

APRIL 2007  
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MANAGEMENT

## Flying above the rest

How some golf facilities  
perform better than  
market averages

### INSIDE:

Topdressing fairways  
Guest-worker programs  
Biostimulants

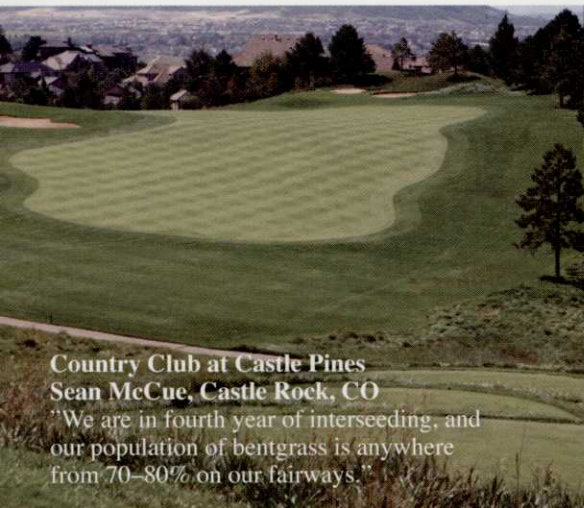




TEE 2 GREEN

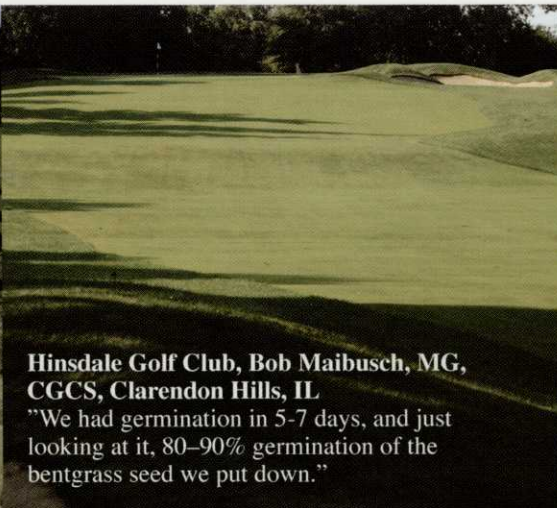
# "Interseeding works for us"

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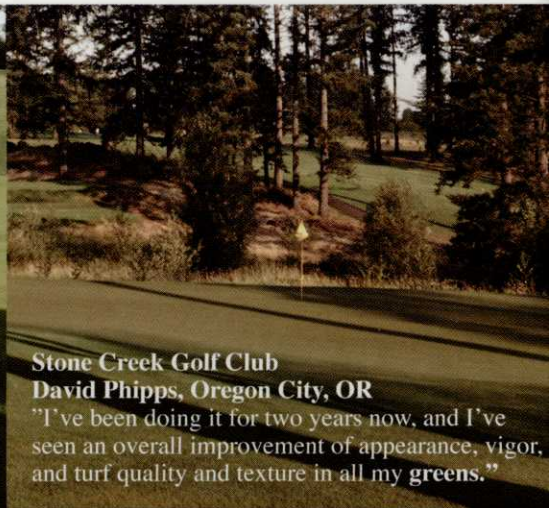
Country Club at Castle Pines  
Sean McCue, Castle Rock, CO

"We are in fourth year of interseeding, and our population of bentgrass is anywhere from 70-80% on our fairways."



Hinsdale Golf Club, Bob Maibusch, MG,  
CGCS, Clarendon Hills, IL

"We had germination in 5-7 days, and just looking at it, 80-90% germination of the bentgrass seed we put down."



Stone Creek Golf Club  
David Phipps, Oregon City, OR

"I've been doing it for two years now, and I've seen an overall improvement of appearance, vigor, and turf quality and texture in all my greens."

"I WILL CONTINUE TO **INTERSEED** TO KEEP GETTING ADDITIONAL POPULATIONS OF **BENTGRASS** OUT THERE AND TO HELP ME COMPETE **AGAINST THE POA ANNUA** POPULATIONS IN OUR FAIRWAYS"

Sean McCue, Country Club at Castle Pines, Castle Rock, CO

**T**hese superintendents, from both private clubs and public golf courses across the country, say that interseeding with the advanced bentgrasses from Tee-2-Green is a highly effective method for improving turf.

