only have limited impact on the management or control of that species, but could make things even worse."

An example of this would be if a superintendent saw a perennial weed and mistook it for an annual. That superintendent goes and

re-soils the area, thinking he's doing the right treatment.

"By chopping up all the rhizomes and re-soiling," Leon says, "you'll have a lot more weed problems in that newly established sod. You might even end up with a more difficult situation."

Mudgem also says a big problem with weed identification isn't just that people misidentify the weed, it's that they don't know what it is at all.

"I get emails and pictures sent to me all the time saying 'hey what is this weed?' he says. "Sometimes weed ID can get a little tricky."

Before you hit the send button on your confused email, take a look at this article, which highlights five of the most commonly misidentified weeds, what they are often misidentified as, and how you can go about identifying them correctly to get the most out of your turf.

ORCHARDGRASS. This turf weed is a large problem in cool season turf, however it is an annual plant that can be found anywhere in the country because of its ability to adapt to a wide range of locations. Seeds for Orchardgrass are often mixed in with grass seed, so if your course plants tall fescue, you may be sprinkling seeds for this weed in with your grass and not even know it.

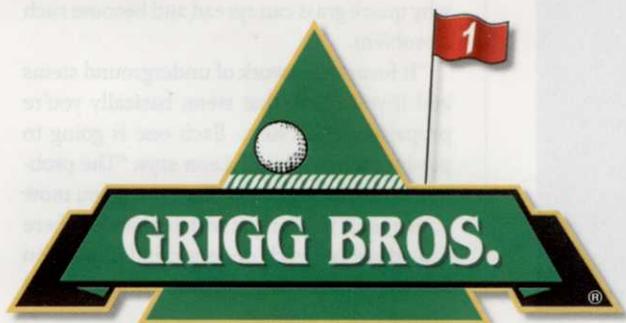
When the weed grows, it has distinctly folded leaves, and the base of the leaf is similar to a V-shape, something relatively unique to this plant. It also has a flat stem and a very distinct, long memberless ligule, which Leon says might be the best way to identify it.

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David Gardner, associate professor, turf-grass science at The Ohio State University, agrees.

"Most of the time when you pull the leaf sheath away, you can see it's overlapping on the two sides," he says. "[It's] closed to form a hollow tube. When you pull it apart, you physically pull tissue."

Depending on where your course is in

the country plays a large role on what weeds orchardgrass may be confused as. Leon suggests that some superintendents may confuse orchardgrass for reed canarygrass. The difference between the two is that reed canarygrass has wider leaf blades.

Because of the leaf blades and light color of the plant, orchardgrass can also be misidentified as quack grass or tall fescue. Because it's



The oracle around the stem of a quack grass plant.

an annual, it won't have the rhizomes similar to the other two.

QUACK GRASS. Quack grass is a perennial weed which is found more in the northern part of the U.S., although it can be found all over the country. The main problem with quack grass is that even though it's propagated by seeds, it also produces an extensive rhizome system underground. This is also the easiest way to identify quack grass.

"When you dig out the plant, you can see that where the stems and leaves are coming out, you're going to have a wide stem that basically grows horizontally under the whole surface," says Leon.

However, that wide stem is also the reason why quack grass can spread and become such a problem.

"It forms a network of underground stems and if you break that stem, basically you're propagating the stem. Each one is going to produce a new plant," Leon says. "The problem with quack grass is that even if you mow it, or even if you spray it with herbicides, there is a whole network underground. Once you kill some of those parts, the rhizomes will produce new plants."

Most often, quack grass is mistaken for orchardgrass, brown grass, or perennial ryegrass. There are other ways to distinguish the quack grass, such as the oracle around the stem at the collar, but the quickest way to identify it is by pulling up a clump and examining the rhizomes beneath.

NIMBLEWILL. Nimblewill is a grass weed that people seem to be noticing more and more in their turf, mostly because they're just starting to take note of it.

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8 critical questions to ID weeds

There are plenty of diseases that can be misidentified on your course; this article only highlights five of them. Before you accidentally misidentify and make a possibly damaging mistake, it might be smart to get in touch with a weed specialist to professionally diagnose what you have growing. When you contact a specialist, they will most likely ask the following questions, so make sure you have the answers at the ready.

- Is it a woody plant or an herbaceous plant?
- Is it a broad leaf, or more like a grass?
- If it's broad leaf, how are the leaves attached to the stem? Are they by themselves or in groups?
- What is the shape of the leaf? Is it round/elongated? One leaf at a time?
- Is it a plant that grows vertically, or one that spreads from the base and then opens up? Or is it more like a vine that grows around objects?
- How are the leaves attached to the plant?
- Are the flowers at the top of the plant?
- What are the dimensions of the plant?

Using the answers to these questions, it should be relatively easy to narrow down what weed it is that's left you confused.

There are a few ways to identify this weed. One is to look at the seed head, which Christians says is unique because it has an awn at the tip of each seed.

"It's a spike-like seed head but it has a hair-like structure at the tip of each one," he says.

Most often, nimblewill is confused with Bermuda grass, so a lot of times people end up ignoring it because they think it is part of their Bermuda grass turf. However, even though it looks similar to Bermuda grass, its spreading growth habit can cause the area to look like the Bermuda grass is contaminated. That's why superintendents should still try to control it instead of just letting it grow.

A characteristic important to look at when identifying nimblewill from Bermuda grass is the ligule. A nimblewill ligule looks more like a membrane, whereas a Bermuda grass ligule looks hairy.

"If you're confused [between the two]," says Leon, "look and if you see that hairy area at the base of the leaf, it's Bermuda grass. Nimblewill has a more membranous ligule."

Nimblewill leaves are also wider and more spaced between leaves than Bermuda grass leaves.

Another important identifier is the flower.

"If you let it flower, Bermuda grass is going to produce a flower that has five spikes, or little branches, that form a star," says Leon. "Nimblewill will have just one branch, vertical, and it's very finely covered with little flowers."

Gardner says you can also tell a Nimblewill by looking at a cross section of its leaves.

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“If we don’t identify the plant correctly, we might end up using **weed management practices, or weed control tools;** such as herbicides, mowing or mulching; that will not only have limited impact on the management or control of that species, but could make things even worse.”

– Ramon Leon, University of Florida

“What I tell people to look at is to rip a piece of a leaf and look at it in cross section because most of the time grass leaves either have rolled or folded vernation,” he says. “Nimblewill is folded, but when the leaf is completely unfurled it almost looks like a w with rounded corners in cross section.”

SMOOTH BROME. Smooth brome is a weed common to the Midwest states. It grows rapidly in

the spring and fall, but blends in with the turf grass during the summer. Like the quack grass, smooth brome also produces rhizomes, but not to the extent of quack grass. It will also grow to be taller than quack grass, and its leaves will be wider.

Another distinct characteristic of smooth brome’s leaves is that there is usually a watermark at the tip of the blue-green leaf; a bleached out area that looks like a “V.”

The way to tell smooth brome apart from other wide-plated weedy grasses, such as orchard-grass, quack grass, and tall fescue, is to look at the leaf sheath.

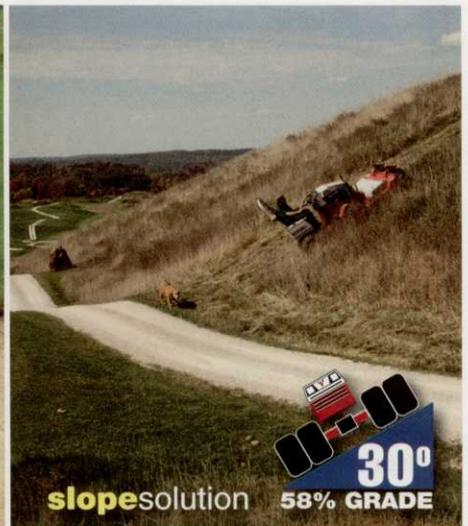
“The best way to identify it is the closed sheath,” says Christians. “[It] is one of those course textured perennial grasses that sticks out of the turf, particularly in spring and fall.”

Once again, flowers are also a good way to identify smooth brome correctly.

“If you let it flower, basically you’re going to see a pinnacle that opens up and branches out many times,” says Leon. “If you have different layers of branches, and when you let it grow completely, it’s going to look more like a feather, which is very different from quack grass.”

ANNUAL BLUE-EYED GRASS. This particular weed is relatively new to the golf course scene, and is very similar to annual bluegrass. Mudgem says people may be misidentifying this weed a lot because it’s so new, and therefore unfamiliar. Because of this, a lot of superintendents think what they’re treating is annual bluegrass.

“They’re both winter annuals,” says Mudgem. “You find them commonly on golf courses and



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lawns, but the annual blue-eyed grass has a little flower, whereas *Poa annua* has a whitish looking seed head. But if you have a small *Poa* plant and a small annual blue-eyed grass plant, they do look similar. When they get established later in the spring, you can tell them apart.”

Another way to identify the blue-eyed grass is by the stem and leaves.

