

OCTOBER 2010  
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## THE SOCIAL NETWORKER

**DR. JOHN KAMINSKI** IS TAKING TURF EDUCATION IN NEW DIRECTIONS  
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# IN THIS ISSUE

## DEPARTMENTS

- 6 **Teeing off**  
Pat Jones:  
Baseball bats and bio
- 8 **Letters**
- 10 **The Whiteboard**
- 12 **Consumer research**
- 48 **Travels with Terry**  
Equipment ideas
- 49 **Classifieds/Ad index**

## COLUMNS

- 14 **Outside the ropes**  
Tim Moraghan:  
Balancing the game with the  
business
- 22 **Design concepts**  
Jeffrey D. Brauer:  
Back to the (irrigation) future
- 30 **Irrigation**  
Brian Vinchesi:  
HDPE versus PVC
- 34 **The Monroe doctrine**  
Monroe Miller:  
How good are you at golf course  
history?
- 50 **Parting shots**  
Pat Jones:  
Truth and consequences

## COVER STORY

### 24 THE SOCIAL NETWORKER

Dr. John Kaminski is taking turf education in new directions with a digital frenzy of posts, tweets, blogs and whatever's coming down the social media pike next.

## FEATURES

*Summer 2010*

### 16 SURVIVING THE SUMMER FROM HELL

The most brutal conditions in decades tested superintendents – and they passed with flying colors. Here are some ideas about how they did it.

*Turf maintenance*

### 31 POWER WATER

There are a number of reasons fertigation may just make sense for your course.

10



*Tree care*

### 35 TREE CARE ON THE GOLF COURSE

When it comes to golf courses, turfgrass is king. However, trees are an important component of the golf course landscape that are sometimes ignored or overlooked by superintendents and their crews.

*Course conditions*

### 38 ORGANIC SOLUTION

Challenged to improve fairway playability, The Club at Carlton Woods took a new approach toward dealing with organic matter.

*World golf*

### 42 GOLF IN MONGOLIA

Freelance agronomist Jim Connolly shares his adventures in getting golf off the ground in the land of Genghis Kahn.

*Renovation*

### 45 HIGH-FLYING RENOVATION

Even in tough economic times one U.S. Air Force course renovation soared with careful planning.



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## BASEBALL BATS AND BIO

As I write this, I'm sitting in my palatial office in the penthouse suite of GCI's global headquarters looking at a baseball bat.

I love having a bat sitting prominently right next to my desk. It dramatically reduces employee whining. I'm thinking a TASER gun would be the ultimate deterrent, but it may be a wee bit over the top.

Anyway, the reason I have a baseball bat in my office is I recently attended an event hosted by our friends at Lebanon Turf that was held in Cooperstown, N.Y. Being no strangers to the business of fun public relations themes, the nice people at Lebanon gave attendees a baseball bat with our names and their company logo engraved on it.

The event put a spotlight on Lebanon's non-traditional plant nutrition lines. Over the past few years, the company acquired both the Roots/Novozymes and Emerald Isle/CPR products and, I think, discovered just how much confusion there is in this market segment. The event was an attempt to help a bunch of us dumb media types learn what these kinds of products do and therefore be able to write about them better. Now, getting a reporter to understand this kind of technical information is roughly equivalent to teaching Britney Spears to rewire the space shuttle, but they brought in my old fishing buddy Dr. Roch Gaussoin and several other really smart guys to try anyway. Here's what I think I learned.

Nobody is really quite sure what to even call this category of products. Are they biostimulants? Are they foliars? Liquids? Soil supplements? Microbes or bacteria? Are they based on amino acids or are they made from seaweed? The answer, of course, is "all of the above."

At least half of superintendents are using them in some fashion, ranging from the full ongoing program approach to greens-only applications to tossing a bit of something into a tank mix to prevent phytotoxicity. Nearly all use them in combination with a reduced granular program.

Of those superintendents using them, most use more than one in combination to get broad spectrum results. Creating a "witches brew" of

various bio components is pretty common.

Those who use them as part of a program generally love them and keep using them as long as they see a positive impact...and they can afford them.

Their acceptance – and use – continues to grow steadily.

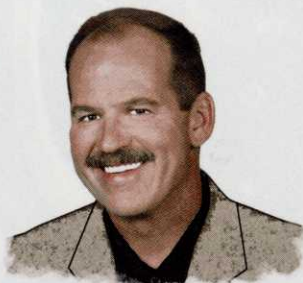
The last point seems to be the crux of the matter when it comes to these "supplemental plant nutrition products." Over the past decade or so, companies like Lebanon, Floratine, Grigg Brothers, Growth Products, Nutramax and others have stepped up to independently prove their claims about better rooting, vigor, improved nitrogen efficiency and stress resistance. The suppliers who have legitimized their products have moved beyond the realm of snake oil to become accepted parts of maintenance programs at thousands of courses. Sure, there are still some turf professors and consultants who continue to question their value, but superintendents believe in research and, more importantly, their eyes and their soil probes. That's where the rubber meets the road.

I'm hardly an agronomist, but it's clear to me that while there are still many of you who are perfectly happy with your tried-and-true granular

NPK programs, the demands of "fast and firm" and the resulting decreased reliance on nitrogen left a void that non-traditional bios have filled nicely.

And, as communities and states heighten scrutiny of phosphorus and nitrogen loading, traditional options may also go the way of the ten-cent ballpark hotdog. What was seen as an alternative will become more of a primary turf nutrition source when legislators and regulators decide that it's politically expedient to take tools away from us. Does anyone seriously think that's not going to happen?

Baseball is strongly rooted in traditions started more than a century ago, but the game has changed and evolved for the better – except for the DH rule, which is just communist. Golf course maintenance is evolving, too, and it's time we fully accept the fact that bionutrients are going to be a major-league part of our future. **GCI**



**Pat Jones**  
Editorial director and publisher

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## More feedback to "Catharsis"

**Editor's Note:** *The following responses to Pat Jones' column on his experiences as an alcoholic ("Catharsis" August 2010, page 4) have been excerpted and anonymous because they often included personal comments.*

"I just read ("Catharsis") and wanted to say how much I admire your courage to openly discuss your issue. I hope and pray your article helps others get on the road to recovery."

"I just want to congratulate you on a brilliantly written piece, and in a larger sense, for realizing you had a problem and dealing with it. Many people never take that brave move and just continue to disintegrate in mind, body and spirit. As

Jerry Lee Lewis once said, and I'm paraphrasing, "The devil keeps running through my door and I have to keep grabbing him by the scruff of the neck and running his ass back out."

"Thanks for sharing your story. My wife is now in the same place as you were. I pray for the same end of story with her."

"I just finished reading your alcoholic diatribe in the August issue after digging it out from under the pile of trade mags I've been carefully stacking on the corner of my desk. I don't mind saying that there was a tear in my eye as I finished reading your piece of catharsis. Kudos to you for having the guts to put that in print for all to see. I would agree that our industry has more than it's fair share

of 'alcoholics' who come to depend on a buzz to get them through the twists and turns of this highly stressful career path. Just as we would share what growth regulators work best on what turf at what time of year with each other, so also should we allow ourselves the vulnerability to lay out more personal issues and to seek help, love and support from our trusted peers. After all, who else can come closer to knowing and understanding within the length of a gnats eyelash what all we struggle with professionally than our very own peer-set? And who better to help make sense of the madness that is balancing life and work as a golf course superintendent?"

"I applaud your honesty and courage to bare all of this to your readers and sincerely hope that it will serve as a wake-up call to those who are only fooling themselves with even the slightest addiction to alcohol, or any

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other drug. As you so eloquently put it... 'Life's too short and too beautiful to be viewed through the bottom of a bottle.'"

"I wanted to drop you a note to congratulate you on your new found life style. I have a sister who has gone through a similar situation and has been in AA – and sober – for 13 years. Best of luck in taking it 'one day at a time.' I've been using that mantra a lot this summer."

"I just read your heart-emptying story from the land of light and sobriety. Bravo my friend... bravo. The best and most touching thing you have written to date."

"Thanks for 'wasting' several perfectly good trade-journal pages to tell us your story. Very good. Hope you reach your full potential."



## Clarification

Stan Burton had no involvement in the origination of Wolf Run Golf Club ("He bleeds red, tartan & blue," August 2010, page 14). All credit for the great vision that evolved into Wolf Run came from Dr. Jack Leer.

**John Westermeier, CGCS**  
Twin Lakes Golf Club  
Carmel, Ind.

**Editor's Note:** We followed up with Steven and you're correct. Jack Leer was the founder and visionary of Wolf Run. Stan was one of the first pros and later put together an investor group and they took over the club.

## CFO feedback

I really enjoyed the article about Gary Grigg ("CFO" July 2010, page 54). I have known Gary for many years, but I learned more in your article than I ever knew about him. He is a good and humble man who has been a great influence for the golf industry. Many thanks to Gary for his contributions.



**Dale Walters, CGCS**  
Moorings Country Club  
Naples, Fla.

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## Strange invaders

**S**pend any amount of time on a golf course and you're bound to see some odd stuff.

However, our intrepid field agents are reporting back that real strange invaders are being reported on golf courses here and abroad.

Take, for example, reports that **wild hogs** ripped up a large chunk of the 14th green at Sebastian Municipal Golf Course in Sebastian, Fla.

Sunshine State wildlife experts report wild hogs, which can weigh as much as 750 pounds, are running roughshod in rural Florida areas, suburbs and even a few cities, digging up cemeteries, gardens and now golf courses.

That aint all folks. There were also reports of **PIRATES!**

That's right: Pirates. Apparently the staff at Royal North Devon Golf Club – touted as England's oldest golf course – recently found two passed-out pirates asleep in the back of a Land Rover that had run aground in a sand trap. How does that pirate tune go? “Yo, ho, ho and a (empty) bottle of rum?”

We wonder if, prior to their removal, the pirates and their vehicle constituted as a natural hazard?

Arrrrrr, matey.

Finally, GCI field agents report Dellwood Hills Golf Club Superintendent Eric H. Peterson has been plagued by some Pepe Le Pews tearing up his course.

According to Peterson, the furry black and white interlopers are sneaking onto his course at night and tearing up the turf to get at succulent Japanese beetle larvae. While the beetle problem is easy to treat, Peterson says the skunk situation, errr, is more of a stinker and will have to be dealt with more delicately.

So we asked Peterson, which invader would he rather have to deal with — **skunks**, wild hogs or pirates?

A good sport, Peterson responded: “At least you can serve the hog to your membership... what a great way to cut expenses.”



## SEPARATED AT BIRTH

Dr. Leah Brillman, dressed as host Jamie Hyneman of the television show *MythBusters*, debunked popular myths often heard by turf managers when they are considering the right seed for their project.

According to GCI agents, Brillman surprised even her co-workers when she gave her *MythBusters* presentation at Seed Research of Oregon's 2010 Seed Technology Camp.

Spirits and cameras were raised by Brillman's humorous impersonation.



\*Editor's note: item does not smell.



## ROLL CALL

**Dean Piller**, Cordova Bay Golf Course, Victoria, B.C., was named the winner of the Canadian Golf Superintendents Association 2010 Superintendent of the Year Award.

**Bob Reynolds**, CGCS, Newport Country Club, is retiring after 33 years at the facility.

**Mark Esoda**, the certified golf course superintendent at Atlanta Country Club in Marietta, was inducted into the Georgia Golf Hall of Fame.

Billy Casper Golf promoted **Nick Keefe** to vice president of information technology, **Anthony Scala** to vice president and controller, **Sandra Colareta** to director of contracts and risk management and **Joel Gohlmann** to vice president of operations.

STIHL president **Fred J. Whyte** was elected chairman of the Outdoor Power Equipment Institute board for 2011.

Enquatics, parent company of Aquamaster Fountains and Aerators, named **Dave E. Wasmer**, general manager of AquaMaster, as its new president. In addition, the company named **Gene P. Woelfel** chief financial officer/treasurer.

Stens added appointed **Dan Heeren**, vice president of sales and marketing; **Kevin Mair**, vice president of operations and supply chain management; and **Paul Hedinger**, senior product manager.

Dow AgroSciences has named **Jason Nelson** to the position of portfolio marketing leader for the Turf & Ornamental business division, and **Lee Conway** was named district sales manager responsible for overseeing the Eastern Turf & Ornamental sales district.

International Club Suppliers (ICS) named **Jill Wilde** its director of operations.

## Former GCSAA President Ted Woehrle dies

Woehrle was a longtime golf course superintendent at Oakland Hills Country Club and a member of the Michigan Golf Hall of Fame.

**Ted Woehrle**, a longtime golf course superintendent at Oakland Hills Country Club and a member of the Michigan Golf Hall of Fame, died last month morning of complications from lymphoma. He was 78.

At Oakland Hills, Woehrle prepared the South course for five major championships over 24 years. He served as GCSAA president in 1977.

He is survived by his wife, Mary, sons Ted Jr., Bruce and Chris, daughter, Mary Smith, and seven grandchildren.

## Professional Turf Products loses co-founder

**Jim Sanders**, co-founder of Professional Turf Products, passed away Sept. 7.

"He stood by me when my young company and I needed his help and support the most," said Joe Barney, founder, Professional Turf Products. "Together... we built this business with dedicated hard work, by promoting effective products at fair prices to the professionals of the green industry. I thank God for bringing this true gentleman into my life. As most of you know, Jim was a Christian man with wonderful human values and honesty."

## “QUOTABLES

“Ray Charles could have seen it was a bunker.”

— Pete Dye, to a Milwaukee Journal Sentinel reporter, about Dustin Johnson's controversial two-stroke penalty at the PGA Championship.

# CONSUMER RESEARCH

A glimpse of how golfers' behavior affects the business of golf facility maintenance and management.

## Golf Travel Insights 2010

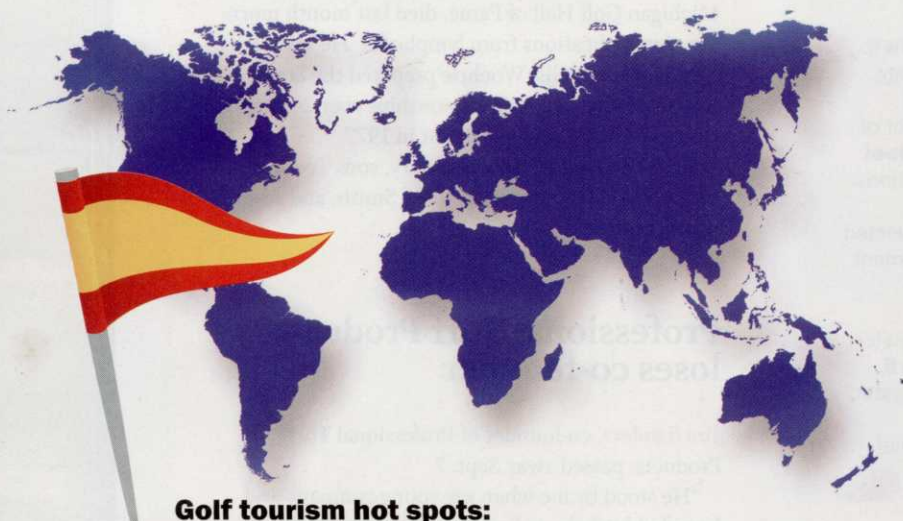
Whether as a primary motivation for a vacation or simply as a secondary activity, golf attracts millions of travelers worldwide.