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"I'VE SEEN AN **OVERALL IMPROVEMENT OF APPEARANCE**"

David Phipps, Stone Creek Golf Club, Oregon City, OR

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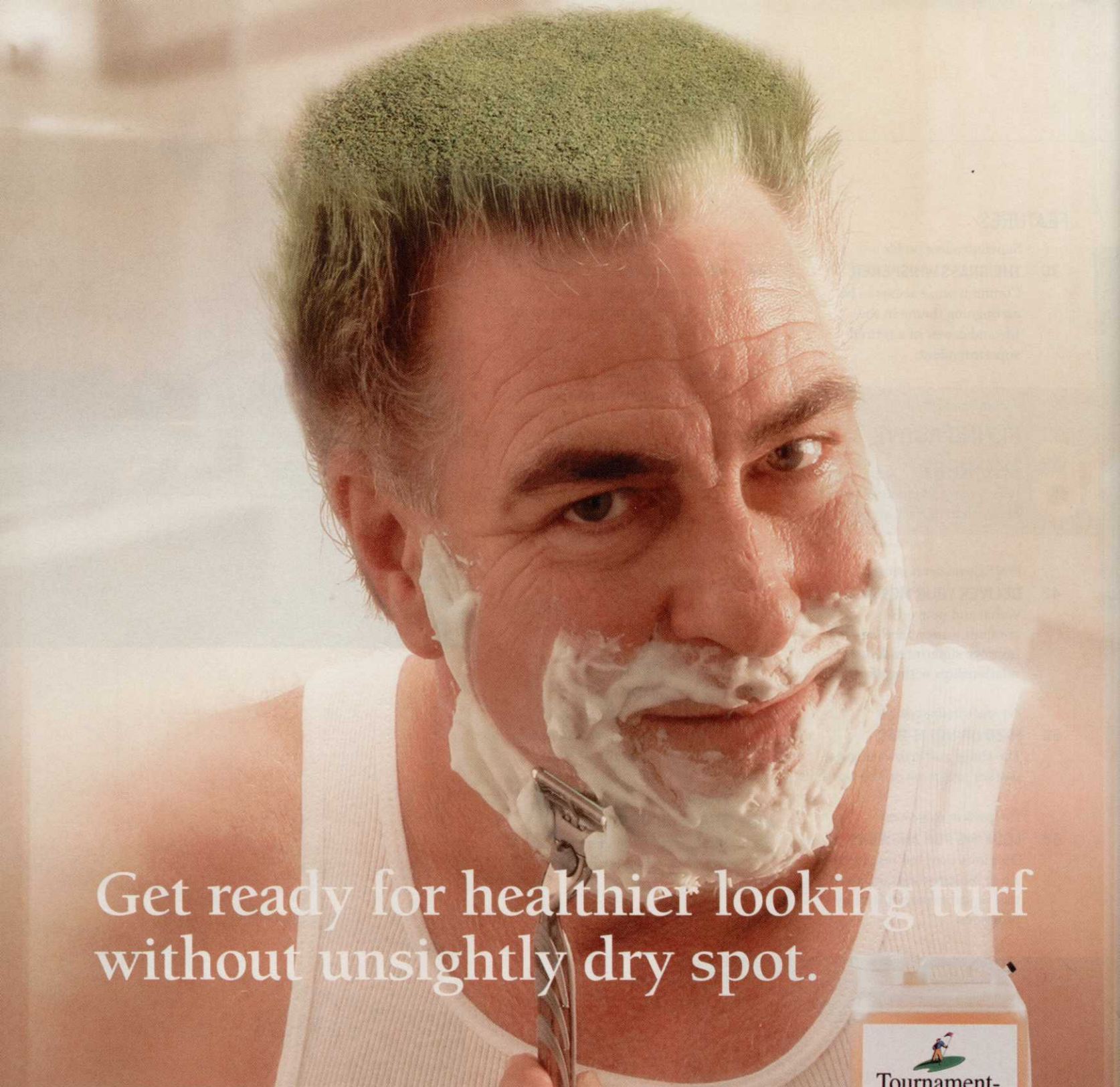
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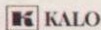
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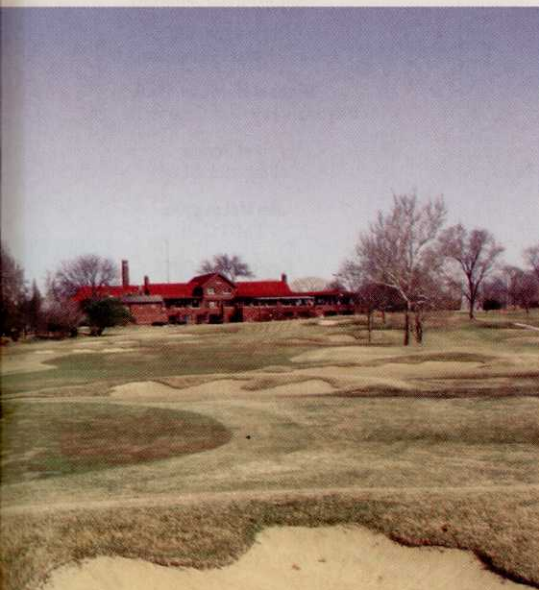
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### ONLINE POLL