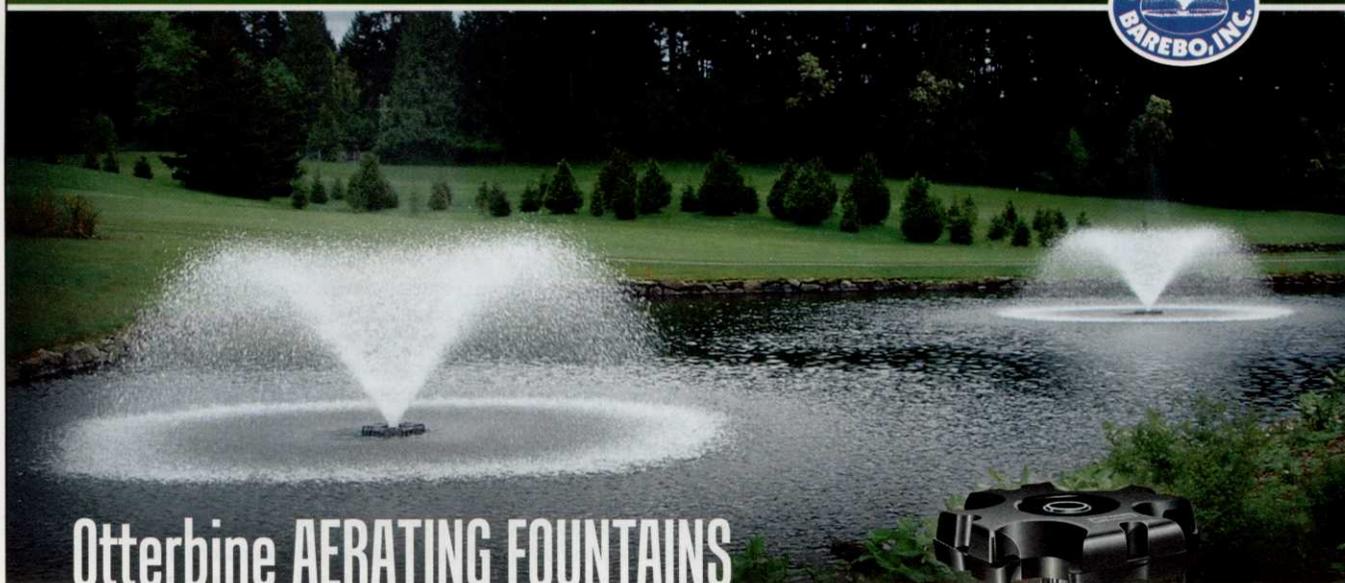
“[T]he base of the leaves and of the plant is very, very flat,” says Leon. “The color of the leaves tends to be light green, even if you put a lot of nitrogen on your lawn.”

Leon says the tip of the stem is also flat, and this is where the blue-eyed grass flower grows. The flower has six petals; often pink, purple or a dark blueish-purple; and looks like a tiny lily.



Annual blue-eyed grass is often mistaken for annual bluegrass.

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According to Mudgem, this year he's gotten more calls regarding annual blue-eyed grass than in the past 25 years combined.

"It just exploded out there in the market," he says. "It's kind of interesting how things happen like that."

This seems to be a common trend in weeds, especially with all the different herbicides on the market to target specific weeds.

"If you have a golf course and you're spray-

ing for certain weeds, you may not control other weeds that may become a problem," he says. "You could be going along fine and then all of a sudden come across a weed that causes a problem. When you have all these herbicides out there, you have shifts in weed populations." **GCI**

Katie Tuttle is GCI's assistant editor.

There's an app for that

So you've read the articles a dozen times, you've tried all the steps, and you still can't tell if the weed in front of you is nimblewill or Bermuda grass. Never fear! Today's technology makes it much easier to solve your weed ID problem at the touch of your cell phone.

Turf apps, such as TurfPath, allow users to easily identify the weed they're staring at, without requiring you to bring along a wheelbarrow filled with textbooks, brochures, and photographs.

"The concept for Turfpath was to provide real-time updates to turfgrass managers by crowdsourcing pest reports from its users," says John Kaminski, the creator of TurfPath. "Environmental predictive models are a good way to get an idea of what pests may be approaching, but are usually limited in accuracy. I figured actual reporting of active pests from the app's users would be a more accurate way to know what's happening in any region and the quantity of reports would help identify the potential severity and movement of the problem. Turfpath also has a wealth of other basic information that allows users to identify their pests and find control options. With the rapid increase in the use of mobile technology, developing Turfpath seemed like a great way to provide a powerful pest management tool for the turfgrass industry."

And TurfPath's not the only one. Similar apps are popping up all over the internet, giving superintendents books-worth of information at the tips of their fingers. GCI has compiled a list of the most popular and most resourceful weed identification apps. Head over to the app store and download the following immediately.

- **Turfpath**
- **Turfgrass Management** – This app is a must have for all superintendents and turfgrass managers. Besides the wealth of information in the "living database", this app offers other resources in the form of Power Point presentations and article publications. These are perfect for when you have 5 or 10 minutes under a tree, pull out your iPhone and scroll through an article or slideshow.
- **Evernote** – This is a great app for once you have identified your weeds/pests to build your own custom database on what you actually have on your property. You can take photos of the weeds and store them in Evernote. You can store the product labels of your treatments in Evernote for future reference and you can even attach a copy of your spray record with the weed identification for future reference.
- **MWM (Mobile Weed Manual)** – This is a mobile weed management program created by the University of Tennessee. It has a database of descriptions, pictures and solutions to weeds you may encounter in turfgrass. One of the biggest pros of this app is the intuitiveness of the app. It really harnesses the power and functions of the iPad in terms of the multigestures to create a very easy way to navigate and search through the app. This app is also free, which is always good.
- **ID Weeds** – This app is from the University of Missouri Extension and allows you to search for weeds by their common or Latin name, view a list of weeds, or identify weeds based upon a number of different characteristics. Details about each weed are presented, along with photographs of the weed specified.
- **WeedAlert.com** – This app, from PBI Gordon, is actually a website that works on mobile devices. Very easy and intuitive to use. The only con is that since it's an app built by PBI, all of the solutions involve PBI products. This isn't a bad thing, especially if those are the products you use.
- **NCSU Lawn Care** – This is a great all around turf management app, but more designed for the homeowner, but certainly can be used for the turf professional. Has tips, photos, videos, and a library of pests including weeds that can be used for identification. It's mostly built around southern grasses.



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.

ALLOWANCES AND CONTINGENCIES

Long ago, a contractor turned in a bid that included an additional line item for \$50,000. He labeled it “stuff I probably forgot.” I liked his honesty, even if his high-price and non-conforming bid cost him that project.

Even if your architect draws detailed plans, you can expect field changes in your renovation.

There are many different ways to get a golf course built – the main methods are using plans and specifications to design or designing in the field. Generally, detailed plans closely quantify most work items, including green size, bunker size, etc. before construction. Field design firms try to predict quantities based on past projects.

Most projects follow the proverbial desire for “champagne on a beer budget.” Thirty six years of experience has taught me to be smart and plan on spending 10-20 percent more than the client really wants to get the product they really want and need.

Depending on how unique the final design and your site conditions are, there is greater potential for inaccurate scope of work.

I once saw a field designed project that had estimated 100,000 square feet of sand bunkers. A field decision to add a massive fairway bunker between two holes used 120,000 sq. ft. of the 100,000 sq. ft. sand allowance. Despite an attempt to reduce sand by the addition of several turf islands, the

owner had to find money for about twice the sand originally budgeted.

But, no matter how much prior planning your architect puts in, there are always field changes for a variety of reasons. While we attempt horse trading among items to balance budgets, many field changes require more money. Causes include:

- Inaccurate topo or base maps, making accurate, detailed design nearly impossible.
 - Inaccurate “As-Builts” are the exception rather than the rule. Most courses seem to have “a guy” who knows where everything is, but no maps confirming it, so unknown conditions are very common on renovations, where we often find old and forgotten infrastructure, resulting additional work the Contractor couldn’t possibly have bid.
 - Many field “additions” are really “put backs” resulting from overly optimistic “value engineering” in the design process to meet a specific budget.
 - Most clients don’t fully understand plans or budgets, and things always look different to them in the field in summer than on a spreadsheet in winter.
 - Some clients expect (or add) non construction items like equipment, tee signs, etc. to the established construction budget, effectively reducing it below what was anticipated.
- So, it is always wise to:
- Include a contingency fund of at least 10 percent. 15 percent is better, and 5 percent is too skinny.
 - Don’t publicize the contingency. Architects and contractors tend to find ways to spend it...
 - Save as much as possible until the end of the project, when potential for unexpected costs seem unlikely, and use it for more sod to ease the grow in process.

It is also wise to include small allowance items in the base budget. For instance, years of small change orders for drainage additions make me include a standard \$5,000-\$10,000 drainage allowance line item in the bid form. It is used mostly around cart paths, planned on grade, but often built even one inch too high or low, causing drainage issues.