However, while the recent economy is primarily to blame, 38% of golf tour operators surveyed by KPMG have experienced a fall in demand (up from 10% in the summer of 2008). While 8% reported demand to be stable, 54% still noticed an increase

in the number of golf tourists (albeit down from 73% in 2008).

Golf tourists are generally big spenders who are looking for quality services, but they expect great value for their money. Therefore, it is important to understand their needs and behaviors.

Here are some additional findings from KPMG's Golf Travel Insights 2010 study.



### Golf tourism hot spots:



Based on a scale of 1 (modest demand) to 5 (strong demand)

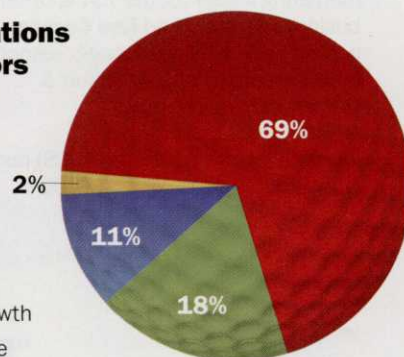
### Key factors when choosing a golf destination:



Based on a scale of 1 (not important) to 5 (very important)

### Future expectations of tour operators regarding golf tourism growth:

- Steady Growth
- Stagnation
- Spectacular Growth
- Gradual Increase



Source: NGCOA, contact Mike Tinkey, mtinkey@ngcoa.org, with any questions.

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**Tim Moraghan**, Principal, ASPIRE Golf [tmoraghan@aspire-golf.com]. Follow Tim's blog, Golf Course Confidential at <http://www.aspire-golf.com/buzz.html> or on Twitter @TimMoraghan

## BALANCING THE GAME WITH THE BUSINESS

With six of seven golf courses reported to have lost money in 2009 and the NGF predicting that 500 to 1,000 courses will close in the next five years, this statistic caused me to pause and contemplate our industry.

I found myself centered around two questions: Where is the game going and how will we remain a viable industry?

J. J. Keegan is managing principal of Golf Convergence, a firm that specializes in the business of golf. Jim has ground-breaking methods, based on hard data and extensive field experience, and he recently published a book, "The Business of Golf – What Are You Thinking?" ([www.golfconvergence.com](http://www.golfconvergence.com)).

### IS THERE A FORMULA FOR SUCCESS AT A COURSE IN TODAY'S ENVIRONMENT?

There are eight key concepts that accurately predict the success of a golf course: The age, income, ethnicity and population density within 10 miles of the course; the number of playable days measured against the efficiency of management; the integration of software to create actionable information; financial benchmarking facility performance against peers; continual "appropriate" investment in the course infrastructure, equipment and labor; ensuring the "assembly line" of customer touch points matches the desired experience; understanding the golfers' habits and preferences; and evaluating and developing customer loyalty.

### IS THERE A COMMON THREAD YOU FOUND THAT IS THE SEED FOR FAILURE?

Golf courses often fail to crisply define their strategic vision. Are they trying to create a platinum, gold, silver,

bronze, or steel level experience for their customers? Many courses try to be all things to all customers – a sure formula for failure.

Golf courses are in the entertainment business, and golfers are value-driven. With green fees ranging from \$10 to over \$500,

### IN WHAT OTHER WAYS CAN THE SUPERINTENDENT INCREASE THE FINANCIAL PERFORMANCE AT A GOLF COURSE?

Most golfers don't fully comprehend that a golf course is a living organism that is constantly growing. They rarely understand the challenges superintendents face in creating a superior

---

**"The key is that the experience must equal the capital investment made and the revenue generated."** –J.J. Keegan

---

a golfer's expectations are set by the fees charged. To the extent the golfer's experience equals or exceeds the price, customer loyalty is created. To the extent that the experience is less than the price, customer attrition results. The key is that the experience must equal the capital investment made and the revenue generated.

### WHAT COMPRISES A GOLFER'S EXPERIENCE?

Creating a customer experience is similar to an "assembly line." From making the reservation to arriving at the course, to playing 18 holes, to the beverage at the end of the round, there are up to 13 opportunities to create a memorable experience for the golfer.

The most important opportunity is course conditions; hence, the incredible value role of a superintendent. In every customer survey we have undertaken in Europe, across America, to Asia, course conditions and price always rank as to the most important criteria in determining where a golfer plays.

playing surface. It is also unfortunate that the golf staff, management and owners often take for granted the superintendent's key role.

The superintendent is and should be a key member of the management team, one who participates in creating the annual budget, ensuring sufficient capital reserves are established, and clearly communicates the funds required for equipment and labor to fulfill the course's vision as to the entertainment experience desired.

### WHAT IS THE SOLUTION TO REVERSE A COURSE'S FINANCIAL WOES?

The Golf Convergence WIN formula taught in the book is an easy-to-follow method that has consistently increased the financial return of golf courses while enhancing the customer experience to the desired level. This book sheds light on virtually every aspect of golf course operations – strategic, tactical and operational. My goal was simple – to encourage each course to use best practices to adroitly balance the business of golf with the game of golf. GCI



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# SURVIVING THE SUMMER FROM HELL





## THE MOST **BRUTAL** CONDITIONS IN DECADES TESTED SUPERINTENDENTS – AND THEY PASSED WITH FLYING COLORS. HERE ARE SOME IDEAS ABOUT HOW THEY DID IT. By Frank Andorka

**F**or superintendents around the country, Summer 2010 will go down as the summer where they couldn't make a single mistake. A wet spring gave way to heat and humidity unseen in some parts of the country for nearly 40 years.

Summer tested most superintendents no matter where they were, but this was also a summer where superintendents proved their worth to golfers. Only through careful management were superintendents able to avoid losing turf on a grand scale.

"We had two sets of superintendents this summer," says Ty McClellan, agronomist for the USGA Green Section's Mid-Continent Region. "Everyone lost some grass at some point this summer, but there were those who didn't lose it on a grand scale and those who did. There are certainly other underlying factors at play that predispose some golf courses to damage every year, but one of the main differences between superintendents was the management practices they used – or didn't use. Knowing when to back off certain practices was key."

**ESTABLISH HEALTHY CONDITIONS.** McClellan says successful superintendents created healthy growing conditions for the turf long before this summer. In addition to greens being properly designed and constructed with excellent drainage, he ticks off a list of three practices he considers crucial to achieving the goal:

- Good thatch management;
- Ensuring proper sunlight exposure throughout the day; and
- Providing sufficient airflow.

Eric Bickel, superintendent of Hallbrook Golf Course in Leawood, Kan., who labels 2010 as the most difficult summer he's seen in his 15 years at the course, lost turf in high traffic areas, but nothing catastrophic. He attributes his success in managing the turf to the decisions made by his membership and the dedication of his crew. "Thanks to understanding members, we've been able to do pretty intensive aerification on the greens," he says. "We had 33 inches of rain from April to July – the most since 1893 – and then we had the heat. You weren't going to be able to grow turf unless you got significant air into the root zones."

Bickel changed his normal maintenance practices from wetting agents to soil penetrants to battle hydrophobic soils. The course also invested heavily in fans to get the water off the greens more efficiently. "We were afraid that wetting agents would have kept the surface too wet, and the penetrants ended up working well," he says.

Mother Nature had set up Kansas golf courses for failure this year by giving them two incredibly mild years in 2008 and 2009, which encouraged *Poa annua* and *Poa trivialis* growth in the roughs. When the heat came back with a vengeance this year, the *Poas* couldn't handle it.

The hollow, rotted trunk of a tree as seen after limb removal.

Like Bickel, Matt Shaffer, superintendent at Merion Golf Club in Ardmore, Pa., works at a facility where golfers understand better what it takes to grow turf in tough conditions. But even he says superintendents are always at the mercy of the weather, and that clubs have to understand what they can do to help.



Bickel

“Give your superintendent good drainage for his greens, and regrass the greens before methyl bromide is taken away by the Environmental Protection Agency (EPA),” he says. “Even if you give them perfect support, there’s a chance things will go badly. So much of this job is the luck of the draw.”

“We’re a big club with lots of resources, but for some smaller clubs where it’s just the superintendent and his assistant, these were killer conditions,” he says. “Hand-watering under these conditions is a must.”

**PHYSICAL MANAGEMENT.** Chris Thuer, CGCS, of Bear Slide Golf Course in Cicero, Ind., was more than prepared for the summer because of changes he’d been making over the past several years. “We came through the summer really well,” he says. “We’d backed down our mowing a couple of years ago on areas other than greens, so we could mow normally this year.”

He watered more often than others because Bear Slide pulls its water from a well, which means the water is cooler than the ambient air. Using well water helped keep the turf at ideal temperatures for growth. Thuer also maintained his fungicide applications every two weeks, which worked perfectly under the exceedingly rainy conditions this year.

Solid-tine aeration played an important role in helping Dan Dinelli, CGCS of North Shore Country Club in Glenview, Ill., nurse his turf through the 18th hottest and wettest summer the Chicago area had ever had. The conditions compromised root growth and

*(continued on page 20)*

## ON THE LEFT COAST

Pat Gross, director of the USGA’s Southwest Region, says superintendents in California, the primary area for which he is responsible, had it easier than superintendents in the rest of the country because cooler temperatures made it a good season for growing turf.



Gross

But the summer wasn’t devoid of challenges. Water restrictions plagued California superintendents, although if Los Angeles-area courses that were customers of the Los Angeles Department of Water & Power made voluntary 20 percent cuts in water use, then the state let those golf courses water when they needed. With the new irrigation systems and good management, those cuts weren’t difficult to achieve, Gross says.

In contrast with the rest of the country, California didn’t get the expected heat in May and June, which affected courses that overseeded fairways and rough. The lack of heat delayed the transition to Bermudagrass, Gross says.

Lastly, the bad economic conditions also forced superintendents to look more at using generic products with an eye on the bottom-line, Gross says. But given the challenges that faced superintendents in other parts of the country, California superintendents have little to decry.

“We didn’t get any 9-1-1 calls this summer, and the phone didn’t ring off the hook,” Gross says. “By and large, we had a pretty quiet year.”

## FIRST-YEAR FRETTING

The heat and humidity experienced across the country stressed out superintendents as they tried to keep their turf alive under unfavorable conditions. You probably had that experience yourself. Bet it kept you up at night.

Now imagine you’re a first-year superintendent at one of the most prestigious golf courses in your area. Not only are you a first-year superintendent, but you’re a first-year superintendent who is replacing a literal living legend who had tended your turf for more than 40 years. Think you might worry a bit more than most?

“It was a brutal summer – there were a lot of sleepless nights,” says Edward Smith, superintendent of Canterbury Golf Club in Shaker Heights, Ohio. “I woke up every morning – and I mean seven days a week – wondering what new challenge the day would bring.”

Smith took over Canterbury, one of the Cleveland area’s most storied courses, from turf legend superintendent Terry Bonar last year. He can laugh about it now, sitting in his modest office on the course grounds. But when the spring started off wet and then the brutal heat and humidity of this year’s Cleveland summer set in, Smith had his days where he wondered what else could possibly go wrong.

“If you can think of a challenge – disease, insect or just plain turf stress – I’m pretty sure I dealt with it this summer,” Smith says. “We had to spray for pythium five times in July and four times in August, which is highly unusual. We had to hand-water like crazy to keep the turf from burning up, but not too much. We had to manage this turf more this year than I’ve ever had to do before in my 20 years here.”

Then just as Smith and his crew started to breathe a much-needed sigh of relief, he lost many of his seasonal workers as college fall semesters started.

“Colleges are starting earlier and earlier these days, and that cost me some excellent crew members when I needed them most,” Smith says. “It’s not as if you’re doing any less work, but now you’ve just got fewer people with which to do it.”

The final blow came at the beginning of September when a freakish micro thunderstorm blew right down the middle of his course and took out a host of old trees. But even then, Smith didn’t look to the heavens and curse his luck.

“Luckily, I have a general manager who understands that without the golf course, none of us have jobs, so he pretty much gives me a lot of room to do what I have to do to keep the course in good shape,” Smith says. “We’ll just take our lessons from this year and learn them so we’re in even better shape next year in case this kind of summer returns.”

Green damage at Canterbury Golf Club.





## COOPERATIVE COMMUNICATION

When the heat is on from the weather, the best superintendents must communicate effectively with their golfers.

Eric Bickel, superintendent of Hallbrook Golf Course in Leawood, Kan., put together a special presentation for the green committee and went into detail about how the weather conditions were having an impact on the way he managed the turf – and how that would affect conditions.

“I had to communicate more intensely with the golfers than I ever have before,” Bickel says. “You have to look at it from the golfers’ perspective – they’re paying to play golf with certain conditions. You have to explain to him what that may be nearly impossible. They are usually understanding if you take the time to explain it.”

Dan Dinelli, CGCS of North Shore Country Club in Northbrook, Ill., took his golfer communication to a new level of sophistication this year. In the past, he had done text-based email communications, but he found golfers didn’t pay them much attention. Last year, he decided to take pictures and email them with captions explaining what he was showing. This elicited positive feedback.

This year, Dinelli bought himself a flip video camera and sent hotlinks to people of video showing exactly what his team was doing and explaining why.

“That was incredibly successful,” Dinelli says. “There’s nothing like face-to-face communications, but using video is an incredibly effective tool. I highly recommend it.”



TOP: Spring rains made many courses look like duck ponds – literally. ABOVE: Dan Dinelli, CGCS of North Shore Country Club in Northbrook, Ill. had his crew use pumps and fans to help dry the surfaces. Anything to help get the water off the turf as quickly as possible because NSCC is very flat with poorly drained clay soils.

avored high disease pressure.

Dinelli solid-tined his greens three times per month and twice on fairways to encourage healthy gas exchanges within the soil. "No one got much time off this summer," he says. "Fortunately, I have a seasoned team that looks on being challenged as energizing."