Topdressing fairways has its pros and cons. Some like it, others don't. Do you topdress your fairways? Visit our home page and vote.

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### DIGITAL LIBRARY

For the first time, you can view last year's digital issues of *Golf Course News* any time you want on DVD. The digital library contains all the 2006 issue on one disc. The DVD is available at the online bookstore – [www.golfcourseindustry.com/store](http://www.golfcourseindustry.com/store).

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### EDITORIAL MISSION STATEMENT:

Golf Course Industry reports on and analyzes the business of maintaining golf courses, as well as the broader business of golf course management. This includes three main areas: agronomy, business management and career development as it relates to golf course superintendents and those managers responsible for maintaining a golf course as an important asset. Golf Course Industry shows superintendents what's possible, helps them understand why it's important and tells them how to take the next step.





**John Walsh**  
Editor

## IMPROVING RELATIONSHIPS

**A**mid ongoing discussions about teamwork and management, one relationship receives less attention than it should – the one between superintendents and equipment technicians. For those lucky enough to have a full-time mechanic, this relationship helps guarantee a maintenance staff produces golf course conditions that keep members, golfers and owners satisfied.

Superintendents clearly know their facilities' objectives, but how many technicians do? Are they clear to them? Do they see the big picture? If not, what are superintendents doing to bring this into focus?

Superintendents and technicians need to make sure maintenance staffs promptly communicate equipment issues such as damage, cleanliness, effective operation and safety. At the same time, technicians need to be in the loop about things such as spraying schedules so they know when equipment needs to be ready.

Some technicians might know equipment inside and out but don't play golf, or the superintendents' overall objectives haven't been communicated to them. One suggestion is for technicians to tour the golf courses with their superintendents to gain this understanding. Technicians can see first-hand, for example, exactly when mowers are cutting poorly so they can pull the reels and grind them. Technicians also need to be an integral part of training the crew about equipment to help protect this club asset.

It's important technicians and superintendents educate each other for smoother-run operations. A couple months ago, John Fulling, CGCS, and technician Henry Heinz of Kalamazoo Country Club in Michigan presented a seminar about this topic in Anaheim, Calif. For example, superintendents want technicians to see the big picture, discuss agronomic practices, become involved with associations, view the fleet as an asset and know the whys of turfgrass maintenance. Superintendents also want technicians to improve by not being too hard on the crew when accidents happen, appear more professional (dress and phone manners), communicate with crews better, take ownership of the shop, understand they're part of a team, be more organized and manage their time better.

But to achieve these, technicians need more education. A small but growing number of technicians are part of the Turfgrass Equipment Technicians Association, but is there a place for technicians within local superintendent associations? Technicians should broaden their knowledge and know more about course conditioning, political pressure, training and cultural practices.