I have had clients “prioritize” drainage problems that are all equally unacceptable. Once a contractor is on site, it is a great time to do more, since the unit prices for additional work are lower than bringing a contractor back for many little projects.

Other typical over runs include:

Irrigation. Some typical problems include:

- You can’t grow grass without irrigation, and any time holes are relocated, it usually takes more heads to get new areas cover and sometimes more heads to maintain perfect triangular spacing.
- When trying to reuse existing heads to save money, we find 10-25 percent of them will be unsuitable to re-use, but never know for sure until they are dug out.

Cart paths. We usually want more cart path (and curb) in the field, whether to get golfers closer to tees and greens, provide maintenance and beverage cart short cuts, or connections to restrooms. As with drainage, it is always tempting to add more... and more... no matter how many lineal feet are called for.

And, it often seems like the last section of existing path we tie into is in poor condition, or not perfectly located. It often becomes obvious when installing connecting dowels

(BRAUER continues on page 58)

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TINY BUBBLES

By Helen M. Stone

Aeration can help you find a clear solution to your pond problems

Mother Nature is probably the most efficient lake designer of all. Large, deep lakes stay naturally clean and clear for decades. However, like all biological beings, lakes age. They fill with sediment and organic matter and eventually become meadows. In a manmade lake or pond, this progression can speed up to the point that the pond or lake is a stinking mess in just a few years.

While golf course lakes are undeniably an aesthetic asset, looks aren't everything. Golf course lakes hold irrigation water, capture storm runoff, aid in drainage and can even be a favorite fishing hole. However, with all the responsibilities on a golf course superintendent's priority list, lake management might be considered a necessary evil.

"Most superintendents consider ponds a nuisance or even a pain in the butt," says Bud Laidlaw, western regional sales manager for Otterbine Barebo. Based in Phoenix, Ariz., Laidlaw has seen his share of poorly managed lakes in his long career.

"When I was 16, I worked on a golf course and when I was mowing a green close to a pond, I was instructed to just throw the grass into the pond. In the old days,



"Aeration may be the best ticket to turn your pond back into the one you remember or want it to be."

we didn't know any different," he chuckles.

Over the past three decades, there has been untold amounts of research and innovation in the lake management business. Still, "Probably only about 30 percent of the superintendents I work with know how deep their ponds are," Laidlaw says.

The depth of your pond is criti-

cal when selecting an aeration system. But let's back up a bit and decide whether you need a system or not.

If you are relying solely on chemicals to control algae, you might want to reconsider. As golf courses are put under a public microscope, chemical usage and water conservation are under major scrutiny. "In Canada, the

use of chemicals to control algae is already banned," says Richard Panten, owner of Platinum Ponds and Lake Management in Greenville, S.C. Although Panten is licensed by the state of South Carolina to spray aquatic herbicides in open waters, it's not his first choice in techniques.

"One thing I can say about chemicals is that if you use them

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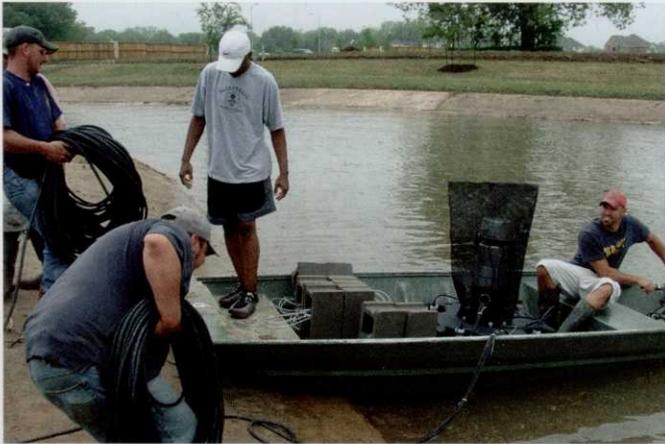
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Above: Installation of an aerator fountain.



one year, you'll have to keep using them the next year and the next," says Laidlaw. "I have nothing against chemicals; they can be a great tool in a crisis situation where you have an algae bloom. But when you spray an algae bloom, it doesn't evaporate into

the sky. It falls to the bottom of the pond and contributes to the benthic zone. It decomposes and provides nutrients for the next algae bloom."

Benthic zone? Simply a scientific term for the bottom of the lake, where sediment and

sludge build up, and organic matter decomposes. This zone can build up anywhere from one to five inches a year. That can mean a major loss of water storage capacity. A one-acre lake loses 80,000 gallons of water with every three inches of sludge

and/or sediment accumulation.

There are two major factors contributing to algae blooms and a lake's decline: nutrient loading and lack of oxygen. Chemicals cannot "cure" either.

It's natural for the benthic layer to build up gradually. But

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added inputs, be it storm water, irrigation runoff, clippings, fish and bird "contributions" or fertilizer, will speed up the growth of algae and aquatic weeds, which will die, decompose and feed more algae and aquatic weeds and....well, you get the picture.

"Mother Nature has many rules," says Cary Martin, manager at Crop Protection Services. Martin has spent years studying lake maintenance, aeration and aquatic vegetation management. "One of those is that when any kind of nutrient comes into water, it won't just sit. It will grow something, somehow, some time."

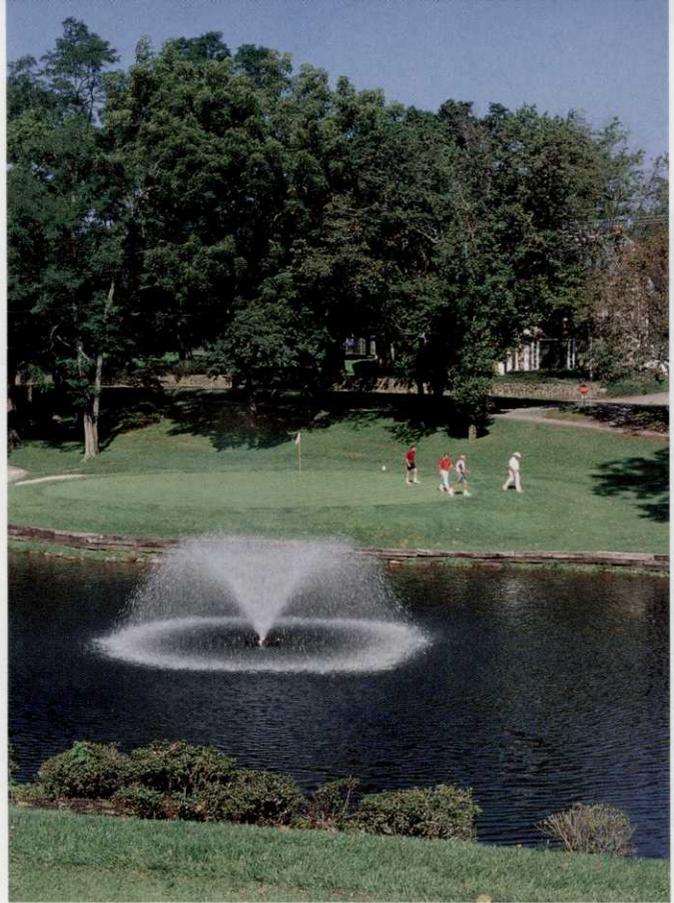
"The first investment should go into nutrient management, which would actually be driving the problem," says Dr. Rob Richardson, Assistant Professor of

Crop Science at North Carolina State University in Raleigh. "You can get a solution analysis that will say exactly what the nutrient levels and pH of the water is. Anyone that wants to manage their water body should start with a solution analysis and go from there."

Lakes also have temperature layers, which correspond to the amount of oxygen and nutrients in the water.

Algae thrives in warmer temperatures on the water's surface and shades the water below. The warm water on top is lighter and floats on the cooler, heavier water. The problem is that the cool water is lower in oxygen. And, as with human beings, oxygen is essential to healthy pond life.

Warm surface water naturally contains lower levels of oxygen



A fountain aerates a golf course pond.

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than cooler water. However, in the cooler water below, oxygen is depleted because the decomposing organic captures it.

When there is plenty of oxygen, decomposing organic matter breaks down completely through a process called "aerobic digestion." This digestion also breaks down excess nutrients. Dissolved oxygen also supports oxidation and other biological and chemical processes that keep the water clean and clear.

Although aquatic plants and algae produce large quantities of oxygen, its movement through the lake is limited. Winds that ruffle the surface of the lake contribute to its oxygen level, as well as rainfall. But in a highly managed environment such as a golf course, that's just not enough.

Fortunately, years of research

has resulted in effective, relatively inexpensive and even beautiful ways to keep your course water features clean and clear.

There are two basic types of lake aerators: floating fountains or surface aerators. These aerators are undeniably beautiful.

"The prettier they are the less effective they are for water quality management because the pumping rates are the lowest," Laidlaw says. "With higher pumping rates you get higher oxygen transfer rates." For example, the typical decorative fountain with a 1 hp motor might pump 150 gallons per minute, while an industrial model will pump 920 gallons per minute and barely ruffle the surface.