**PEOPLE POWER.** For many, it became a bal-

ancing act to keep his crew from getting overworked. Dinelli recommends superintendents hire complementary personalities – and lead by example. "It's taxing, and it's a round-the-clock job," Dinelli says. "Every morning we were addressing situations, and no one could allow his guard down. I'm fortunate to work with some amazing people, including my cousin Jerry who basically grew

up here with me."

Thuer's people started at 5:30 a.m. and voluntarily didn't take lunch so they could leave the course before the heat of the day really hit. He also encouraged his team to take more frequent water breaks, and to get to the shade so they didn't succumb to the heat.

No matter how you survived the summer, every superintendent should gather their team together and do a final audit of the year. "It's the perfect opportunity to review what worked and what didn't," McClellan says. "Deficiencies are revealed in summers like 2010, so earmark areas for improvement. If you take time to do this step, you will be able to improve long-term maintenance plans for the course – and be better prepared no matter what the seasons throw at you." **GCI**

*Frank Andorka is a freelance writer based out of South Euclid, Ohio.*

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## USGA LAUNCHES A FULL-SCALE RESCUE

**T**y McClellan, agronomist in the USGA Green Section's Mid-Continent Region, says this summer's conditions challenged superintendents from across most regions of the country.



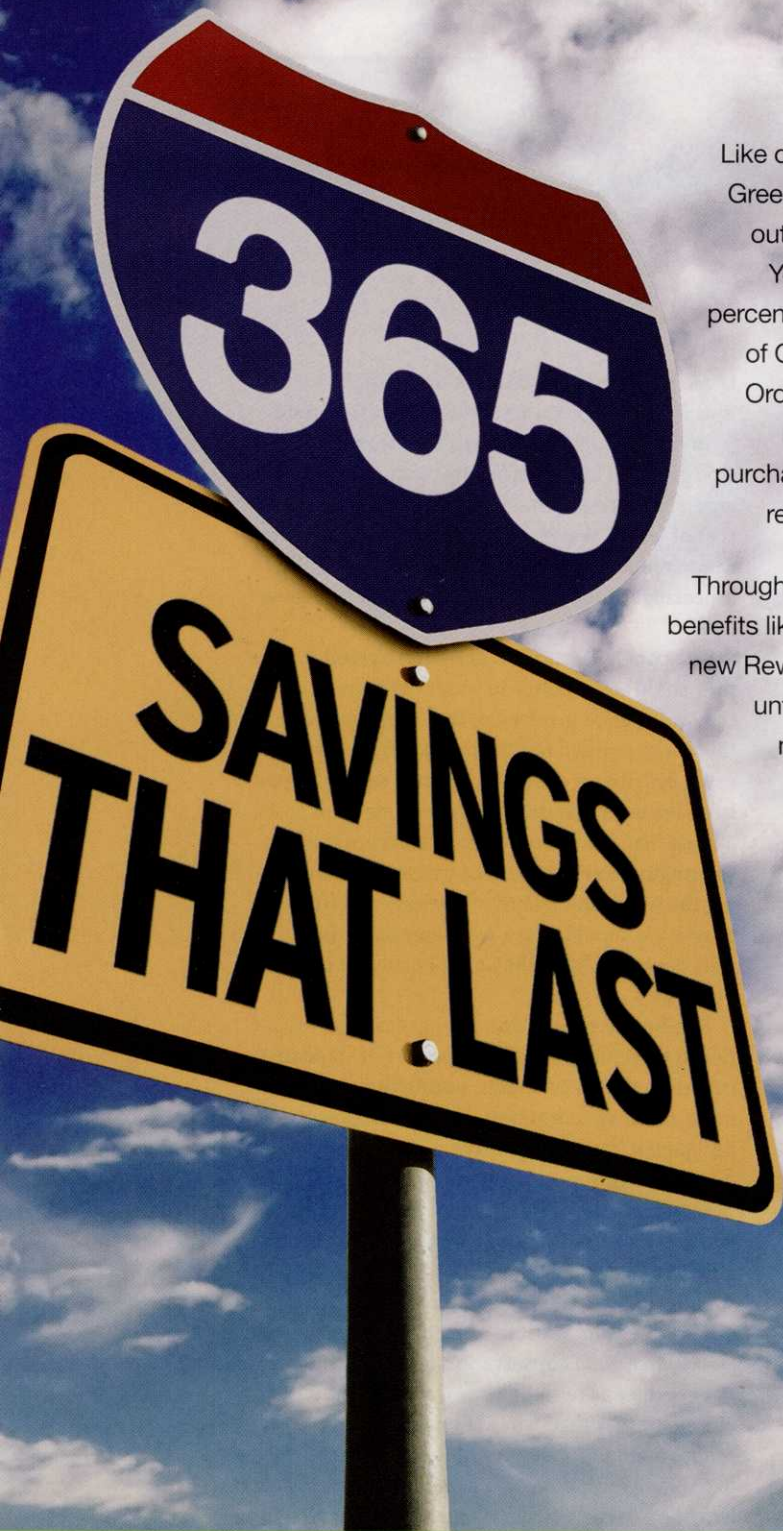
McClellan

It was so bad, in fact, that many of the Green Section's agronomists collaborated on a series of email alert pieces for superintendents to use with golfers to educate them on what this summer's heat and humidity meant for the art of golf course maintenance.

"It's not often that we all collaborate with similar issues facing our respective regions at the same time," McClellan wrote in an email. "In the case of Summer 2010, however, many regions and most of our weekly updates have been dedicated to summer survival strategies."

The USGA used all of the latest technologies in their arsenal to communicate with superintendents and golfers – podcasts from agronomists in each region, a timely note from Jim Snow, National Director of the USGA Green Section, and photo and video collections to show superintendents the different kinds of damage their colleagues were experiencing around the country.

For a full list of USGA Green Section Record articles, regional updates and webcasts to see the innovative collaboration of the country's top agronomists, go to [turfweb.lib.msu.edu/starweb/USGAS/servlet.starweb](http://turfweb.lib.msu.edu/starweb/USGAS/servlet.starweb).



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## BACK TO THE (IRRIGATION) FUTURE

I had the pleasure of moderating an irrigation panel at the Golf Course Builders Association of America's annual meeting in Milwaukee during the PGA tournament.

There I was able to ask some prominent irrigation designers the same questions I posed in this space recently, and many in the audience added questions. Many were variations of "Why does the irrigation system have to cost so much?" and "What were you thinking when you designed that?" Although some of those questions may have been directed at some of my designs.

To me, the situation feels similar to the auto industry trying to squeeze out every gallon of efficiency from existing technology while still building SUV's rather than hybrids.

I came away from that panel discussion with a good-news/bad-news opinion on the current state of industry water conservation efforts.

First, the bad news: Most irrigation designers are still primarily focused on providing the ability to irrigate to the maximum the turf might need – even in the worst conditions – rather than ask owners to accept some risk of browning a few times a year.

And now the good news: Manufacturers are continuing to push the envelope and provide new technology like better control, sprinklers and moisture sensors to help conserve water. To me, the situation feels similar to the auto industry trying to squeeze out every gallon of efficiency from existing technology while still building SUV's rather than hybrids.

However, there really isn't a "bad guy" to blame in the current state of affairs. The irrigation industry is simply responding to current needs until real change is forced by regulators. Irrigation designers and superintendents are providing what golfers inherently want – healthy green grass and a beautiful setting. We can't even blame the turf! Healthy grass

is generally green, and trying to maintain "brown" is as unreasonable as trying to keep it too green.

In reality, golf courses aren't really striving for "too green." They are typically running cost benefit analysis on irrigation – balancing the incremental cost of "extra" water now against the potentially catastrophic costs of replacing turf periodically, especially in summers like 2010, and just playing it safe.

The panel of irrigation designers agreed that they could assist better in water conservation if they were more involved in the design process. Jill Moore pointed out the cost saving fallacies of using distributor designs – she says saving an up-front fee usually results in higher long term costs, adding that, "Golf Course Architects are the key to bringing down the cost of irrigation, by reducing the width and length of fairways and irrigated rough. We should take a team approach since it all rolls down hill." (Ouch! Could I be part of the problem?)

Bob Bryant made a compelling case for irrigation system programming to be part of standard irrigation design contracts, noting that programming a new system is best done by the person who designed it, rather than leaving it to the contractor, distributor or superintendent.

California-based irrigation consultant Mike Huck emailed me to say, "It's possible that million dollar systems encourage clubs to water more, so they can 'see their investment work.'" He also believes weather stations and daily ET replacement "sound like good conservation practices" but are as necessary as refilling your water glass after just one sip, rather than when it's nearly empty. Old school methods of determining irrigation need – like seeing footprints in the grass – inherently time irrigation to early stages of stress and encourage deep and infrequent watering. Most courses have survived droughts with less irrigation than they currently receive, so they can do it again.

We all agree that the industry needs improved focus on water conservation. For now, we seem to be in the "you first" mode. I have no doubt technology will lead the way, but the computer will never replace using good, old-fashioned superintendent's common sense.

Part of the solution will be to "look back" to the future. **GCI**



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We look forward to seeing you at the auction. For further information please contact us:

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COVER STORY

A man with glasses is sitting on a dark brown couch, looking directly at the camera. He is wearing a grey t-shirt with "PENN STATE" printed on it and blue striped pajama pants. He is holding a tablet computer in his lap. To his left, a smartphone is lying on the couch. In the foreground, a laptop is open on the floor, and a yellow plush toy is visible. The background is a plain, light-colored wall.

# THE SOCIAL NETWORKER



# DR. JOHN KAMINSKI IS TAKING TURF EDUCATION IN NEW DIRECTIONS WITH A DIGITAL FRENZY OF POSTS, TWEETS, BLOGS AND WHATEVER'S COMING DOWN THE SOCIAL MEDIA PIKE NEXT.

BY PAT JONES

## WE

can thank the miserable curse of insomnia for a breakthrough in the way we're all learning new things about turfgrass management these days "For years I would wake up at 2 a.m. and not be able to go back to sleep," says Dr. John Kaminski, "so I used the time to learn all this stuff."

The "stuff" he refers to is the nuts and bolts of the communications technology that's quickly starting to dominate life and learning for many in our industry. Web micro-sites, Facebook, Twitter, blogs and an endless stream of apps now allow one person with a compulsive need to communicate to reach around the globe. And, within our happy little golf/turf community, Kaminski is the unrivaled master of social media.

On paper, Kaminski is an assistant professor of turfgrass management at Penn State and director of the school's noted two-year golf course turfgrass management program. Like most, he teaches, he researches, he consults with courses and he organizes programs. But, what sets him apart from the many

other talented, hardworking younger Ph.D.s out there is his commitment to using social media to share timely and useful turf information.

Turf Diseases, the blog he co-founded with four other plant pathologists around the nation, is arguably the most useful and visited science-driven site in the market. When the blog was linked to Facebook, it quickly attracted more than 1,000 superintendents and other turfheads who "liked" the site. By my unofficial research, that makes it easily the most popular turf-related site on the world's most popular social network.

A native of the suburban D.C. area, Kaminski took a circuitous path into both golf and agronomic science. "I missed the bus to school one day and my dad said he'd give me a ride. We drove right past the school, went to a golf shop, bought me some clubs and played. I played hookey, and I was hooked on golf."

He played competitively in high school and headed toward a career in architecture – specifically landscape architecture – with an eye toward becoming a golf course designer.

He had a family connection to Penn State, so in 1993 he headed off to State College to major in landscape contracting to get some hands-on education. There, he discovered the world of turf. In 1996, he did an internship at Desert Mountain in Scottsdale

under Scott Krause and fell in love with the maintenance side. He returned to PSU, met with Dr. Tom Watschke and added turf management as a second major. The next year, he did his final internship with Paul R. Latshaw at Congressional CC the summer they hosted the U.S. Open. When Kaminski expressed an interest in grad school, Latshaw put him in touch with Dr. Pete Dernoeden at the University of Maryland and his career in academia was launched. "Pete put me through the ringer but I loved it so I stayed for both my MS and PhD."

Going through the ringer paid off. His work at Maryland earned him both a Watson Fellowship from GCSAA and the prestigious Musser Foundation Award of Excellence. He moved to the University of Connecticut as an assistant professor from 2005-2008 before the lure of Mount Nittany brought him back home to run the two-year program, continue his research and, in his spare time, reinvent the way information is shared among superintendents, scientists and the industry.

### **Do you ever question your choice to stay in the classroom and the lab instead of practicing what you preach?**

Sometimes I do think about what it would be like to work on a golf course again. I get back to work at some of the (pro) tournaments. I stimped greens and such for the recent Women's Open and the Memorial – and I miss (being out there) to some degree, but I'm

We found Dr. John Kaminski wide awake and communicating turf topics to the masses.



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“For years I would **wake up at 2 a.m.** and not be able to go back to sleep so I used the time to learn all this stuff. I taught myself **video editing, html (code)**, etc. You don’t really need to know that stuff now, but I feel like I know how to integrate everything because of that.”

– Dr. John Kaminski

happy in the university setting. It fits me well. I probably work as many hours as many superintendents – maybe 70-100 hours a week – and that doesn’t make for a good home life sometimes. But I enjoy what I do.

On the flip side, I see the big problems supers face and try to help out, but sometimes that makes me realize I’m glad that I’m not sweating out the weather or whatever other disaster awaits them.

#### Why Penn State?

I wasn’t into turf when I applied... it was more of a family thing. My mom and sister went here so it was an easy choice. Kind of a lazy choice, come to think of it. But I did know they had a decent landscape architecture program. But it was five years and seemed like a lot of work. (*Laughs*)

I never seriously thought I’d end up here and in academia. I thought I’d get a master’s degree and end up back in the industry, but six years later I was starting the turf pathology program at UConn. Now at Penn State, my focus is on preparing future golf course superintendents through the two-year program and expanding my research.

#### Tell us about your research.

My main focus has gone from a strictly turf pathology programs to overall golf course management. Most of it is on diseases on putting greens and fairways,

*Poa* management, chemical and cultural. A lot of it comes back to *Poa*. We’re in Pennsylvania... in Pittsburgh *Poa* is king and in Philly they want to get rid of it. We’re also looking at different hot-button management practices – low nitrogen, high iron sulfates, PGRs... mainly practical, applied science. I still do a little basic research, but in the end I want my program to generate results that directly and immediately benefit the superintendent. I can’t justify it otherwise. I have to be able to give them answers.

#### And teaching?

The two-year program is definitely different. I was a four-year guy and it’s very different, but it’s awesome. This program is not a place for them to grow up like my undergraduate years were for me. The students are great... they’re focused and they’re hard-working. Some of the things I’ve had a chance to do, like walking the course with students during their extended internship – we don’t play golf or screw around – really help me to know them better. One of the things we’re working on is a more formalized package for internships. It takes a lot of effort to run a good intern program from the super’s standpoint, so it would be great if we could create some guidelines to make that simpler. We had hundreds of requests for interns last year and I’d often throw it back (at the super) to find out what

was in it for the student. A lot of them do have good formalized programs, but not all of them. We try to handpick students for the right place. My students are only permitted to apply to two places and they nearly always get their first choice.

Spending a full six months on the course is attractive to the superintendent. Once they’re done, they have a very formal internship report of 60 to 70 pages outlining the entire experience. It’s a serious process.

A lot of people think interns are just grunts. Too many of them think the student’s job should be to shut up and work hard. The goal of the superintendent should be to train and teach them. It’s those extra things that the students remember. Going above and beyond a little is special.

#### What’s your teaching style?

I’m kind of multidimensional in my learning so I apply that to what I do.

My philosophy is that you have to see it, hear it and write it down to know it. To me, if a student can do that they’ll get the concept. I like to interact with the students. There’s only 30 of them and I know them all within a week. I get to visit them during their internships and see them daily on campus. That makes it fun beyond the classroom. Because of that, I feel like I have a bigger impact.

I really stress communications. We’ve had a communica-

tions class for a long time, but there was a big deficiency in their abilities. So, we broke it up into written and oral communications. In writing, we constantly work on their skills, practice and give them legitimate feedback. I can actually go through all their work and give them that feedback because it’s a small group. Pretty soon, they start critiquing and editing each other! They get it.

On oral communications, we stress a lot about remaining calm, being concise and not letting your emotions get involved. We do role playing and put them into stressful situations. For one of their big final projects, we bring in some top supers from all around and the students have to present a full renovation plan. The superintendents put the students into a real pressure situation, distract them, etc., and see how they handle it. It’s essentially their first real board meeting.

#### How was your passion for social media born?

I fought it for a long time. I used to preach to students at UConn how Facebook could only hurt them, get them in trouble and the like. But, Andy McNitt (of PSU’s sports turf program) posted a picture of me on there so I signed up and joined. All the sudden I was hooked. I couldn’t get off of it. I sort of went over the top and then abandoned it for a while. As I came to Penn State, I realized I could integrate blogs and Facebook and Twitter.

I found that by integrating all of them I could make it useful and productive.

It's funny, I just gave a talk about this at Auburn and told them it came out of me being an insomniac. For years I would wake up at 2 a.m. and not be able to go back to sleep so I used the time to learn all this stuff. I taught myself video editing, html code, etc. You don't really need to know that stuff now, but I feel like I know how to integrate everything because of that.

#### **How did you come to get the Turf Diseases blog going?**

I was surfing a lot of YouTube channels and found one where five people posted vlogs about their lives – each did one a particular day of the week – and thought it would be cool to do it for turf and regionalize it. I recruited four other plant pathologists and launched it last year, but we decided to take it slow. But this year it definitely took off. We got great feedback and a lot of press. That gave me motivation to do other stuff. A lot of people follow me on Twitter, but I always warn them I don't just talk about turf. Some posts are about photography, travel, Penn State football or whatever personal stuff. It's fun, but for the "official" turf and university stuff, it's a great way to get info out in a fast way.

#### **Why did it take off?**

When I was staying up all those insomniac nights, I learned how to create shortcuts between the different platforms and automate it so everything comes at once in a bunch of places. That's one of the things I found most useful in terms of really making social media work. I can Tweet something and it automatically goes out to the blogs, Facebook and other places. Not everyone uses all the different (media), so I can give them the update in whatever format they do like.

A lot of times, even if it's a terrible summer like this year, they want to hear what others are going through and seeing in the field or what may be coming their way. The feedback has been awesome. Early in the season, we posted photos showing the extent of snow mold damage, early dollar spot reports, etc. It was amazing. But I have to say that when a new post hits the blog, I'm just as interested in reading it as any super. I'm constantly learning from the interaction. It's very cool.

I read a lot of superintendent's blogs and they put info on there that I'm surprised about. It's very honest stuff. But they're giving their golfers bad news fast... it helps to eliminate surprises. That's a big benefit.

#### **How are the different platforms, well, different?**

The Facebook page seems more accessible to people than the blog. But the blog is somehow perceived as more "official" than the Facebook page. Same information, but a different perception. It's fascinating.

On Twitter, I have about 920 followers but only 20 percent are turfheads. A lot are friends from outside the business or people who just share a common interest. I follow a lot of people who are associated with Penn State, golf, tour players, photography, etc., and some of them follow me back. It's also my news source. I get Tweets from CNN, ESPN and a bunch of other sites. It's been pretty useful.

#### **Where will all of this be five years from now?**

Most turf managers will be caught up to where the ground breakers are today. I think because they're outside so much and they're really stressed about Mother Nature and such, I feel like most are usually a little behind in terms of this kind of technology. There are still guys

out there who don't even use e-mail. In five years, as the industry continues to get younger, they'll be an explosion in how they use it to communicate with members. Social media evolves on a daily or weekly basis. Who knows what the technology will be like, but we'll be using it.

#### **What's the downside?**

My concern with social media is that the communication style may become such the norm that you forget the formalities of grammar and spelling.

For a younger guy who's aspiring to a big job, that may not go over so well with a baby boomer who's interviewing you. You still have to have the formal communication skills to deliver information via new media and the common sense to know what's appropriate for the audience. When I had all the students set up a blog last year, they had to write eight articles – one on their internship, one on their local association, etc. When they started off, many of them wrote in a very informal and text-like style because they'd never had to write in a professional way. We broke it down for them and they started to get it. It takes practice, but you have to be a good communicator.

#### **Which superintendent blogs do you like?**

Well, not to blow smoke, but I start with the GCI blogroll on your website because they're organized so nicely. One thing for sure: the blog needs to be updated routinely or I'll just stop reading. You have to like Justin Ruiz's blog – he's obviously far ahead of the pack – but Bill Brown at Hartefeld National, who's a young energetic Penn State guy, also teaches me quite a bit about what's new. The other one that I like is iaTURF. There's a grad student who works with Nick Christians on that blog and it's very well done.

#### **How has being the king of all social media in the turf business impacted you? Is their risk to it?**

Well, I assume one of the reasons I'm talking to you right now is because of that, so that's not a bad thing. Am I overexposed? I try to filter a little bit and not be too obnoxious. But, if people don't like it they don't have to follow me. I don't let my personal life out there that much, but one of the reasons I read all these blogs is to get to know people personally. When supers start talking about how the difficulties they face affect them and their crews, that makes it interesting. I was really careful and kind of serious at the beginning, but when we started Turf Diseases we wanted to make it light and quick and funny. There are also times when you're talking about sensitive stuff and people might not agree. Controversy isn't always a good thing, but it gets people talking and that can result in good things.

#### **What's the rest of the faculty think about it?**

When I got on to Twitter I immediately found our College's Dean (@medflygenes) all over Twitter. He tells the story of what's going on with him from a business and personal perspective. He does a great job of telling our story and promoting the faculty. The college in general has really embraced it. All the social media outlets are listed on the college's homepage. There are something like 25 different people that tweet or blog, including our dean. If he's doing it, I can't get in too much hot water.

#### **When this article is published, what scary high-tech things will you do with it?**

I'll send it everywhere – with one push of the send key. That's the beauty of social networking. GCI

*Pat Jones is GCI's publisher and executive editor.*



**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](mailto:bvinchesi@irrigationconsulting.com) or 978/433-8972.

## HDPE VERSUS PVC

**H**igh density polyethylene (HDPE) pipe has become a popular alternative to poly vinyl chloride (PVC) piping systems for golf course irrigation systems. However, many times, the decision of which type of pipe to use is not based on science or engineering but on trends or salesman recommendations. It is important to look at the technical aspects of the pipe (pressure rating and velocity) for each type of piping system and determine what piping material is best for your golf course. Both PVC and HDPE piping systems will work, but you need to look at the “apples-to-apples” comparison instead of the “apples-to-oranges” comparison that is commonly presented.

pressure ratings and characteristics of the pipe; therefore, when selecting the proper pressure rating you should also be aware of what resin is being provided. Piping standards require that the system’s working pressure be no more than 78 percent of the rated pressure of the pipe. For 200-psi pipe this is 156 psi, and for 160-psi rated pipe this is 125 psi. This is not too much of a problem from a design standpoint unless you have a high-pressure system.

However, let’s look at a comparison of the velocities. For example, if your system included a 4-inch pipe carrying 200 gpm (pretty common on a golf course) in a PVC Class-200 system (SDR 21) the velocity

larger than the comparable PVC piping system. In most cases this will give the PVC system a significant price advantage.

When PVC fittings were first used on golf course irrigation systems, which occurred in the mid-1960s, it took about 15 years for the industry to find out that cyclic surges within the piping system were damaging the fittings over time, which resulted in the cracks in tees and elbows. You may have experienced this phenomenon. To avoid this situation, epoxy steel fittings became popular in the early 1980s, but they had their own set of problems so that is why ductile iron fittings are the standard for golf irrigation systems. At the same time, period the golf industry moved from using 160 PSI pipe to 200 PSI rated pipe. The learning curve for PVC pipe and fittings took about 30 years. HDPE pipe and fittings have yet to have a long-term track record with the impact of cyclic surges yet to be determined and as we all know the higher the velocity, the larger the surge pressures.

With the help of your designer, you need to consider many factors other than just pressure ratings when choosing piping material for your golf course. One type is not necessarily better than the other. However, when doing a direct cost comparison, make sure you are looking at an even comparison that includes features, pressure ratings and expected velocities. Both PVC and HDPE will work as long as they are correctly designed and installed. **GCI**

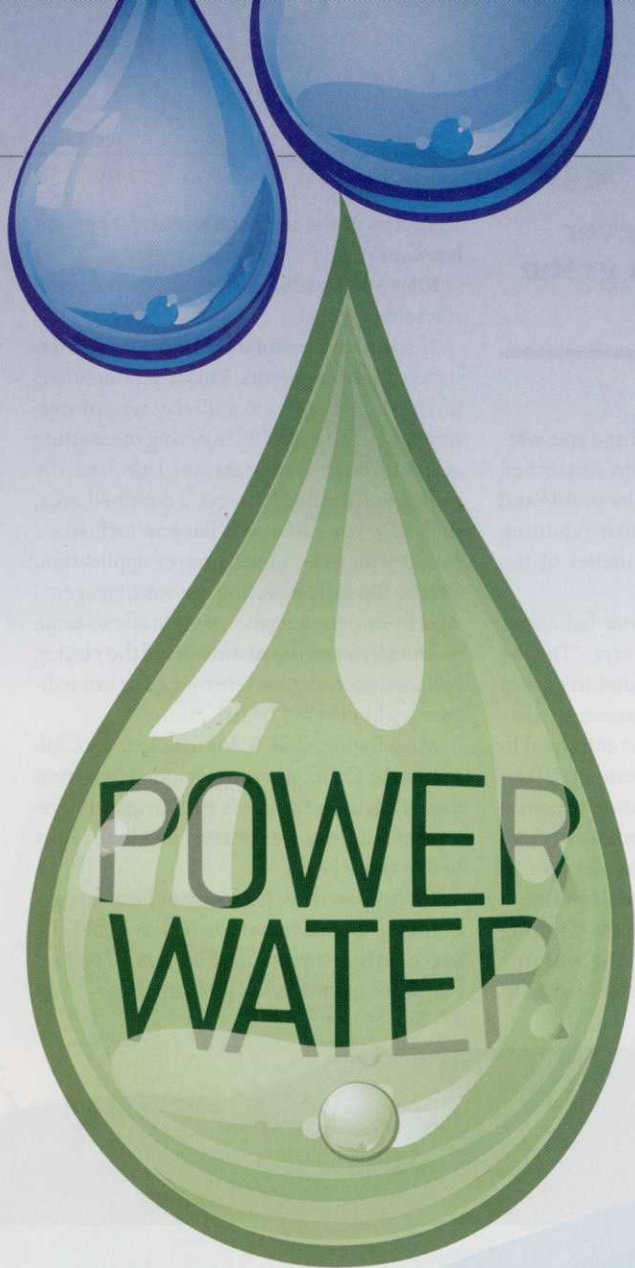
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“Both **PVC** and **HDPE** piping systems will work, but you need to look at the “apples-to-apples” comparison instead of the “apples-to-oranges” comparison that is commonly presented.”

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For golf course irrigation systems, PVC pipe is usually rated at 200 psi for both mainline and lateral piping. PVC is also available with a 160-psi pressure rating, but is rarely used anymore. HDPE piping also is available in 200-psi pressure ratings as well as a number of other pressure ratings including 125 psi and 160 PSI. Whereas PVC is always using the same resin (1120, 1220) HDPE piping is commonly available in several different resins (4710, 3408 and 3608). As the resin changes, so do the

would be 4.92 fps. In an HDPE 200-psi (PE4710, DR11) pipe the velocity would be 6.18 fps. If the pipe was HDPE 160 psi (PE4710, DR13.5) the velocity would be 5.67 fps. If you ever had an irrigation class, you were taught that velocities should not exceed 5 fps. Some believe that up to 6 fps or more in HDPE is acceptable, however, the 5 fps limitation is backed up by standards (ASABE 372.6). So for an “apples-to-apples” comparison, good designs have HDPE piping systems with the pipe one size



## There are a number of reasons fertigation may just make sense for your course.

by John Torsiello

**I**mplementing fertigation practices with the use of an irrigation system is becoming quite prevalent among turf professionals.

There are several reasons, the most significant being that the procedure allows superintendents to get bio-stimulants and nutrients to a wide area of the course without time-consuming and labor-intensive methods of traditional dispersal, such as machine or hand application.

“Using irrigation systems to fertigate certainly has become more popular, especially with some of the new guys who feel it is almost like having another assistant superintendent who can make applications where and when most needed,” says Gary Bauman, a partner in the Shelter Island, N.Y., golf industry supply and consulting firm, Island Bio Greens. “You can make applications, albeit sometimes not very precise applications, at

your discretion to areas of the course where a machine sprayer would have difficulty getting to, such as bunker banks and green surrounds.”

Fertigation is the combination of mixing fertilizer and irrigation water and then distributing it through an irrigation system. Typically, small amounts of fertilizer are injected into the irrigation water supply and then distributed.

Brian Vinchesi, owner of Irrigation Inc. in Pepperell, Mass., says using irrigation systems to fertigate just makes sense.