"Floating fountains are about 90 percent aesthetic and 10 percent biological," says Paten.

PHOTO COURTESY PLATINUM PONDS

HOTTER
ON WEEDS



COOLER
ON TURF



"Bottom aeration has revolutionized the industry in the last decade. Floating fountains are in demand, but biologically bottom aerators are the ones that work."

Also known as "diffused air," these systems are a pipe at the bottom of the lake with holes that send air bubbles up to the surface. You may think the bubbles transfer oxygen to the water, but Martin explains otherwise.

"Actually, less than five percent of oxygen is transferred this way," he says. "As bubbles rise, they expand. Cascading bubbles entrain cold dense water below the thermocline and lift it to the surface." This not only allows hydrogen sulfide and carbon dioxide to escape, but it also allows the oxygen to be absorbed and circulated through the entire water column that is created.

"Mother Nature has many rules. One of those is that when any kind of nutrient comes into water, it won't just sit. It will grow something, somehow, some time."

– Cary Martin, Crop Protection Services

"The long and short of it is that bottom aeration creates a chimney effect that rids the pond or lake of the thermocline, which basically keeps the lake from being healthy," Panten says. "Fish live in the upper 20 percent of a lake's water, and usually a floating fountain pulls water from that oxygen layer and throws it in the air and increases evaporation. Where a bottom aeration creates an enormous amount of lift, kind of the equivalent of three or four fire hydrants all spraying at the same time."

Surface aerators can also be energy hogs. "I have one client

in a very high-end area of Greenville who has two units on a one acre pond that cost about \$500 a month to run half a day," Panten says. To make a floating fountain more effective, an adapter can draw water from the bottom of the pond, but energy costs will remain high."

Don't be led into thinking that diffused air is the only solution, though. "It's 100 percent efficient at 15 feet or more," cautions Laidlow. "The shallower the lake, the less effective it is."

Lake science, or limnology, is a lifetime devotion for scientists. Although the basics may empha-

size nutrient management and oxygen, each body of water is a complete ecosystem of its own. Don't be afraid to ask for help. Consultants are as passionate about their work as you are about yours. Major manufacturers also have knowledgeable staff who can help you size, install and maintain aeration equipment.

"Aeration may be the best ticket to turn your pond back into the one you remember or want it to be," concludes Martin. **GCI**

Helen M. Stone is a freelance writer based on the West Coast and a frequent GCI contributor.

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Grinding the DATA

GCI takes a deeper look at its reel and blade maintenance research.

Cut is king.

It's a simple mantra among golf course superintendents. It plays a major factor behind their approach to reel and blade maintenance and is at the core of their philosophy toward these practices.

GCI, in partnership with Foley United, developed a reel and blade maintenance questionnaire that was distributed to GCI's readership in the U.S. via the online survey portal, SurveyMonkey. Among those who participated in the research, more than half (62 percent) worked at non-private courses and nearly half reported an annual operating budget of less than \$500,000 (48 percent). GCI sat down with Jim Letourneau, president and COO of Foley United to provide some analysis based on a more detailed look at the data. This month we dialed down on this data, specifically looking at trends among facility types (private vs. non-private) and operating budget (less than \$500,000 vs. \$500,000 to \$1M vs. more than \$1M).

"Without a doubt, quality of cut seems to be a major factor regarding these maintenance practices," Letourneau says, pointing to the fact that, consistently, nearly three quarters of respondents, regardless the breakdown, indicated they maintain reels and blades when the quality of cuts visually begins to suffer. "And this sentiment is consistent regardless of the type of facility or the size of budget that the superintendent (or maintenance technician) is working with... you have to maintain the best cut possible."

While some of the detailed survey results remained consistent against the overall findings, Letourneau did provide some analysis on the following data points.

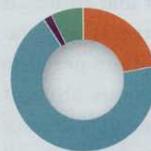
SPIN AND RELIEF GRINDING. While the majority of respondents (63 percent) practiced spin and relief grinding, the highest percentage were among private facilities (72 percent) with budgets of \$1 million or more (73 percent). This certainly reflects the notion that, after quality of cut, the depth of reel and blade maintenance practices becomes a question of time and resources, Letourneau says. "Some courses can just afford to make this happen," he says.

NEW BEDKNIVES. While the majority of respondents (83 percent) said they do grind new bedknives, nearly a quarter (22 percent) of small-budget courses were not.

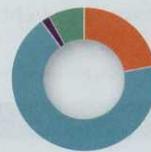
"It's another reflection of time and resources for some superintendents and/or maintenance technicians," Letourneau says. "Outside of using tournament bedknives, we recommend that you always grind new bedknives because a new bedknife typically will not mount 100 percent accurately and needs to be ground to fit correctly."

LAPPING. Respondents from nearly three quarters of non-private facilities (71 percent) indicated they lap, while 75 percent of those

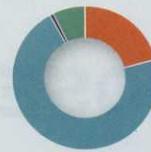
Do you subscribe to the "no contact/no relief" or "light contact with light relief" grinding philosophy?



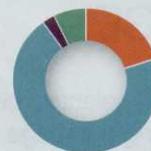
Non-Private



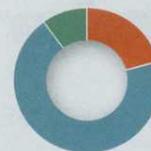
Private



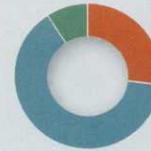
>\$500K



\$500K-\$1M



>\$1M



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courses with less than a \$500,000 budget will lap.

“It’s simply a cost factor,” Letourneau says. “Also, you most likely need to take geography into account, as well. Northern courses will have shorter seasons. Typically, we see more guys lap in the North vs. the South because the season is shorter.

GRINDING PRACTICES AND PHILOSOPHIES. Interestingly, survey respondents indicated they were not necessarily set in their ways when it came to their reel and blade maintenance philosophies. For example, 83 percent of respondents from non-private courses and 79 percent from courses operating on less than \$1 million budget said they were open to hear-

ing other opinions and practices.

“The responses to this section of the survey were definitely interesting, especially when you consider that many of respondents indicated they learned reel and blade maintenance from their courses’ equipment technician (45 percent) or another superintendent (40 percent),” Letourneau says. “This could be interpreted that these are practices that are being passed down from one person to another, perhaps from one generation to the next. While they may be passing down things that are correct, they may also be passing down information that is no longer relevant or even wrong.

“This particular data tells me that we, as manufacturers, need to be putting more emphasis on providing training on reel and blade maintenance and making sure the correct practices are being taught, especially in light of the fact that respondents indicated they’re open to new ideas,” he added. **GCI**

Check out the app

For more reel and blade maintenance research charts and graphs, check out this story on your iPad or iPhone.



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Do you spin grind only?



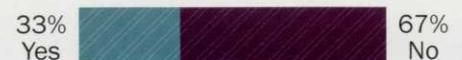
Non-Private



Private



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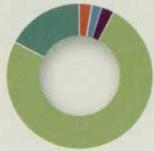
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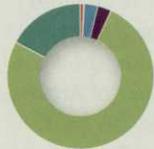


How do you determine when to grind?



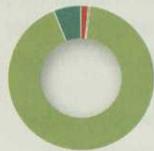
- 3% Based on hours
- 2% Based on days
- 3% Based on weeks
- 75% Whenever it needs it
- 17% Other

Non-Private



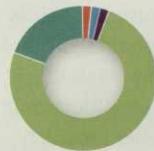
- 1% Based on hours
- 3% Based on days
- 3% Based on weeks
- 76% Whenever it needs it
- 17% Other

Private



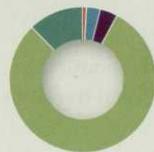
- 5% Based on hours
- 1% Based on days
- 2% Based on weeks
- 74% Whenever it needs it
- 18% Other

>\$500K



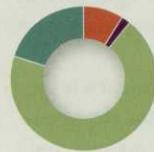
- 2% Based on hours
- 2% Based on days
- 2% Based on weeks
- 75% Whenever it needs it
- 19% Other

\$500K-\$1M



- 1% Based on hours
- 3% Based on days
- 4% Based on weeks
- 80% Whenever it needs it
- 12% Other

>\$1M



- 9% Based on hours
- 0% Based on days
- 2% Based on weeks
- 69% Whenever it needs it
- 20% Other



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For more...

For more information about reel grinding and blade sharpening trends, check out GCI's June article "Back to the Grind" which examined the research findings as a whole. Access this article by entering bit.ly/16KrrEI into your browser.



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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.

BUILDING WITH THE HOUSING MARKET

Other than weather patterns, no single influence has a greater impact on golf and its related businesses than housing. The housing engine drives demographic changes, which, in turn, create new markets and change the face of established ones.

As housing recovers from a recessionary body blow, its impact on golf will be favorable. Developers and homebuilders, as they have for decades, will continue to view golf courses and country clubs as primary

mixed-use properties are starting new projects. Tonette Echols, a financial advisor at Wells Fargo Advisors in Phoenix, observes that the combination of declining unemployment and moderating inflation is helping the economy find a "sweet spot" of opportunity.