“Having fertigation capabilities allows the superintendent to better time their applications. They do not have to water in a broadcast fertilizer or put down more than necessary to last longer as they have to avoid play. With fertigation, the turf can be spoon fed nutrients. Many superintendents also apply, or only apply, wetting agents through their fertigation systems.”

Rich Silverman of Rain Rich, located in, quite appropriately, Greenlawn, N.Y., chimes in, “(Fertigation) is great for golf courses because turf is always being cut short and the soil compacted from golfers and equipment, so it always needs to be watered. By mixing in small amounts of fertilizer and other turf and soil-enhancing products the turf can better resist problems that plague it.”

Fertigation results in very little waste of fertilizer and studies have shown small amounts of fertilizer distributed slowly and uniformly on a consistent basis

produces healthier plants that are more resistant to disease, Silverman says.

Compatibility of today’s irrigation systems with fertigation procedures are really unlimited, Vinchesi says. “Depending on the amount of money spent the systems can be very versatile, and the more sophisticated systems interact directly with pump stations and central control systems,” he says. “Pretty much anything that is labeled for injection can be applied through an irrigation system. Injection of more than just fertilizer is commonplace. With the proper amount of storage tanks and mixing tanks, odd mixtures and teas can be applied.”

Depending on the fertigation system manufacturer, units can be as basic as a quick coupler system with little or no control, or as sophisticated as any computer-driven control system, giving the user a very precise tool to apply fertilizers calculated in parts per million, says Erik Christiansen, president of EC Design Group, an irrigation consulting firm headquartered in West Des Moines, Iowa.

Brad Sparta, superintendent at Ballyowen Golf Club at the Crystal Springs Golf Resort in Sussex, N.J., is a big advocate of fertilization by irrigation.

“At Ballyowen, our fertigation is on constantly,” he says. “We have our micrometers set very low, so whenever we are watering we are fertigating. It is constantly feeding your turf and you never get that ‘flush’ of growth or that bright neon green flash.”

**“It is constantly feeding your turf and you never get that ‘flush’ of growth or that bright neon green flash.” – Brad Sparta, Ballyowen Golf Club**

When Ridgewood Country Club in Ridgewood, N.J., site of this year’s PGA Tour Fed Ed Cup playoff series The Barclay’s tournament, installed a new irrigation system in 2005 the club added a fertigation system “because it would have been foolish not to when the opportunity presented itself,” says Todd Raisch, CGCS.

“Initially, I refused to entertain the idea of putting nitrogen through the system,” he says. “I was concerned about rates, stuck heads, calibration, leaks, etc. We started out with wetting agents that first year and added phosphate the next year. In the last couple of years we have added nitrogen. At first, it was in the rough only and we were using larger quantities of nitrogen every three to four weeks just to supplement our granular program. As we became more comfortable with the system we eventually added the fairways.

He normally sprayed .35 lb/N/M every month on his fairways, Raisch says, and somewhere between that third and fourth week things would go a bit off color. “An extra tenth supplied through the system was just the right amount to carry us through to the next spray,” he says. “The second half of this past season I went with ultra low rates across the board, .01 lb/N/M, every time we watered. We used ammonium sulfate and have been thrilled with the results. The consistency in color and growth improved almost immediately everywhere on the course.”

The results, Raisch says, speak for themselves. “We held the Barclays and using the fertigation system in the outer roughs has done wonders to help it recover from foot traffic.”

Dustin Riley, CGCS, Oconomowoc Golf Club in Oconomowoc, Wis., injects penetrating-type wetting agents into his course’s irrigation system starting mid-May through

August. He prefers penetrating-type wetting agents because he is more concerned with having the ability to wet the profile and simulate a soaking rainfall than retaining water within the upper four inches of the root zone.

“My irrigation is ground water fed and is very high in manganese,” he says. “During stretches of low rainfall, repeated irrigation cycles continually dump manganese into the soil. As concentrations build the soils tend to seal up and restrict water movement. When the soils reach this state, irrigation becomes less effective and the turf becomes stressed. In the past, I was only able to wet two to three inches of the profile with a 30-minute irrigation cycle (about 0.25”). By injecting a penetrating wetting agent along with my normal irrigation cycle I am able to wet 12 to

18 inches of the soil profile with 50 percent less water.”

Riley’s fertigation processes result in considerable savings.

“I spend approximately \$3,000 a year on injected wetting agents. This is a tremendous savings if compared to a 90-day type of wetting agent,” he says. “By injecting the wetting agent through the irrigation I do lose the ability to specifically target a confined area, such as a tee surface or fairway turf, like I would with a dedicated sprayer application. On the flip side, injecting the wetting agents directly into the irrigation system allows some product to reach the perimeters of the playing surfaces, such as green surrounds or immediate roughs covered by irrigation.”

Mike Swing, CGCS, Visalia Country Club in Visalia, Calif., plans to include fertigation capability in the course’s new irrigation system scheduled to be installed within the next two to three years.

“At my past three golf courses I had fertigation installed and found it to be very beneficial in our fertilizer program,” he says. “The first two were grow-ins. In this situation – new



Fertigation distributes small amounts of fertilizer and other turf and soil-enhancing products enabling it to better resist problems.



irrigation, good spacing and excellent coverage – it really helped address our poor soil conditions (high calcium bi-carbonate) and push our Bermuda grass fairways to quicker maturity. Because we were in a grow-in situation time was of the essence to meet a grand opening that was in step with the housing market. This is where fertigation really pays off in faster maturity and early mowing to develop that playability density. In conjunction with traditional granular fertilizers we were able to inject sulfuric acid to offset our high pH water and calcium bi-carbonate soils. We also used wetting agents to help the germination and soil percolation issues.”

For a new course grow-in, Swing believes fertigation is an essential tool in addressing many issues that face a golf course superintendent and the high expectations of the owner and soon-to-come golfers.

Moving past grow-in, he says, fertigation can spoon feed a course to avoid growth surges commonly associated with granular fertilizer.

“Of course, you can use granular fertilizer in small rates and repeat several times,” he

says. “But then that’s where fertigation excels. You can be fertilizing at night when you and your crew are sleeping, a huge labor savings, and have controlled growth. In many parts of the country, golf courses are over seeded. Again, fertigation is a great tool to get your rye grass up and going for that all important first cut.”

When it comes to purchasing equipment for fertigation, Swing advises superintendents to do their homework.

“Choose only high quality injectors,” he says. “Liquid fertilizers are very corrosive and you really don’t want to have issues. Control packages that produce variable injections to match your pump station output are also critical. Double wall tanks may not be necessary in your state but you’ll sleep better with a double wall tank. That also goes for high quality fittings. Also, spend time traveling to a golf course that is known to have a good system and management program.”

Superintendents should first understand that fertigation systems are tools and as such can perform some tasks very well and others not as well, Christiansen says. “The superintendent should analyze the maintenance program to determine the potential uses for injection technology in their concept of course management,” he says. “Some of the best uses of nutrient injection are color and growth management, particularly with materials that require frequent application at low rates; micro-nutrients for example. Water quality adjustments also fit well with injection.”

The true benefit of fertigation is better sustained growth rates, addressing soil conditions in a very deliberate and consistent manner and the labor saved in applications that now can be scheduled for other course improvements, Swing says. “Fertigation will only perform to the level of your irrigation system,” he says. “Poor coverage and station control will not live up to your expectations or monies spent.”

Injecting wetting agents through his irrigation system has improved irrigation efficiency and playing conditions, Riley says, adding he highly recommend this option for wetting agent application.

While proven effective, using irrigation systems for fertigation may not be for everyone. Mark Mansur, superintendent at Wintonbury Hills Golf Course in Bloomfield, Conn., has considered using his irrigation system for fertigation, but he found it to be

cost prohibitive for his small budget. A more targeted approach with a sprayer or spreader is in line for Wintonbury for more controlled nutrient management. “I’m sure it is a valuable tool for some golf courses,” he says. “It probably depends on the layout and other topographical issues.”

Many superintendents do not have fertigation and those that do utilize it in varying amounts, Vinchesi says. Some use it judiciously, while others use it for simpler applications, such as wetting agents or have abandoned them over time. Many times, non-use is due to a superintendent change. “Fertigation systems require a level of knowledge and maintenance that is different than just using a sprayer,” he says. “For one, it is not at the maintenance facility it is at the pump station, which makes it less convenient. It also requires liquid products or dissolving other products.”

To fertigate through an irrigation system, superintendents need a versatile, quality system, which is not cheap, Vinchesi says. “Inexpensive systems many times require that you apply large amounts of water to get down the desired application because the fertigation pump is too small,” he says. “As a result, the golf course is over-watered to apply the fertilizer. There are drift concerns also. A golf course that is completely surrounded by residential homes may not be good for fertigation application. Some products are hazardous and require special handling, especially with acid inject systems.”

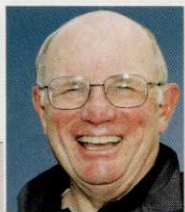
For superintendents new to the concept of fertigation fear can be an overriding factor, Christiansen says.

“If they would start by trying a product that has low cost, low risk and high reward they would develop a trust,” he says. “Magnesium sulphate is one such product. It used to be applied as often as iron for its greening ability but has gone out of favor. Many of the best injection products are more ‘old school,’ while the industry is pushing constantly to newer, more cutting edge technologies. What gets lost is the fact that the modern computer driven fertilizer injector is a very modern and sophisticated product.”

While it may not be a panacea for best practices turf management, irrigation-based fertigation nonetheless can be a valuable tool in any superintendent’s arsenal. **GCI**

*John Torsiello is a freelance writer based in Torrington, Conn.*





**Monro Miller** is a retired golf course superintendent. He spent 36 years as superintendent at Blackhawk Country Club in Madison, Wis. Miller can be reached at [groots@charter.net](mailto:groots@charter.net).

**POP QUIZ**

How good are you at golf course history?

So, in that spirit of academia I offer the GCI **golf course history** pop quiz.

The fall semester is well underway all across the country and many students have already experienced a few surprise quizzes. They are usually offered as a way to measure what students are actually learning rather than a measure of ability to take exams.

So, in that spirit of academia I offer the GCI golf course history pop quiz. We'll leave it to our great turf college programs to gauge contemporary and technical knowledge. No reference books allowed. Give yourself 10 points for each correct answer; 70 points are required to pass.

- 1 The GCSAA will soon announce the winner(s) of the 2011 Col. John Morley Distinguished Service Award. One past recipient of the DSA received this award three times. Name that person.
- 2 Who/what graced the cover of the July/August 2010 issue of the USGA Green Section Record?
- 3 How long has golf been in America?
- 4 In the history of golf courses in America, what has been the predominant golf turf?
- 5 The role of women has steadily risen over more recent years – as superintendents and assistants, as sales reps and corporate officials, and as faculty researchers and instructors. Who was likely the first woman to make major contributions to the science of turfgrass management?
- 6 A lot of turfgrass research was conducted at the Arlington (VA) Turf Gardens of the USDA, from the earliest days until the WWII period. At that time, the turf research was moved to a USDA facility at Beltsville, MD. What was built on the site of the Arlington Turf Gardens?
- 7 Charles Piper and Russell Oakley earned a prominent and important place in our history of golf turf. How?
- 8 Why should the name Edwin Budding ring a bell for you?
- 9 What company sold the first commercially available triplex greensmower? When was that?
- 10 T or F. The USGA Green Section "Specifications for Putting Green Construction" celebrated its 50-year anniversary this year.

If you passed, congratulations! If not, study hard; maybe you will have better luck next quiz.

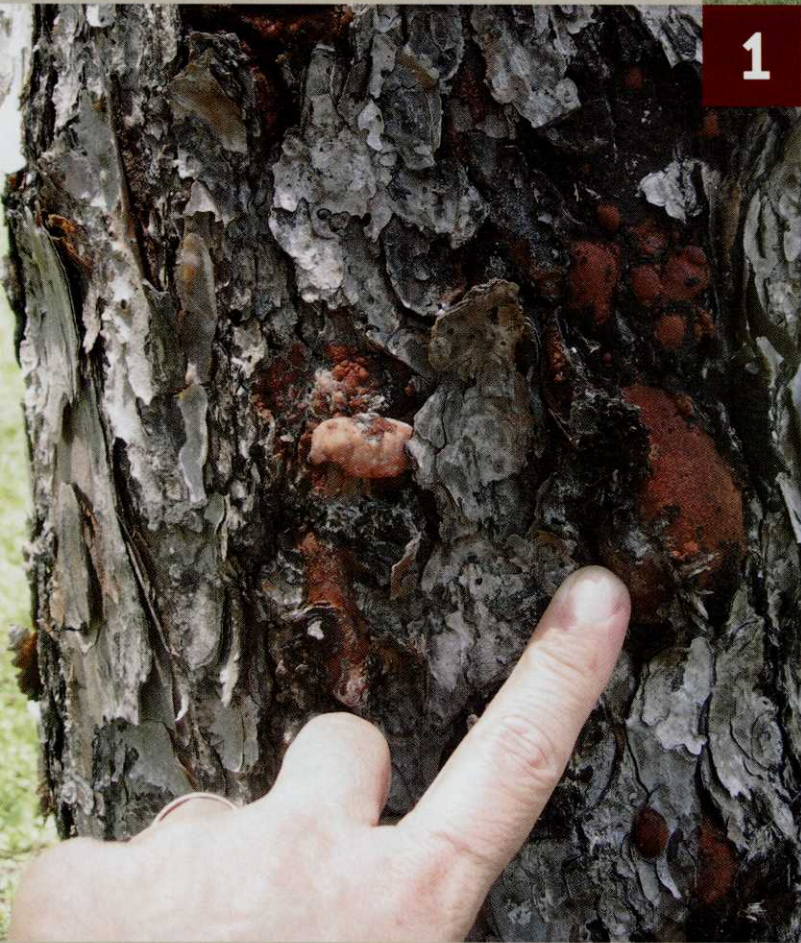
Answers  
 1. O.J. Noer, agronomist for the Metropolitan Milwaukee Sewerage District (MMSD) and developer of the turf market for Millorganite.  
 2. There isn't a print copy of the USGA Green Section Record anymore. The last print issue was May/June 2010 and the cover featured Green Section Award Winner Dan Potter.  
 3. Since Feb. 22, 1888. On that date, six men gathered at a hillside cow pasture in Yonkers, N.Y. and tied up a gutta-percha golf ball. Six clubs were used, all handmade by Old Tom Morris.  
 4. Every quiz should have at least one gimme question – for this quiz it is this easy question. The easy answer? *Poa annua*.  
 5. Dr. Fanny Fern Davis. She supervised experiments that led to the development of 2,4-D and the modern era of weed control on turf. She was the director of the USGA Green Section during WWII.  
 6. The DOD's Pentagon Office Building.  
 7. By writing the first comprehensive and thorough textbook on golf course turf management, "Turf for Golf Courses," in 1917. It was revised and updated a number of times and for decades after its introduction was the principle reference of golf turf.  
 8. Mr. Budding, an English engineer, worked at a carpet mill back in 1828. He watched the final trimming of a carpet with spinning blades set at a height above the carpet nap. It occurred to him the same idea would work to trim grass at the same height, resulting in the reel mower.  
 9. Jacobsen, in 1868. On a brief personal note, I attended the first Jake school for turf students in June of that year. We were introduced to the prototype (they had three of them – one in Racine, WI, one out west and one down the south). I was drafted into the Army for two years, and when I came home the triplexes were on most courses, both Jacobsen's and Toro's.  
 10. True. The specs were introduced in 1960.

When it comes to golf courses,  
turfgrass is king.

However, trees are an important component of the  
golf course landscape that are sometimes ignored  
or overlooked by superintendents and their crews.

# Tree Care *on the* Golf Course

By A. D. Ali, Ph.D.



Several factors contribute to the reduced attention given to trees on golf courses. First, most superintendent training and education programs emphasize turf care with little or no mention of trees and woody plants. This causes the superintendents and their staff to be uncomfortable or unsure of how to properly care for their trees.

Second, players and members are usually concerned with the conditions of the course more so than those of the landscape. They usually pay more attention to the presence of weeds or diseases, color and aesthetics of the turf, and playability and speed of the greens.

Third, most courses have budgetary constraints that limit the superintendent's options for allocating funds. As a consequence of the second and third points, superintendents often opt to allocate the lion's share of their budget to turf care.

Trees provide many valuable contributions to the golfscape. They direct play on the fairway and

define doglegs. Placement of the tree determines the level of skill. Care should be taken, however, not to place the tree too closely to the line of play. Balls colliding with the trunk result in "Golfer Canker," which is represented by large, distorted, bleeding areas on the trunk. Trees also provide shade, which is important for golfers, but detrimental to turf. Taller trees can provide

**“When pruning trees, correct arboricultural practices must be followed. Improper pruning may lead to poor shape and structural defects.”**

a backdrop for following ball flight and they can separate fairways to mitigate liability. A large tree, or a certain type of tree, may be a course's signature.

In nature, trees and turf do not co-exist. Trees provide dense canopies that result in shading and light interception. Most turf-

grasses prefer full sun and grow weakly or not at all in shady conditions (Photo 2). Placement of trees and knowledge of their size and shape at maturity become important.

In addition, proper pruning of trees and canopy thinning or elevating are vital when attempting to minimize shade. When pruning trees, correct arboricultural practices must be

followed. Improper pruning may lead to poor shape and structural defects. As the tree grows and the defects become larger, they may create hazards such as limbs failing and striking players. Again, knowledge of the tree growth habits is essential.

Another potential consideration when



4



3

1 After being hit by a golf ball, this tree now suffers from a "Golf Canker".

2 Untrimmed trees cause shaded areas that may result in weak to no turf growth.

3 Poorly hydrated trees may develop "leaf burn", stressing the tree and diminishing its aesthetic value.

4 Flowering trees, while aesthetically pleasing, result in unacceptable litter and attract bees.

## Additional Reading

### Golf Course Tree Management

1999. Lilly, S. John, Wiley & Sons, New Jersey, 216 p.

### Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses

1998. Dirr, M. A. Stipes Publishing, LLC, Champaign, IL. 1187 p.

### Trees for Urban and Suburban Landscapes

1997. Gilman, E. F. Delmar Publishers, Albany, NY, 662 p.

### Betrock's Guide to Landscape Palms

1997. Meerow, A. W. Betrock Information Systems, Inc., Cooper City, FL, 153 p.

### A Photographic Guide to the Identification of Hazard Trees in Urban Areas, 2nd Ed.

1994. Matheny, N. P. and J. R. Clark. HorScience, Inc., Pleasanton, CA 85 p.

### Arboriculture: Integrated Management of Landscape Trees, Shrubs and Vines, 4th Ed.

2004. Harris, R. W., J. R. Clark and N. P. Matheny. Prentice Hall, 578 p.

### Pest Management in the Landscape: An Introduction

2008. Luley, C. J. and A. D. Ali. Visual Identification Series, 89 p.

placing trees on the course is litter. Most trees are deciduous and some, such as eucalyptus, shed not only leaves, but bark sections as well. Placing them too closely to play areas may require additional cleanup. Flowering trees enhance aesthetics, but may drop their flowers and result in unacceptable litter. Bees visiting those flowers may create a nuisance to players.

Tree and turf roots will compete for water and nutrients. Some trees, such as walnuts, produce allelopathic compounds that are detrimental to adjacent vegetation. On the opposite end, dense turf roots may outcompete tree absorbing roots and result in reduced growth and tree vigor. Surface applications of granular fertilizers in turf areas do not benefit tree roots. Deep root fertilization should be considered when caring for trees in turf areas.

Tree roots may also grow close to the surface, which interferes with mowing and

reduces aesthetics as well as creating fall and trip hazards. A reasonable solution is to mulch the area under the drip zone to exclude turf. This results in a win-win situation. Root competition will be reduced, turf will continue to grow in sunny areas, and trunks will not be damaged by maintenance equipment such as mowers and string trimmers.

Irrigation is another factor to consider when caring for trees on the golf course. Water pH must be monitored, and if the pH is too high, it should be buffered. High water pH may increase soil alkalinity leading to nutritional deficiencies. This is common on courses with pine trees, which display chronic yellowing of needles known as pine chlorosis. Another aspect to consider is the soluble salts and TDS (total dissolved solids), especially when using reclaimed water for irrigation. If the salts are high, leaf burn may result, which stresses the trees and reduces their aesthetic value.

Trees provide many benefits on the golf course. Proper placement and knowledge of growth habits will minimize any challenges created by forcefully growing trees close to golf turf. Specific emphasis on trees should be placed in superintendent training programs. In addition, superintendents will likely be seeking more advice and recommendations from arborists regarding proper tree care, providing business opportunities for arborists. Given intelligent budgetary allocation, trees can contribute many tangible and intangible benefits to the golfscape over their long life span. **GCI**

*Dr. A. D. Ali, Ph.D., BCMA, is technical advisor with the Davey Institute, a division of the Davey Tree Expert Co.*

*Editor's Note: This article first appeared in the July 2010 issue of Tree Care Industry Magazine.*

BY ERIC BAUER

### Challenged to improve fairway playability, The Club at Carlton Woods took a new approach toward dealing with organic matter.

In a world of high expectations, golf course superintendents are always evaluating new cultural practices that can be implemented to improve playability at their facilities.

Since 2006, five years after our grand opening, The Club at Carlton Woods challenged me to develop a plan to improve the playability of the fairways.

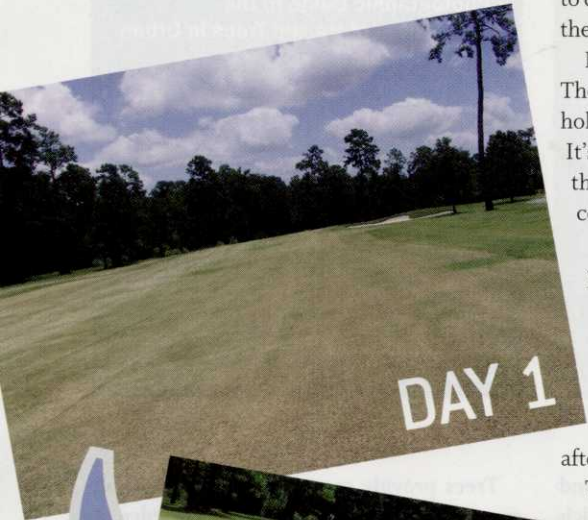
But first, some details about the facility. The Club at Carlton Woods is a private 36-hole facility located in The Woodlands, Texas. It's one of only two gated communities in the U.S. to offer a private Nicklaus/Fazio combination.

The Woodlands is a 28,000-acre master-planned community located 27 miles north of downtown Houston. The Nicklaus course opened with great acclaim in 2001 and the Faizo course followed in 2005, both being designated by Golf Digest third Best New Private facility in the U.S. after opening.

The Woodlands Development Co. wanted to create a special place that was maintained at the industry's highest level. The care and conditioning of the course would always be conducted in a manner that best preserves long-term playability and health of the plant while remaining true to the courses' original designs. This goal created a standard that we used not only after the courses were grassed, but implemented during the construction and grow in of the courses.

In an effort to provide the best possible playing surfaces, the design team along with consultants recommended that the fairways be sand capped with 8 inches of sand as well as install miles of sub surface drainage. This proved to be an excellent decision; however, as time passed we found that sand capping the golf courses would require a different approach with future cultural programs to achieve the desired playability by the membership.

Both courses have Tif-eagle on the greens, however the turfgrass on the fairways, approaches and tees are completely different between the two courses. At the Nicklaus course we have Tifway 419 Bermuda grass, and at the Fazio we have Zeon Zoysia grass, which made Carlton





# EVOLUTION ORGANIC

Woods the only course in the Houston area to select Zoysia grass as a playing surface. Many superintendents understand that Bermuda and Zoysia grasses produce high levels of organic matter and thatch throughout the growing season and as time passes they will require aggressive cultural practices to maintain proper organic matter levels.

In 2006, I began receiving comments from the general membership that the fairway playability at the Nicklaus course was being impacted in the following ways:

- Debris was being collected on the ball after impact on a regular basis;
- Decrease in ball roll after impact;
- Extended periods of wetness after rain fall; and
- More days with cart path only restrictions.

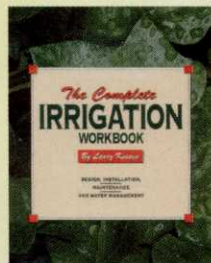
I did my best to educate the membership that there are many factors that affect surface playability starting with weather, growing season, turf density, soil structure

and excessive organic matter accumulation. After consulting our hired agronomist -- Ed Etchells, president of Greens Management / Golf Turf -- we determined our main focus would be to reduce the percent level of organic matter in the soil as well as improving the soil structure.

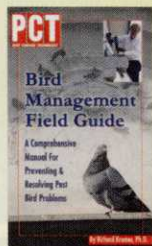
My objective was then to determine the best methods, establish frequencies and project costs that would control organic matter. We concluded that the best way to accomplish this was by aerification, de-thatching and sand

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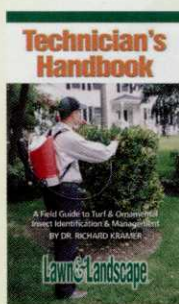
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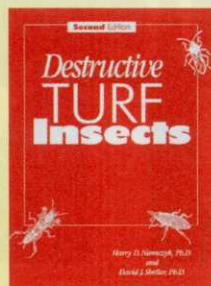
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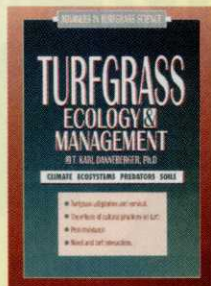
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## COURSE CONDITIONS



The author found the best way to control organic matter was by aerification, de-thatching and sand topdressing.

topdressing. These cultural practices would focus on improving surface firmness, debris collected on the ball at impact, ball roll throughout the playing surface, infiltration rate of water, plant health and density.

So starting in Spring 2007 we added a second scheduled hollow-core aerification in the spring, implemented a sand topdressing program to dilute the organic matter, treated irrigation water with acid to lower water pH and bicarbonate levels, applied gypsum and lime to improve water penetration and lowered total nitrogen input per year.

These practices all displayed excellent results. In fact, our test results concluded that over a two-year period we were able to reduce our organic matter by 2 percent. However, in a period of instant results there was still a membership demand to reach our fairway standard in a shorter time frame. This request required me to develop a plan and research equipment that was available to deliver a greater impact on improving our fairway playability.

After Ed Etchells recommendation, we determined that the Koro dethatching machine could be a solution to our problems. The Koro dethatcher is an aggressive, vertical mower that has the ability to dethatch at a 2-inch depth on 1-inch spacing, as well as remove the excess material by way of a conveyer belt. University research found that vertical mowing will have the greatest impact to surface area toward organic removal. I knew that the Koro had to be added to our hollow core aerification and topdressing program. Once we had an additional method to aid in correcting our issue, a plan of action was developed and presented to the owners and membership.

The first step of the plan was to determine the percent level of organic matter that was below the turf. This was accomplished by sending off a sample core to an accredited soil testing lab, which determined the percent level of organic matter that is present throughout the first 3 inches.



Once we had the test results we selected tine size, spacing and blade depth based in percent organic matter test. Then I was able to determine frequency and time required to reach our desired organic matter levels.

Our program for fairway improvement for the summer of 2010 was as follows:

- Core aerate fairways 1x with 3/4" tines on 3- inch spacing;
- Dethatch fairways with Koro machine using 3mm blades on 1" spacing;
- Koro removed cores by dumping into



**“My objective was then to determine the best methods, establish frequencies and project costs that would control organic matter.”**

- three 6-cubic-yard trailers;
- Mowed at 3/4" behind Koro with rotary mower to complete clean up and scalp turf;
- Cleaned up material that was left behind from Koro and mower;
- Mowed at 1/2" with reel mower to even up surface;
- Topdressed fairways and dragged in sand;
- Mowed at 7/16" to scalp and smooth surface;
- Rolled fairways with 1 ton roller; and
- Applied fertilizer and soil amendments

Labor hours totaled 312 and the budget was set at \$32,500, which included rental equipment, tines, blades, sand, fuel and fertilizer but did not include labor.

Even with the aggressive scalping, coring

and de-thatching that took place, we still were able to open five days after for member play and 21 days after the process took place the members were unable to notice anything.

The feedback has been very positive toward the playability of the fairways. The membership is noticing more ball roll, less debris on the ball after impact and faster drainage after rainfall. The Koro machine will play a part in the yearly organic removal process at Carlton Woods.