Homebuilders seem to agree. Rick Judson, chair of the National Association of Home Builders and a Charlotte-based builder, said recently, "Builders are noting an increased sense of urgency among potential buy-

past decade Baby Boomers have felt another tug: proximity to children and grandchildren. The markets benefiting most are along the coasts and in population centers of Arizona, California, Florida, the Carolinas, Georgia, Tennessee and Texas. Generally speaking, states with favorable climate and more affordable health care will prosper; states without those advantages and those with high taxes will be less attractive to current and prospective residents.

Some markets – especially those where the recession brought new construction to a standstill – are now seeing the effects of a supply shortage. After several years of near-zero growth, sellers have corrected prices and builders have relocated their tool belts. Until inventory levels stabilize, home values on resales are increasing and it's once again a seller's market. Nationally, prices have increased 5.2 percent since January, with several California markets, Phoenix and Las Vegas leading the way.

If you're wondering if or when your market will join the housing resurgence, here are several trends to watch:

- Consumer confidence is growing and fueling activity nationally. But housing a local market dynamic, so look for close-to-home signs such as continued layoffs or new businesses moving in.
- Homebuilder confidence is growing as builders scurry to take advantage of market conditions and credit availability.
- Building permits (usually six to nine months ahead of the cycle) are increasing in hot markets.
- Housing starts (usually four to six months ahead of sales) are up 35.8 percent from April 2012 to May

(DELOZIER continues on page 58)

After several years of record slow growth in new home starts, the pressure of pent-up demand is driving a new surge in construction. Where this new activity shows up first and remains strongest will help determine golf's future health.

amenities for many of their projects. However, predicting the vagaries of the housing cycle is an imprecise process. It's this symbiotic relationship between golf and housing that makes it important to keep a careful eye on this recovery.

As the housing market heats up, it's interesting to remember the dire prognostications of some market watchers from only a few years ago. "The glory days of the housing economy are gone forever," predicted some of the least informed. As often happens, many failed to remember the fundamentals that drive the housing cycle: developers' access to capital, homeowners' access to mortgage debt and the confidence levels of both buyers and sellers. The doomsday prophets also forgot their history and the reason that cycles are so named: they come and they go.

As the economy slowly and fitfully recovers, developers of residential and

ers as a result of thinning inventories of homes for sale, continuing affordable mortgage rates and strengthening local economies."

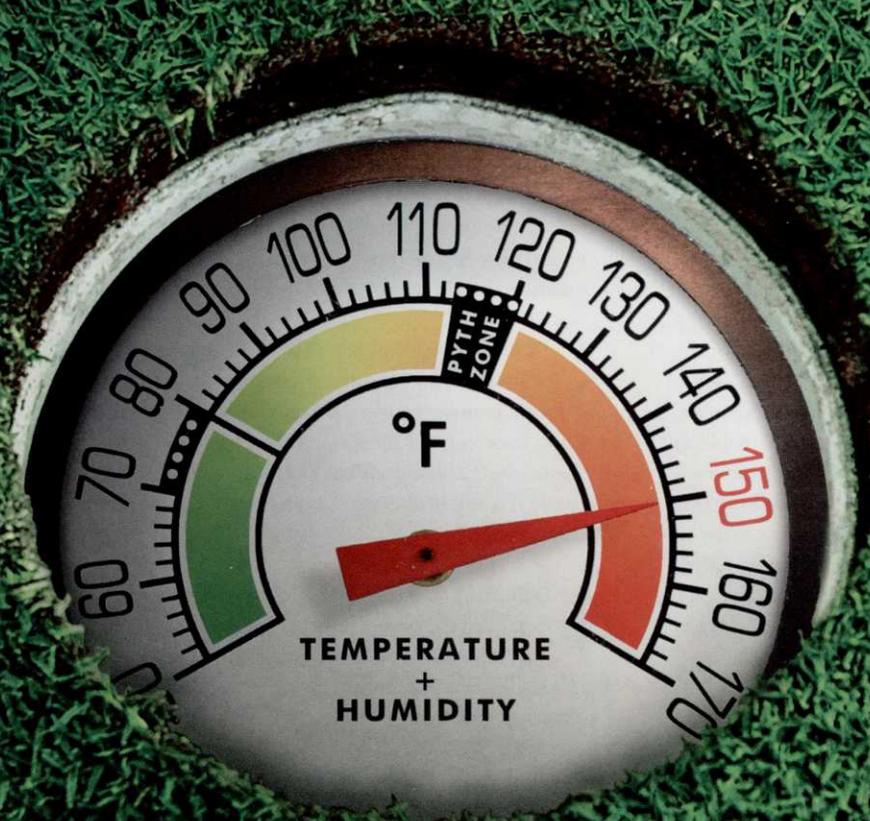
After several years of record slow growth in new home starts, the pressure of pent-up demand is driving a new surge in construction. Where this new activity shows up first and remains strongest will help determine golf's future health.

Demographically, the greatest demand for new homes is driven by more than 70 million Baby Boomers. This is a population segment that has what home mortgage companies love to see: cash and credit worthiness. According to John Burns, the respected California-based real estate observer, people over the age of 50 have purchased 39 percent of new homes thus far this year.

Traditional wisdom held that the Sun Belt held the greatest allure for the over-50 crowd. However, for the

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Making a *private club* SUCCESSFUL

Nine key factors that push clubs forward and enable them to weather hardships. by Laurence A. Hirsh

A veteran course superintendent recently asked me a broad question: What makes clubs successful? With so many clubs struggling, it was, and certainly remains, a fair question. And it was meant to be broad. The courses this superintendent and his peers manage are the biggest assets club have — but he deals with a power structure that oversees the course, the membership, the entire club staff, the F&B operation, and the infrastructure. He was talking big picture, as that picture affects everything he does, in the context of club “success.”

Without question, the most significant observation I’ve made during the recent recession is this: Those clubs that continued to move forward, that kept enhancing their facilities and improving their clubs intelligently were able to weather the storm. Conversely, those clubs that played “Rope-A-Dope” and did nothing more than cut expenses, after a while became unattractive and unable to keep or attract members. They had diminished their value, in essence. There was, thanks to this undirected cost-cutting, inherently less value in membership and many such clubs simply failed, or at the very least began allowing public play and dining, much to the chagrin of the members who stayed on.

A broad discussion should include many specifics. Here are a few specific things that successful clubs have in common.

1 GOOD, STABLE LEADERSHIP. How many successful businesses change leaders every year and have as many as 15 bosses? Not many. The best and most stable clubs have presidents for three, four or more years. Many of those clubs have benevolent dictators who unilaterally make decisions and don’t have to answer to a board of directors with multiple agendas (and too many board members, in my view). That’s the ideal, and let’s be clear: Benevolent dictators are tough to find. However, it has always struck me, and continues to strike me, how many successful clubs have found them and keep them around as long as possible.

2 PRUDENT, REALISTIC PLANNING. It’s often said that a failure to plan is a plan for failure. This is very true with clubs, especially since oft-changing leadership means oft-changing philosophies. Without a plan that is adopted and embraced from one regime to the next, it’s difficult, if not impossible to continue moving forward. It’s also difficult to develop membership on a continuing basis. Every club should have a plan and club statute should mandate the regular review of that plan.

3 LOCATION. Location is a key element for most clubs. Even those in more remote locations, if they are designed as destinations or retreats, require locations suitable to their mission. We all know in real estate the three most important things are location, location and location. With clubs, the nature of the club must fit its location and be market sensitive. What club leaders don’t often recognize is that mission can be adjusted. If a mission doesn’t match the location, adjust the mission accordingly. See planning above.

4 FACILITIES MANAGEMENT. Nobody wants to join a club with lousy, outdated facilities. Even the best quality facilities require maintenance and periodic refreshment. As part of any long-term plan, clubs need to ensure that not only is the continuum of club leadership (i.e. multiple future regimes) willing to update and upgrade facilities as necessary, but that it’s prepared to pay for those updates and upgrades, without fail, over time.

Without question, the most significant observation I've made during the recent recession is this: Those clubs that continued to move forward, that kept enhancing their facilities and improving their clubs intelligently were able to weather the storm.

5 AN ENVIRONMENT OF MUTUAL RESPECT. There are some clubs where members don't merely disrespect staff, they simply don't respect each other. Such clubs become a revolving door. Members come and go. Facilities decline and sometimes the club fails. It's essential for all clubs to foster a pleasant and friendly environment so that new members (and guests) feel comfortable. This is the job of both club leadership and staff, and it's the backbone of effective club programming. Club leadership needs to be willing to get rid of the rotten eggs – even in times of challenging membership development. But here the financial planning aspect come back to the fore. Mutual sacrifice and investment engenders esprit de corps among members. They're in it together. By the same token, cost-cutting engenders an "every man for himself" mentality, which makes mutual respect almost impossible.

6 QUALITY, PROFESSIONAL STAFF. A great club has a great staff – PERIOD. Without good food and beverage staff, members won't eat there. Without good course conditions (superintendent and crew) the club gets a poor reputation, internally and externally. Without a good golf pro, that operation suffers. All of these require a capable and diligent General Manager – without one, you don't have the makings of a good club. Clubs need good facilities but they are really about finding, training and retaining good people. The prospective member sees the staff long before they get to know the members.

7 QUALITY FOOD & BEVERAGE. As soon as the food and beverage quality at a club declines, so does the members' use of the golf course. It really doesn't take rocket science to figure this one out.

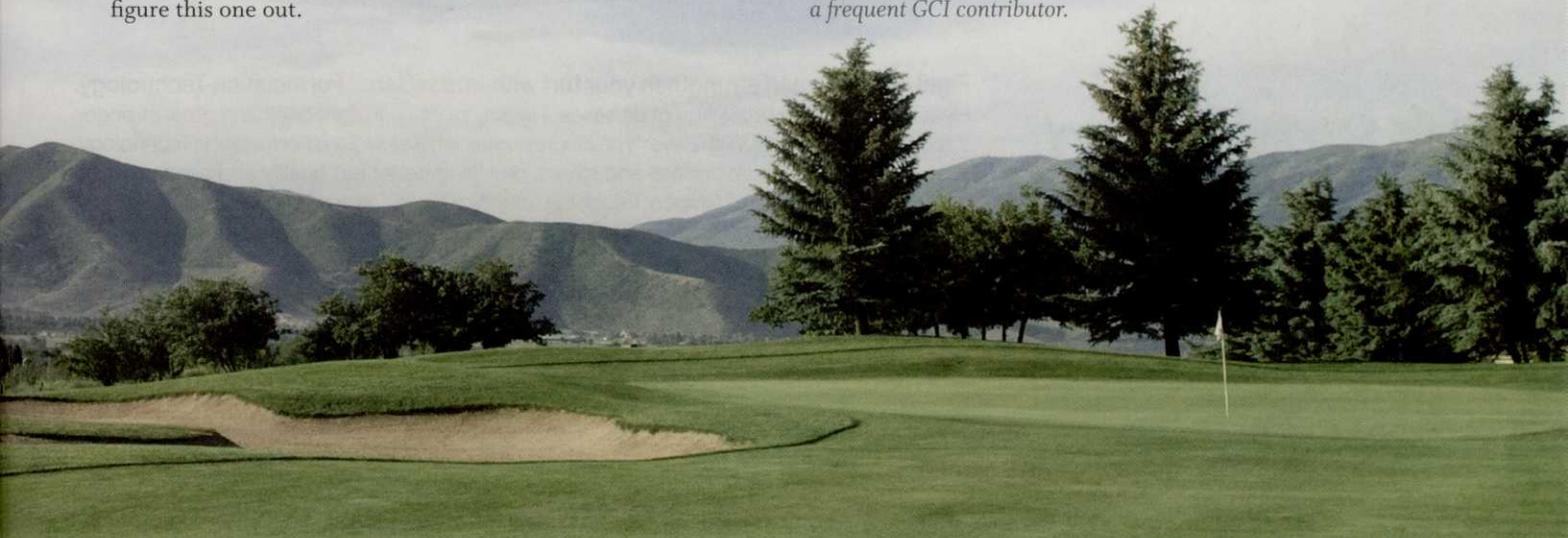
8 STRONG FAMILY PROGRAMS. The club of the 21st Century is for the most part a club for the family. Without attracting Mom and the kids, Dad can't/won't join, can't/won't view his dues as a long-term investment on behalf of his family. Fitness, kids programs and a sound family environment (not the elimination of adult fun, but the maintenance of clear boundaries between the adult, family and kids' environments) are essential to the success of most clubs today.

9 FINANCIAL MANAGEMENT. This is where I started, and it's where I'll finish because it's really the most important building block for successful clubs. Some clubs simply think avoiding spending money is sound financial management. It's important to know when not to spend – but also when to spend/invest. I've observed many clubs that, in an effort to keep dues low, have neglected facilities, equipment and quality staffing. They've initiated a long, slow death spiral. Board members hate going to the grille room after a dues increase but that's no reason to kick responsible decision-making down the road.

Four years ago, just when the economic climate was nearing rock bottom, I wrote an article on this subject for the National Club Association, "It's All About Value." Check it out. The prescription hasn't changed much and, unfortunately, the behavior of many clubs hasn't changed enough.

What has changed? It's simply more incumbent on clubs today to ensure their future success. The economic climate and competitive situation demand it. The modern member demands more value for her/his recreational dollar. **GCI**

Laurence A. Hirsh, CRE, MAI, SGA, FRICS is the president of Philadelphia-based Golf Property Analysts. He blogs at blog.golfprop.com and is a frequent GCI contributor.





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BY JUANG-HORNG "JC" CHONG

A witch's brew of troubles with the Bermudagrass mite

Bermudagrass stunt mites are an increasing turfgrass problem at golf facilities with bermudagrass fairways and roughs.

As an entomologist and extension specialist, I usually have recommendations (if not solutions) to most insect problems. But for the past few years, the Bermudagrass mite, also known as the Bermudagrass stunt mite, has severely bruised my ego.

Never heard of the Bermu-

dagrass mite? Well, you are not alone. Whenever I show a picture of the typical "witch's broom" damage (Image 1) in South Carolina or Texas, I can see eyes widening and heads nodding. Many golf facilities in the southern U.S. may be infested, but few superintendents, managers and owners

recognize the damage. Many think that those bunchy stems are just mutations.

The Bermudagrass mite is a species of eriophyid mite. The characteristics of the eriophyid mites, as a group, are their small size – a Bermudagrass mite is about the size of the full stop, or period, at the end of this

sentence – banana-shaped body, and two pairs of legs (as opposed to four pairs on typical mites and three pairs on typical insects). The Bermudagrass mite is whitish cream in color or translucent, as seen in Image 2. A large number feed under the leaf sheath, causing stunted internodes and a typical



Image 1. Infestation by the Bermudagrass mite stunts stem growth in common and hybrid Bermudagrass, causing the characteristic "witch's broom" symptom in stem (left) and the entire tuft (right).



Image 2. Adult Bermudagrass mites are tiny, with a banana-shaped body, two pairs of legs, and a whitish cream or translucent color. Eggs are oval and translucent.



Image 3. As stunting and death of stems and stolons continue, the turf fails to recover from the damage and bare spots begin to appear. The stunted tufts are quite noticeable.

witch's broom symptom (Image 1). Because of their small size, color and habit of feeding under the leaf sheath, individual Bermudagrass mites are extremely difficult to see even with a hand lens. The witch's broom damage is a more reliable diagnostic characteristic.

A few years may pass before the number of witch's brooms reaches a noticeable level. The witch's broom formation is permanent, and the infestation causes the stunted stolons even under higher fertilization and irrigation levels. Over time, turfgrass stems and stolons die. The stunting and death of stems and stolons leave behind bare spots (Image 3), which continue to expand and coalesce as more stems and stolons are stunted and killed (Image 4). The end result is a large patch of bare soil or weeds. The damage appears to be most severe on slopes and

at the edges of bunkers, indicating a correlation between the severity of damage and soil dryness at a particular spot.

AN INCREASING TURFGRASS PROBLEM. "Why are they becoming more problematic?" is a question I am asked often. The Bermudagrass mite has been with us for a very long time. It is believed that it originated in Australia and spread around the world with the shipment of Bermudagrass to other countries. The first case of Bermudagrass mite infestation in the U.S. was reported in a lawn in Phoenix, Ariz., in 1959. In 1962, it was found in Florida. Now it is widespread in most states south of the 35° N latitude.

Historically, Bermudagrass mites have only been an occasional pest of Bermudagrass. The recent gain in notoriety may be the result of better education

of superintendents. It also could be the result of reduced rainfall in recent years or changes in irrigation practices, as evidenced by the fact that the problem is more pronounced during dry times or in dry locations. It could be changes in rough mowing practices, because as the mowing height is raised, the damage becomes more noticeable on longer stems. It could be changes in pest management practices, because as some pesticides that have good efficacy against the Bermudagrass mite are phased out or restricted, pressure is reduced on the mite population. It could be changes in Bermudagrass cultivar selection. For instance, the popular fairway cultivar Tifway is very susceptible. Or, it could simply be bad timing, because as the turf ages the damage becomes more noticeable. As with most pest problems, the recent flare-up of Bermudagrass mites is most likely the result of a combination of several factors.

Those unlucky few who have to manage the damaged turf

soon realize there are no effective management options against the Bermudagrass mite. We know so little about this pest that it is almost impossible to formulate an effective management program at the moment.

IDENTIFICATION TIPS AND DETERMINING THRESHOLD LEVELS. The first step in any management program is to determine the causal agent of the damage. The thinning of turf can be caused by several factors, and damage by Bermudagrass mite is often misdiagnosed as mutation or nematode infestation. Therefore, it is always a good idea to collect samples of live witch's brooms. Samples should be sealed in a plastic bag and sent to local extension offices or extension specialists for identification.