Throughout this whole process, I have really learned that we must remain proactive in educating our owners and membership that as a golf course ages the maintenance approach in providing a perfect surface needs to change as well. GCI

*Eric Bauer is director of grounds at The Club at Carlton Woods, The Woodlands, Texas.*

## The trees on your course are too important to trust to Hackers...

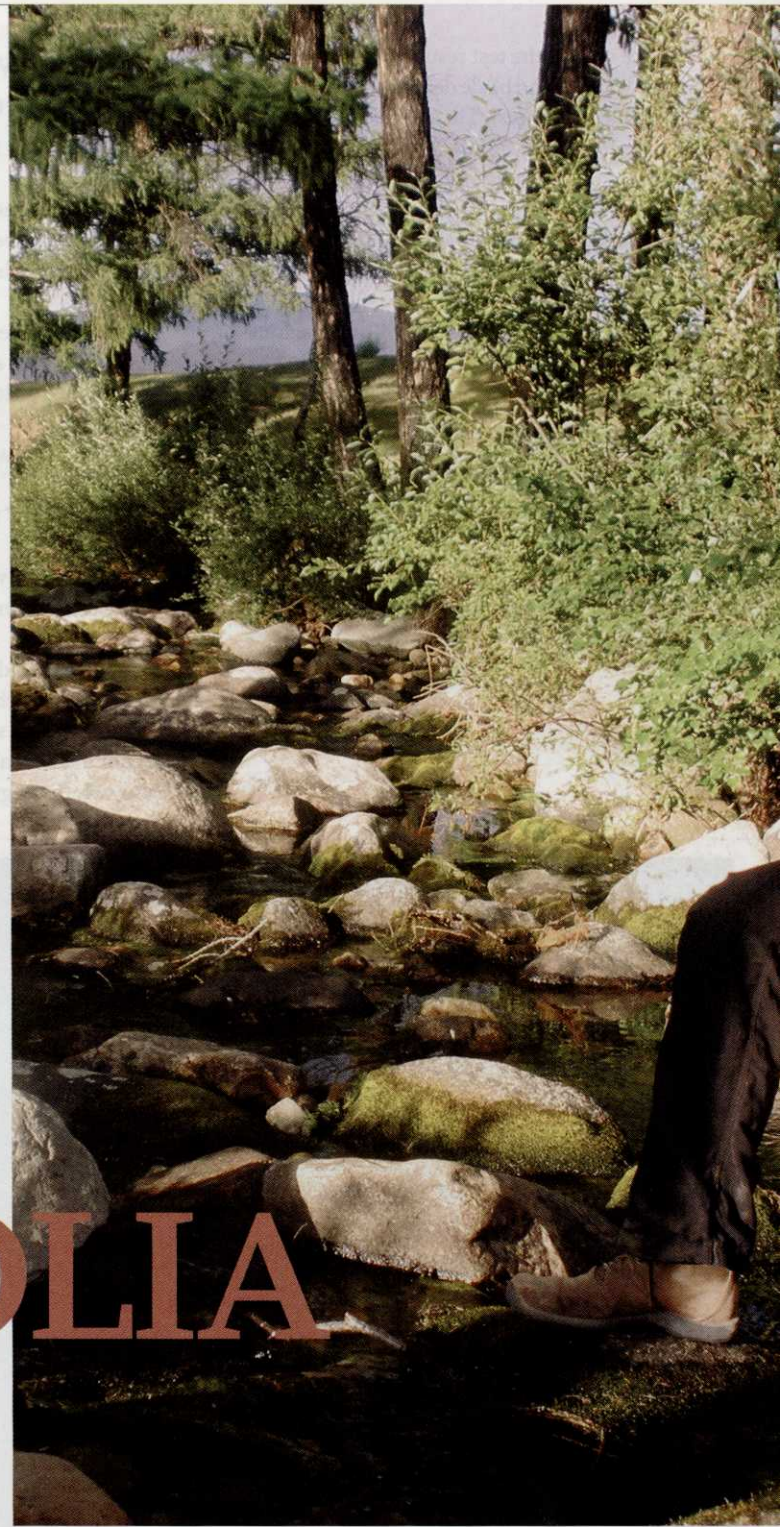


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Below: The author with architect David Dale, GolfPlan, at the local country club. Right: Darak Gadzinski, superintendent, who is Polish has worked in Eastern Europe. He speaks Polish, Russian, Spanish and English, a very valuable skill.



# GOLF in MONGOLIA

Freelance agronomist Jim Connolly shares his adventures in getting golf off the ground in the land of Genghis Kahn.

JIM CONNOLLY

As I landed at the Genghis Khan Airport in Ulaanbaatar, Mongolia I thought about how little I knew about this country. Taxiing to the terminal, I looked out the window to see an array of old biplanes parked in a field, beside them were several Cold War-

era Russian Tupalev passenger jets with dismantled engines, and next to all of this were a half dozen new Lear jets that are reserved for the rich and prosperous. Mongolia – a land of extremes.

Ulaanbaatar is the coldest capital city in the world located at

ALL IMAGES BY THE AUTHOR



40,000 feet on the rolling steppes of inner Asia with Siberia to the north and China to the south. Mongolia is rich with natural resources such as timber and vast deposits of minerals. The country is changing from a very poor country into a developing nation that is attracting foreign



business investments from Europe, Asia and America bringing business opportunity, building embassies, establishing English language schools and looking for recreation. Filling the need for recreation is MCS Group. They are the largest Mongolian enterprise with subsidiaries that include Genghis Khan Beer, mining and an 18-hole championship golf course called Sky Resort.

MCS hired GolfPlan-Fream, Dale and Ramsey Golf Course Architects from Santa Rosa, Calif., to provide the design and spearhead the hiring of an international team of consultants responsible for delivering a world-class facility. They have designed courses in more than 60 countries, including The Club at Nine Bridges in South Korea. GolfPlan has designed courses in every corner of the globe, and can now add Mongolia to its list of exotic locations such as Nepal, and Tunisia.

GolfPlan contacted my company, JCC Ltd., to handle all agronomic issues.

My first visit to the site was in October 2009 to gather information on soils and climate and to begin the task of specifying seed, fertilizer, greens mix, mowing equipment and other agronomic issues. The climate in Ulaanbaatar is arid, with wintertime temperatures of 50 degrees below zero with summertime temperatures approaching 100 degrees. The seeding window is very narrow and any seed planted after August 15 and not protected during the winter has little chance of survival.

Mongolia's landscape consists of millions of acres of grasslands grazed for thousands of years. Native grasses include Siberian Barley, Xerophytes, Needle grass, Wheat Grass, Feather Grass, Oat Grass and fescue. There are many wild non-grass plants such as Wild Onion, Ge-



Far left: Heave ho on the rubber lake liner. This lake is huge, about 10 surface acres. They apply a geotextile first and then drag this liner. Top: In August, we found ice in the mainline at a depth of 3.5 meters. This is a homemade steam maker. They stuffed a pvc hose into the pipe after they cut a hole in it and then jammed the steam hose in there. Above: Fairway conditions at Chingis Khaan (Genghis Kahn) CC – tight and dry.

ranium, poppy and many small flowering plants.

Many of the golf course native areas are being planted with these varieties purchased from various Russian sources. The greens will be seeded to Jacklin Seed Co. T-1 creeping bentgrass, Kentucky bluegrass fairways and irrigated rough and a mixture of sheep, hard, and fine fescue for the rough.

Greens will be protected during the winter with heavy sand topdressing and geotextile blankets. Greens mix is 100 percent and fairways are top soiled with six inches of screened loam. The irrigation system is valve-in-head Toro 800 series heads with a Watertronics pump station.

Finding a qualified superintendent to supervise the construction, seeding and early maintenance was not easy. The applicant must be willing to work six months, take six months off during the long winter and relocate to the world's coldest capital city. He also has to tolerate occasional electrical outages, hot water shortages, speak Russian and be able to lead and train a



Left: A local Mongol crew carries drainage stone by the bag onto a green. Below: The author on top of a ski hill with the construction site in the background.



Jimmy Stevens (US), Bill Jackson (US), Aren Fredrikson (Canada) and Robin Gibson (US). Golf course Architects David Dale and Jim Slugocki, along with irrigation designer David Bedingfield, visit the site on a regular basis to ensure the course is being built to design specifications.

Coordinating a construction crew in a country that has no

It is worth noting that Sky Resort is not Mongolia's first golf course. It is the first golf course with 100 percent grass. About an hour from Ulaanbaatar is Genghis Kahn Country Club, a par 72, 18-hole course with artificial tees and greens. The caddies direct you toward a vast expanse of brown, non-irrigated pasture leading to an artificial

puff of dust and off you go.

Golf follows economic prosperity and Mongolia's future looks bright due to the demand for energy, coal and mineral exports to China and Russia. Sky Resort hopes to draw clientele from foreigners as well as local people. The golf course also has a teaching academy and practice range that will grow interest in the game. Ulaanbaatar population is 1.2 million and Mongolia has 3 million people and 30 million livestock. There are more than 50 foreign embassies in Ulaanbaatar and a number of foreign teachers and business people. The ski area was opened this year and produces excellent snow due to the low temperatures. The golf course will be part of a full-service resort with spa, hotel and amenities.

Genghis Khan once said, "Meat is for man, grass is for animals." Mongolians love sport and perhaps Genghis would approve of grass being used for a sport like golf. In any event, given his reputation, I would not want to be around if he did not. **GCI**

*Jim Connelly is a certified agronomist, former USGA agronomist and president of JCC Ltd.*

**“The physical and mental challenge of working in a foreign country is very high, and when communication is lacking, it can become an impossible situation.”**

crew with no golf construction experience or used grass for anything but grazing animals.

Enter Darek Gazdzinski. Polish born with golf experience in Spain, Canada, US and Poland. Darek speaks Polish, Russian, Spanish and English.

The physical and mental challenge of working in a foreign country is very high, and when communication is lacking, it can become an impossible situation.

Darek is directing the day-to-day tasks in preparation for seeding this past August and in spring 2011. Also supporting Darek is project manager Craig Brown (Australia), equipment operators

experience with golf construction or land development is a difficult task. The best outcome is to find a few local leaders who can keep over 60 workers focused on one job. Sky Resort has several projects going at once and workers are shuffled between clubhouse construction, ski slope maintenance, infrastructure development and building a golf course. The frost level is deep and sometimes lasts all year. We had to melt ice in August from a mainline 14 feet deep. This, in addition to extremely rocky soil, has complicated the golf course construction and presents some unique challenges.

carpeted green complete with carpet seams, ripples and shreds of material. It is almost impossible to stop a shot on the greens because you have to land the ball about 75 yards short of the green and hope it comes to rest on the firm and very fast putting surface. Stopping the ball on the green is like lagging a cue ball on a billiard table. The fairways are mostly composed of crispy brown weeds and a thin cover of fescue. The maintenance equipment consists of one old 5 gang Japanese fairway mower, a Craftsman belly-mount rotary and a few brooms for sweeping debris off the carpeted greens. Swing, a

# High-flying RENOVATION

Even in tough economic times one U.S. Air Force course renovation soared with careful planning.

By Nathan Crace

There is no shortage of stories about the recent struggles of the golf industry amid a global economic meltdown – including course closures quickly outpacing new course openings. Rounds played are down, superintendents and golf professionals are being laid off, and golf course homes continue to devalue as some courses close their doors for good. But rather than dwell on the negative for yet another disheartening story, why not focus on one of the bright spots in the golf course design and construction business: the Cypress Tree (West) Golf Course at Maxwell Air Force Base in Montgomery, Ala.

A decade before the economy ground to a near standstill, stimuli came packaged for mass consumption, and taxpayers each owned a little slice of GM, the US Air Force began the due diligence of a study in conjunction with the USGA to determine which base golf courses were most in need of repair with the goal being long-term savings and generating revenue. After years of study, courses in Ohio and Florida were tapped to go under the knife, followed by Bay Breeze Golf Course at Keesler AFB in Biloxi, Miss., and then Cypress Tree.



Cypress Tree's No. 7 before (top) and No. 7 after renovation.

NATHAN CRACE

Cypress Tree is a case study in what is possible with the right project team – owner, architect, builder, and golf course staff – and carefully detailed planning. When our firm was selected to handle the design of the Cypress Tree project, we were still finishing the Bay Breeze project in Biloxi. The scope of work for the two projects was similar in nature: the focus was on improving greens and bunkers using “repair by replacement to current industry standards.” However, the funding for Cypress Tree was considerably less – about \$650,000 to renovate 19 green complexes, greenside bunkers, irrigation green loops, sprigs and sod – with constraints on maximum aggregate and individual green sizes, the number of bunkers and one last thing – it all had to be completed and grassed in 16 weeks before the fiscal year ran out.

While a number of “signature” architects have recently discussed being forced to take on much smaller projects to keep their staffs busy, over the last 15-plus years of my career I have been no stranger to tight construction budgets and felt as though our firm was up

to the task. We have built a reputation for our firm by squeezing \$1.25 out of every \$1 we have been budgeted and we have yet to be given carte blanche on any project. I knew the Cypress Tree project would work if we could establish two critical points up front. First, we would have to build the new greens to “California” greens specifications instead of USGA specs. The Air Force allows for using this construction method and I had designed a number of renovation projects in the recent past using variations of this method as a means of cutting cost without cutting quality.

Secondly, we would have to provide the contractor and myself with more flexibility not only in the design, but also in the construction methodology to be utilized and timing of the schedule. Before we came on board, the prevailing thought regarding the project for some at the Air Force was to simply core out the existing greens and rebuild them to USGA specifications using the existing contours, install new irrigation green loops, and “re-dress” the bunker faces and install new

sand – all done without disturbing any areas between the greens and bunkers. Given my experience with similar projects – and as the son of a lifelong general contractor – my gut instinct was that forcing a contractor to dance around nineteen green cores and nearly thirty separate bunkers would require a tremendous amount of hand labor and headache for the contractor, thus adding additional cost to the project.

Additionally, the base would not allow stockpiling of the material so the contractor would be required to haul the cored out material off base, adding a tremendous amount of hauling cost and damage to the rest of the course. Conversely, my solution was to treat each green complex as nineteen separate yet interconnected work sites. We would use the material from each existing green to build the new surrounds and bunkers in that complex, eliminating the cost of hauling off material and providing much needed fill for creating the mounding and contours I felt were necessary. As a result, my design called for the complete razing and re-shaping of each



## “Cypress Tree is a case study in what is possible with the right project team – owner, architect, builder, and golf course staff – and carefully detailed planning.”



green complex to create a newly-designed green and bunkers – we could have neither more nor fewer total bunkers than we found on the existing course, though we could move the bunkers between holes if needed. This enabled the contractor to move a small dozer and shaper into a green complex and work within the limit of work without having to dance around dozens of areas that were off limits and smoothly transition the new bunkers, greens, and mounds into the surrounding topography to produce a natural and appealing finished look. While some degree of hand labor on every course may be inevitable, I have long held that the end result of one of my renovation projects should be the reduction – and not the increase – of the cost of subsequent daily maintenance. To that end, my bunker design style calls for semi-flat bottoms

and sodded faces. This not only eliminates a good deal of hand labor from raking up flashed faces, but it also does not require expensive bunker matting material to be installed. The old bunkers on the West course were eyesores typical of their day which held water after a rain and were costly to maintain. Allowing us to treat the entire green complex as one single work area enable us to remedy that problem while transitioning into the green surfaces seamlessly.