The next step is to determine the threshold at which management action becomes necessary. Dr. David Shetlar and Dr. Harry Niemczyk of The Ohio State University developed a sampling protocol for the Bermudagrass mite. A 3- x

Editor's Note

This article first appeared in the July 12, 2013 issue of the Green Section Record (Vol. 51, 14). It's reprinted with permission.



Image 4. As damage continues, the bare spots expand and coalesce, creating a large area of bare soil. The damage appears to be most severe on slopes where water distribution is not even.

4-foot rectangular frame is constructed with PVC pipes. Inside the frame, strings are threaded through holes drilled into the PVC pipes at 1-foot intervals, creating 12 grids. The frame is then placed onto infested turf and the total number of witch's brooms in 10 of the 12 grids is counted. Samples should be taken once a month from every 50 feet on fairways and roughs, four frame samples from each green approach, and two frame samples from each tee bank. If four or more witch's brooms are found in each sample, a chemical control program should

be initiated. If less than four damaged stems are found, then a cultural control program may be sufficient. It is not clear if the sampling protocol and threshold have been verified in the field.

CHEMICAL MANAGEMENT TIPS.

There is currently no effective pesticide against the Bermudagrass mite. In 2009 and 2010, I conducted field trials at a golf facility in Hilton Head Island, S.C., to evaluate the efficacy of 26 active ingredients and products, with or without a surfactant (Dyne-Amic®),

against the Bermudagrass mite. Many active ingredients or products were not registered for use on turfgrass but were selected because of their activity on various mite species on ornamental plants. The results were disappointing (Figure 1). Diazinon (Diazinon 4E at 1 pint per 100 gallons) reduced the number of witch's brooms by 43 percent after one application in May, followed by chlorpyrifos (Dursban Pro at 1.5 fluid ounces per 1,000 square feet) by 25 percent, abamectin (Avid 0.15EC at 0.09 fluid ounces per 1,000 square feet) by 23 percent, and

dicofol (Kelthane 50 WSP at 0.366 ounces per 1,000 square feet) by 22 percent. The results were not close to 85 percent reduction, which I consider to be good efficacy.

The results from my study are surprisingly similar to those generated by Dr. George Butler (University of Arizona) and Dr. Jim Reinert (then at University of Florida) in the 1960s to 1980s and summarized by Dr. Reinert in an article published in the USGA Green Section Record in 1982 called *The Bermudagrass Stunt Mite*. The active ingredients that provided good or decent reduction in these earlier studies were Diazinon, UC-55248, oxamyl (Vydate), aldicarb (Temik), propoxur (Baygon), and chlorpyrifos (Dursban). The most effective active ingredient against the Bermudagrass mite, Diazinon, has been phased out. The uses of chlorpyrifos and dicofol in golf courses have been greatly restricted. Abamectin is restricted to the management of nematodes on golf course putting greens.

What other chemical management options do we have? What is the efficacy of other active ingredients registered for the management of mites? The Bermudagrass mite feeds deep within the leaf sheath, so would the addition of a penetrant, surfactant, or oil increase efficacy of existing pesticides? What about different types or brands of surfactants? Does a higher spray volume help penetrate the leaf sheath? How frequently do we have to repeat the application? We do not have answers to any of these questions.

CULTURAL MANAGEMENT TIPS.

One of the biggest obstacles to developing an effective management program is our lack of understanding of Bermudagrass

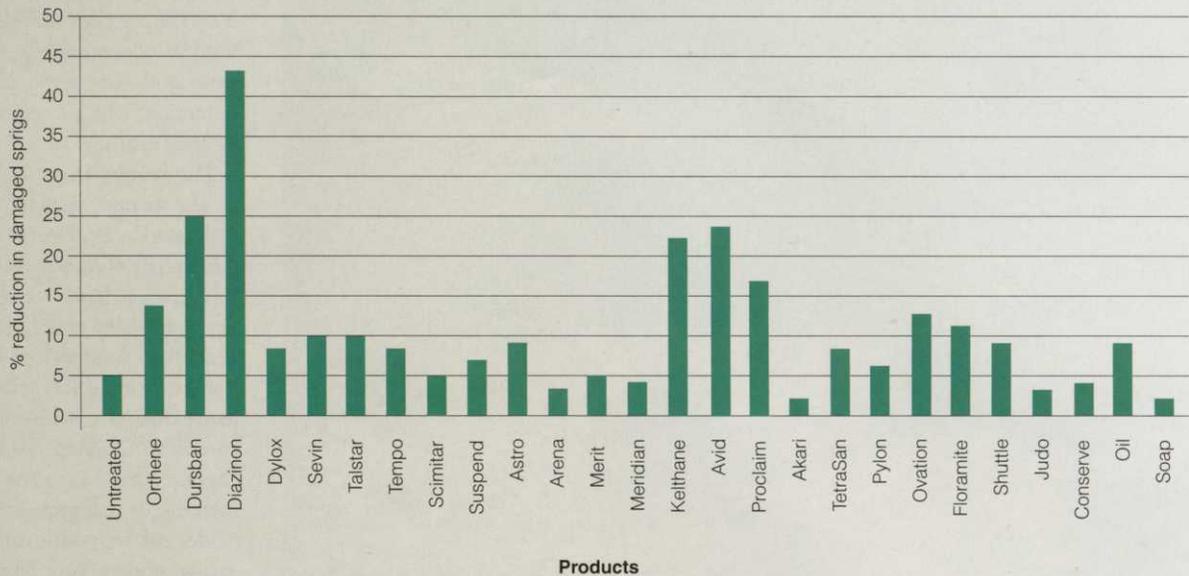


Figure 1. The percent reduction in the number of “witch’s brooms” one month after one application of selected insecticides and miticides at a golf course in Hilton Head Island, S.C., in 2009.

mite biology. The complete life cycle from egg to adult is five to 10 days, and it is faster with higher temperatures. Each female produces a dozen eggs. The population is usually active in late spring and summer. However, the location and life stage in which the Bermudagrass mite overwinters, as well as the timing of the population emerging from overwintering and beginning to cause turfgrass damage, are not known. Not knowing its biology, it is difficult to determine the timing of pesticide applications to get ahead of the population and damage.

Because damage is most noticeable on longer stems, lowering mowing height may help remove many infested stems. It is possible that scalping, in addition to vacuuming of clippings, may remove most of the infested stems. A higher fertilization and irrigation level after scalping may allow recovery of infected turf. Even when scalping is not used, an increased

irrigation volume may help lightly infested turf outgrow some damage. Fertilization can also be a double-edged sword. On one hand, fertilization can promote growth and recovery. On the other hand, higher nitrogen levels have been linked to larger and more damaging populations of mites.

It is also important to remember that the Bermudagrass mite spreads within a golf course by hitching a ride on clippings. Therefore, sanitation of mowing equipment after working in an infested area is crucial in delaying the spread. Blowing clippings after mowing can also spread populations to other turf areas. There are no experimental or even anecdotal data to suggest that any of the cultural control tactics work.

ADDITIONAL RESEARCH NEEDS.

Host plant resistance presents the most promising aspect of Bermudagrass mite management. The Bermudagrass mite attacks only common and

hybrid Bermudagrass. Therefore, for a severely infested golf course, replanting with zoysiagrass or other suitable turfgrass species may be a good, if costly, alternative. Bermudagrass cultivars vary in their susceptibility to the Bermudagrass mite. As summarized in 1982 by Dr. Reinert in *The Bermudagrass Stunt Mite*, some of the popular cultivars, such as Tifway, TifEagle, and common Bermudagrass, are susceptible, while Tifdwarf, TifSport, Franklin, and Midiron provide good resistance. Bermudagrass putting greens are not an issue for Bermudagrass mite damage. The ultra-low mowing height on greens makes it uninhabitable for the Bermudagrass mite. It is time to conduct new research to evaluate the potential of newer Bermudagrass cultivars, such as Celebration, which has a more aggressive growth habit, to resist or outgrow mite damage.

CONCLUSION. We have not made much progress in managing the

Bermudagrass mite in the past three decades. In fact, we may have taken a few steps backward with the phasing out of several effective pesticides, a continuing ignorance of the Bermudagrass mite’s biology and the efficacy of new active ingredients, and the lack of development of resistant Bermudagrass cultivars and management practices. This witches’ brew of problems demands more attention and resources from the golf industry. I am a firm believer that as great as the challenge may be, our drive and ingenuity can help us find a way out of the trouble. **GCI**

Dr. Juang-Hong “JC” Chong is assistant professor and extension specialist at the Clemson University Pee Dee Research and Education Center in Florence, S.C.

For more...

To read the report Dr. James A. Reinert’s *The Bermudagrass Stunt Mite* (1982), enter bit.ly/1aIK3WE into your browser.

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 will share 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.