Lastly, the timing of the project was critical. With time running out to complete the project, I put the project out for bid in late summer with the construction start date set for Jan. 2. I knew some golf course contractors in the Southeast would be wrapping up projects at that time and looking for projects for the coming year. Even though the contractor would only have 16 weeks to finish the project, I hoped securing a contract early before contractors began really chasing projects for the coming year, we could nail down a better price. The gamble paid off. Not only did we secure a bid within our tight budget number, but we also did so with one of the country's most respected golf course contractors.

I cannot say enough about the project team members for the project who each enabled the work to be completed in just four months and within budget. Golf course superintendent Glenn McWhirter and his staff did a tremen-

dous job of aiding me in monitoring construction and growing-in the course before opening day. The Air Force Center for Engineering and the Environment (AFCEE) based in San Antonio served as the USAF representative for the project and Contracting Officer, working closely with me in the administration of the project from conception to completion, and kept the project moving forward despite the typical unforeseen circumstances that those in our line of work run into on nearly every renovation project. The general contractor and golf course contractor – Texas-based E2M, and Nebraska-based Landscapes Unlimited – were superb in the professionalism and quality of their work and the finished project looks like we had a budget twice as large as the actual budget.

The project at Cypress Tree proves that opportunities still exist for moderately-priced renovation to existing courses even in these economic times with the proper planning and the right project team. There may be far fewer new courses opening these days, but existing courses cannot be allowed to become stagnant and rest on their laurels waiting for things to get better. Clubs and public course must be proactive because there are still core golfers who play regularly and are shopping for better value and opportunity.

This could prove to be an excellent time for you to invest in carefully-planned and conservatively-funded capital improvement plans at your course that may prove to be the difference between struggling financially or attracting new golfers from other facilities that are forced to cut back. Some projects such as bunker renovations, improving green complexes, or upgrading your irrigation will actually be a cost savings in daily operations with a quick return on investment, and the right improvements attract the golfers who will help to pad your bottom line – thus preventing continued budget cuts, layoffs, and the defection of members for private facilities and players for public courses. Instead of asking “Can we afford renovations right now?” perhaps the better question really is “Can we afford not to look at renovations?” **GCI**

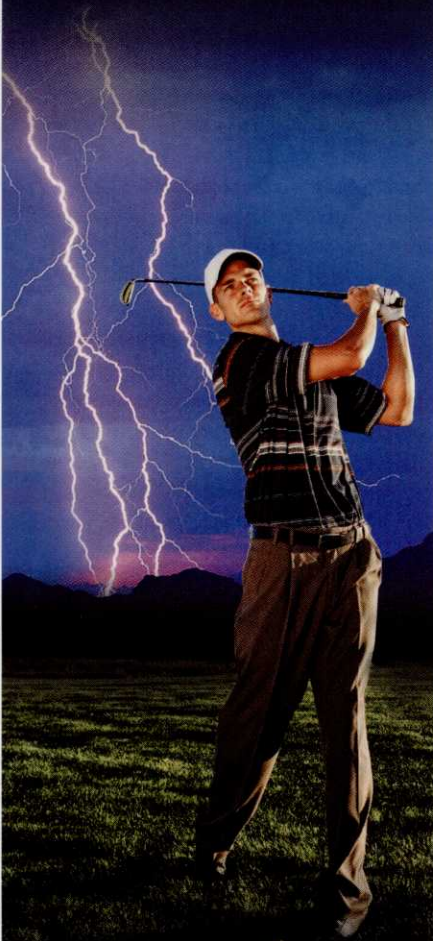
*Nathan Crace is the principal at Watermark Golf/Nathan Crace Design.*

Bottom: Hole No. 13 before renovation.  
Left: Hole No. 13 after.



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## Travels With **Terry**

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

### THE VANHERAKER

A very efficient way to help eliminate hand raking of leaves and putting branches into piles, where the idea actually came from a dream, was envisioned and designed by Jim VanHerwynen, CGCS, at the South Hills Golf and Country Club in Fond du Lac, Wis. The seven Union Tools plastic rakes are two feet wide each with squared-off bottoms and they are attached to the plywood with 2-inch muffler clamps and one bolt with washer. The rakes intentionally overhang each end of the plywood so the rakes will not snag. The plywood is positioned at a 30-degree angle and it is lag bolted to a 4 x 4 that is lag bolted to a 2 x 8 plank. The 2 x 8 is then held together to the square metal plate with a “c” clamp to the framework that was already mounted on the Toro Sand Pro. Two large springs from an old mower deck were used to provide resistance when needed. The shovel handles, which raise and lower the rakes, were used ones that were shaved-down and bolted to the square steel tubing arms. The rake is held in the up-position for transporting by simply putting a bolt into the right side of the welded metal framework.



One of VanHerwynen's employees named the rake after his last name. Many of the parts/supplies were in inventory and the rake heads and muffler clamps cost about \$80. It took about 4 hours to assemble.



**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](mailto:terrybuchen@earthlink.net).





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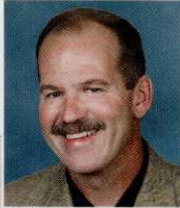
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JRM	<a href="http://www.jrmonline.com">www.jrmonline.com</a>	20	18
Kalo	<a href="http://www.kalo.com">www.kalo.com</a>	26-27*	22*
Liquid Fence Co., The	<a href="http://www.liquidfence.com">www.liquidfence.com</a>	7	12
Professional Turf Products	<a href="http://www.proturfproducts.com">www.proturfproducts.com</a>	51	24

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Tee-2-Green	<a href="http://www.tee-2-green.com">www.tee-2-green.com</a>	52	25
Tree Care Industry Association	<a href="http://www.tcia.org">www.tcia.org</a>	41	23
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Valent	<a href="http://www.valentpro.com">www.valentpro.com</a>	5, 15	11, 17
WeatherBug	<a href="http://www.weatherbug.com">www.weatherbug.com</a>	48	26
Weeks Farm Machinery Auction	<a href="http://www.weeksfarmmachinery.com">www.weeksfarmmachinery.com</a>	23	20

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## TRUTH AND CONSEQUENCES

Have you ever heard the story about the Australian rabbits? Way back in the 1850s, an English transplant to the then-colony decided to release a dozen rabbits into the area to hunt for fun. This fine fellow, Thomas Austin, wrote at the time: “The introduction of a few rabbits could do little harm and might provide a touch of home, in addition to a spot of hunting.”

A lovely thought...except those 12 rabbits proceeded to do what rabbits do best and, within a decade, there were millions of those adorable little fur balls hopping around the territory eating everything in sight. They devastated crops and defoliated the landscape, leading to erosion, flooding and a massive change in the ecosystem.

Thus was born the “Law of Unintended Consequences.” It’s kind of like Murphy’s Law only it usually involves negative side-effects from a seemingly positive act.

In our happy little business, it helps us understand why perfectly good pesticides sometimes promote the development of impossible-to-kill resistant species. It partly explains why the huge construction boom in the ‘90s is now recognized as a crushing oversupply of courses. It is the reason that doing the right thing for the long-term enjoyment of your golfers (e.g., aerification) can cause anger or occasionally even unemployment.

So, here we are in the 21st century – 160 years after Mr. Austin’s faux pas – and we once again find ourselves up to our elbows in rabbits. Specifically, I refer to the unique problem facing local chapters right now.

A decade ago, as part of a massive overhaul of GCSAA’s governance structure, a new rule was put forth and enacted that required reciprocity for memberships. In short, if you were a member of a GCSAA-affiliated chapter, you also had to be a member of the national, and vice versa.

It was a great idea at the time. Even

curmudgeons like me supported it. It created an incentive for more superintendents to come into the “big tent” of the national. It helped chapters professionalize their operations, draft legitimate charters and benefit more from GCSAA’s programs. The “carrot” held out by the national leadership was broadly welcomed by most chapters who desperately wanted the help. Affiliation was a pain in the butt, but it was deemed as worthwhile for nearly all local associations.

At the time, a few members grumbled about the fact that instead of just paying their local dues of \$50 or \$100,

file member – a guy making \$38,000 a year at a daily-fee in Nebraska – is struggling just to get by like everyone else. Education, meetings and big conferences are a luxury when you’re wondering how to pay the mortgage.

I’ve talked to many chapter leaders over the past year about how they’re dealing with this. They’re cutting back on activities, going digital with their newsletters and doing other smart things to manage on a limited budget. But what really concerns them is the membership renewal cycle that’s going on right now. They have many folks who they’re carrying as members

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they were paying national dues of another \$300 or whatever. For supers at mom-and-pop operations where those dues often came out of the individual member’s pocket, it was a strain. But, golf was booming, jobs were plentiful and most didn’t balk. National and chapter membership grew.

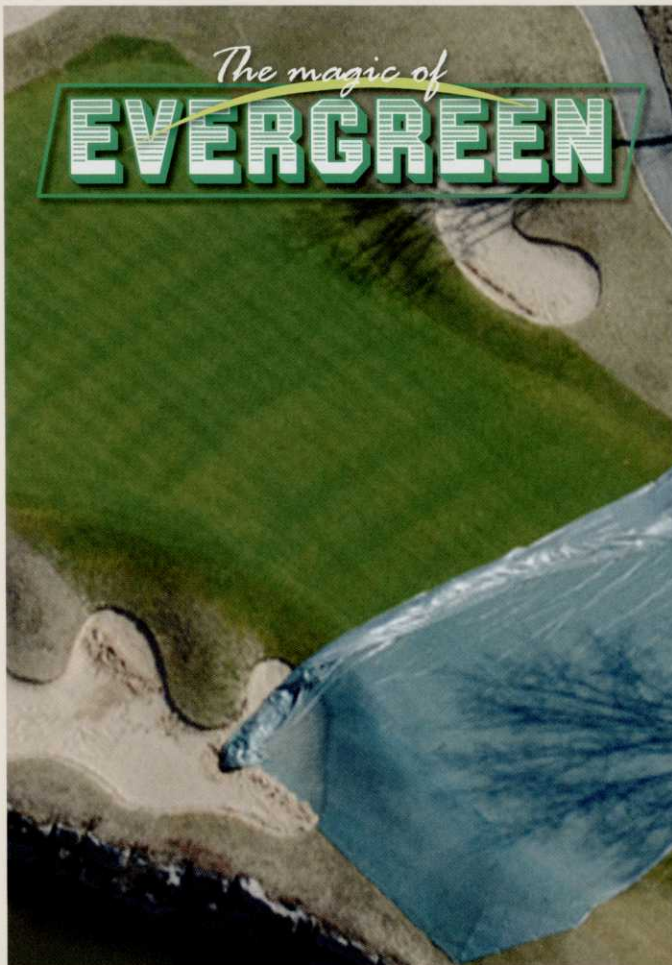
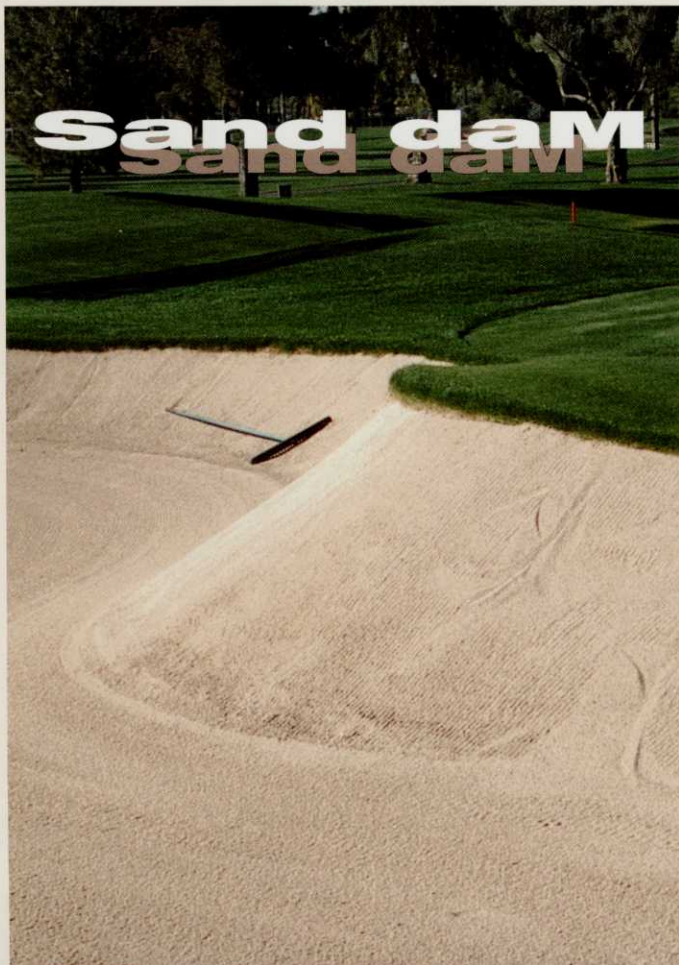
Then the golf economy began to sag and facility budgets really got hit hard in late 2008 and 2009. Predictably, one of the first line items to get zeroed-out at many courses was the dues and education budget. Suddenly many superintendents – not just those at limited-budget facilities – were faced with the unhappy prospect of reaching into their own pockets for dues. And paying both local and national dues was tough.

Let’s face it: when it comes to a choice between paying your professional association dues or paying the rent, there is no choice. That’s the reality for many superintendents who aren’t making six-figure salaries at upscale clubs. The typical rank-and-

who haven’t paid dues in a while. At some point, they have to kick them out or reclassify them as “inactive.”

GCSAA has already seen a 15-percent reduction in membership over the past few years and I suspect the conclusion of this dues cycle will reduce the total a bit more. But, with all due respect to the national, chapters are the heart and soul of the profession. Local education, local agronomic knowledge and local networking are vastly important to the average superintendent... particularly when times are tough and cheap, creative ideas are the order of the day.

So, the Law of Unintended Consequences has reared its ugly head within our association structure. The dual affiliation concept that was so promising a few years back now threatens to shred the very fabric of professionalism in our business. Perhaps it’s time to reconsider – or at least temporarily suspend – that rule to make sure we don’t lose the very folks we wanted to bring into the fold. **GCI**



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