GRASS DEFLECTOR:

The Jacobsen Eclipse 322 Triplex Mower is used for the tees and fairways at the Wamego Country Club in Wamego, Kan., where Trampis Nickel is the superintendent and Randy Eichelberger is the equipment manager. Since grass catchers are not used, the center reel was used to spray a 4-to-6-inch pile of grass clippings all over the operator's feet. Not anymore, as this unique grass deflector was designed and built by Eichelberger. It is built using $\frac{3}{4}$ -inch angle iron with a piece of $\frac{1}{4}$ -inch industrial rubber that is bolted in place, which is the width of the reel. The $\frac{5}{8}$ -inch steel couplings, which are welded to the angle iron, slip over the grass catcher brackets to hold it in place. It took about an hour to build and it costs less than \$50 for parts and materials.



WELDING TABLE:

The top portion was formerly a storm drainage grate with $\frac{1}{2}$ -inch steel slats spaced approximately 1.5 inches apart.

The legs, support frame and top edge around the grate are 3-inch angle iron with $\frac{1}{16}$ -inch flat steel – all welded in place – with a 4-inch vice bolted on. Two-inch caster wheels are welded onto each leg for portability. There is a removal "catch pan" placed over the intersection of the support frame that is filled with water to cool the slag from the welding operation as a safety measure, which is held in place with 1-inch angle iron. The materials were either purchased or were recycled and the total cost was less than \$200. The labor time took about five hours.

Former equipment mechanic Fred Pickering designed and built it. Jason Bazuin is the superintendent and Tim Berner is the head mechanic at The Club at Seven Canyons in Sedona Ariz.



(VINCHESI continued from page 26)

based and the block zoning of the small sprinklers watered the tees top and a great deal of surrounding tee area that was both sloped and a heavy soil all together. The tees were mostly elevated and therefore windy. The trees were very dry from a combination of poor sprinkler spacing and small nozzles that allows the water to be easily blown around.

Lastly, we visited a small practice facility operated by the Columbia Federation of Golf. This inexpensive public facility consisted of several practice putting greens, a driving range, a golf school and a par-3 course. The facility was also being used as an educational facility to teach several interns about golf course maintenance. The irrigation on this facility was very rudimentary, consisting of residential products with some automatic (not working) and manual irrigation. There was a small pump system and not enough water. But again with the kikuyugrass it was in pretty good shape.

Like most countries, golf in Columbia is very diverse with old established clubs and new resort courses. Qualified help is an issue and maintenance practices are behind the times. The use of chemicals and drainage and irrigation systems are rare due to availability and cost, but the golf course superintendents and foreman are eager to learn. During the seminars there were lots of questions both in the classroom and out in the field.

I have been to a lot of high end golf courses in the United States over the years and many private country clubs with lots of amenities. The Lagartus Club in Bogota where the seminar was held is very high end and with your typical country club services including: golf, swimming, tennis, squash, bowling, fitness center, practice area, short game area and several restaurants. However, Lagartus had an amenity I had never seen attached to a country club before. That was competitive water skiing on their irrigation lake, complete with a marked out course and a scoring building on the shore. Something to bring up as a possibility at your next board meeting? **GCI**



(BRAUER continued from page 36)

from new path to the old, when the old section breaks up, so we try the next section... and sometimes the next section, etc.

Turf. On most renovations, we try to minimize turf destruction and replanting. This cuts cost, but leaves noticeable seams between old to new turf. Once seen, many prefer new turf be taken out to logical stopping points for consistency. Also, I can't recall a project where everyone didn't want more sod than was specified.

Most projects follow the proverbial desire for "champagne on a beer budget." Thirty six years of experience has taught me to be smart and plan on spending 10-20 percent more than the client really wants to get the product they really want and need. Very few projects get built exactly as per plan, and most changes increase costs over causing "pleasant" budget surprises.

Conscientious project teams continually balance between construction cost, project quality, and future maintenance or additional construction costs. They also realize that things just tend to come up and plan for the unplanned. **GCI**

(DELOZIER continued from page 48)

2013, according to the Census and Department of Commerce statistics.

Consider two additional important impacts on golf:

- Golf participation will increase in areas with a growing concentration of homebuyers above the age of 50.
- Market radials (the distance radius that feeds a facility) are shrinking due to over-supply of courses.

How should those of us in the golf business react to the changes in the housing market?

- Monitor housing trends that favor new construction and neighborhood resurgence in your area and market to new residents.
- Because of the shorter drive-time to the nearest course, loyalty programs that reward repeat business have new importance. Evaluate yours to make sure it's appealing to new customers and rewarding to your business.
- Research your close-in market to understand its demographics and see where your facility makes the strongest connection with residents. Identify your facility's strengths and most attractive features. Then focus your communications to take best advantage of your marketing budget.

The rising tide of a stronger housing economy may not lift all boats, but it can lift yours if you plan ahead. **GCI**

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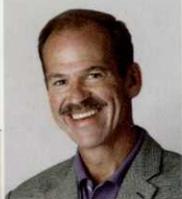
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TIM THE TWEETMAN

GCI has been on Twitter for at least five years. We have nearly 2,700 followers and we've fired close to 5,000 140-character missives into cyberspace, including exclusive breaking news items, live coverage of events, award-winning articles, pithy observations and the best tweets from our friends. We have a group of editors who spend a lot of time and effort doing social media well to create conversation in the market and drive readership of our content.

Our pal Tim Moraghan (@Tim-Moraghan), by contrast, has been on Twitter for about a year, has a couple of hundred followers and has sent fewer than 500 tweets. Tim is not exactly Mr. Social Media, but he does it occasionally when his full-time job of helping golf facilities perform better isn't keeping him way too busy.

Yet, at the end of July, he fired off one powerful message that had (at press time) been retweeted more than 40 times. This is at least double the number of the much-coveted retweets we "professionals" have ever achieved over the course of many more years and ten times more tweets.

Here's what Tim fired off into the Twitterverse the morning of July 30:

"In our profession turf loss due to extreme weather should not equal GCS job loss. All board members, GMs and golf pros hear me on this."

In short, Tim – a respected industry authority with street cred earned over a couple decades of setting up USGA championships – said what every superintendent hopes his or her boss will understand when weather-related stress coincides with high expectations. For many, that time is right now.

Here's what clubs and employers need to understand: Superintendents are highly dedicated, well-educated

and thoughtful stewards of the land who, under normal circumstances can provide amazing playing fields for the wonderful game of golf. They are not, however, alchemists who can magically change the physical properties of plants to make them withstand the brutality of Mother Nature when she's pissed off.

It is flat-out wrong to fire someone because of the unpredictable and unpreventable whims of weather. Tim the Tweetman Moraghan is 100 percent right and I hope that other credible voices will chime in to support him.

But here's the thing: I think the number of supers who actually get fired because "golfers don't get it" is way smaller than it used to be. My sense is that decades of education among club officials, owners and others who hold the employment fate of supers in their hands has helped. Awareness of the role you play in the economic success of facilities is sky-high compared to even 15 years ago. The USGA, in particular, has become a vocal cheerleader for supers. We've shed the greenkeeper thing completely and moved into a new and increasingly envious stature in the industry. It seems counterintuitive but the recent Great Recession made superintendents greater in importance and value within the golf management hierarchy.

Don't get me wrong... I know astoundingly dumb, arbitrary and just plain goofy terminations happen a lot. There are still plenty of dumbass bosses out there who'll can a guy because the bunkers don't drain fast enough after a hundred-year flood. You can't fix stupid, even when it's wearing a tailored Ralph Lauren blazer and a rep tie.

But let's be honest. Sometimes the "weather-related firing" has only a little to do with the weather. It's really prob-

ably one of three things:

1. It's the straw that broke the camel's back. Over a string of consecutive years, little things have gone wrong and the super has gradually lost support. Then the grumbling turns into a pink slip when the turf checks out because of crazy summer heat.

2. They sense a convenient opportunity. They're looking for a reason to make a change and an out-of-nowhere explosion of Pythium gives them one. Usually the super has an enemy amongst the leadership and they're just bidding their time till some grass dies.

3. They want a divorce because they've fallen in love with someone new. Face it, it's a buyer's market for agronomic talent and there are hundreds of folks who'll gladly fill any good job.

Scratch the surface of many summertime terminations and you'll find one of these underlying causes lurking. I bet Tim will agree with that as much as I agree with the original sentiment of his tweet.

I'll bow to guys like Tim and Bruce Williams when it comes to giving advice about how to avoid becoming vulnerable to one of those three situations except to say that good communications before, during and after the crisis is critical. Document what you're doing, explain things in clear, simple terms and be absolutely honest about the situation. If the worst still happens, at least you can take solace in the fact you did your best and told the truth.

Tim's message resonated because it's crunch time. All those retweets were like little prayers to the golf gods for some peace of mind during the toughest weeks of the year. It's a terrible thing to be fighting nature and fighting for your livelihood at the same time. My wish to you, my friends, is that you never have to do it. **GCI**

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