On the flip side, technicians want superintendents to know about the importance of continuing education in equipment maintenance, the real time and effort needed to maintain a quality fleet, the best training programs for equipment use, parts and supplies needed to justify purchases, and daily challenges they face. Technicians also want superintendents to stick to the schedules they make, understand the real cost of maintaining equipment, support local community colleges that have mechanics classes, let crews know they need to take more ownership and pride when operating equipment to make technicians' jobs easier, and train crews about equipment.

If superintendents and technicians each work on their areas of improvement, their maintenance operation will become more efficient, which positively impacts the bottom line.

Think about your relationship with your technician. Is it ideal? How can you improve that relationship and the relationship the technician has with the rest of your staff? After all, relationships are everything. Make the most of them.

We would like to hear from you. Please post any comments you have about this column on our message board, which is at [www.golfcourseindustry.com/messageboard](http://www.golfcourseindustry.com/messageboard).



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# Foliar Program Checklist

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Consistent results? ✓

Great color? ✓

Controlled growth? ✓

Seaplant extract? ✓

Fulvic acid? ✓

Amino acids? ✓

Customized to my needs? ✓

Tank-mix compatible? ✓

Easy to use? ✓

Independent research? ✓

Reliable manufacturer? ✓

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## Changes and value

I read the February issue of *Golf Course Industry*, and, having been known not to pay attention to things that sometimes don't matter at the time, was impressed with the magazine's style changes. The paper and format look nice.

I actually read the magazine cover to cover and was impressed again by the content. This is not to say I haven't read the magazine before, but with so many trade journals, it's hard to separate them. Yours stands out, and I'll look for it each month.

I enjoyed the article about certification, "A designation worthy of pursuit" (page 90). I even took a few minutes to call Darren Davis and needle him about his comments, all in good fun. I was glad to see you covered the subject, one the GCSAA doesn't put its money where its mouth is.

I'm all for Class A status, which, in my opinion, helps drive continuing education. But when many of us become certified and the shock of "holy cow, I passed" wears off, then what? I know we're told to self-promote, and that works to a point, but there's a fine line between self promotion and boasting. I'm not sure what the answer is, but seeing the progress made to raise Class A status, I will be long retired before the GCSAA gets around to showing the value of being certified.

**Matthew R. Taylor, CGCS**  
Director of golf course operations  
Royal Poinciana Golf Club  
Naples, Fla.

## A good idea

As a person who writes a significant amount and enjoys hearing feedback, I wanted to let Terry Buchen know I always enjoy his column and often use his tips. Most recently, I used the yellow metal squares to protect my irrigation heads from damage from my Verti-Drain (Travels with Terry, November, page 46). It's our golf season, which means lots of traffic. The Verti-Drain is in the field constantly, and our normal irrigation flag method of marking heads would be distracting to golfers. The yellow squares have been terrific.

**Darren J. Davis**  
Director of golf course operations  
Olde Florida Golf Club  
Naples, Fla.

## A step ahead

Last year, I attended Jim McLoughlin's superintendent seminar in Atlanta at the Golf Industry Show with the expectation of learning how I can further my career. After his seminar, I created my own resume/career Web site per his advice. A short time after completing my site ([www.michaelswilliams.net](http://www.michaelswilliams.net)), I was promoted to director of agronomy for a small management company in Southern California. During the interview process, one of the partners noted the information available through my site and how valuable it was to my experience and the job I was applying for. I just want to thank Jim for his insight about what it takes to be a step above the rest in this busy career of golf course management.

**Mike Williams**  
Director of agronomy  
Pacific Golf Enterprises  
San Clemente, Calif.

## Misrepresentation

I'm sure you're familiar with the saying "a picture is worth a thousand words." Your January cover speaks volumes about our struggles in the industry. We've fought for years for respect and the recognition that we're the go-to guys at golf facilities. It's bad enough we must share our education conference and trade show with those who are too busy reinventing themselves, from general managers to chief operating officers. The superintendent isn't the guy lurking in the background or who plays second fiddle to those who don't respect our value to a facility.

The article in relation to the photo barely touches the role the superintendent had in the practice facility renovation. I know Steve Cook at Oakland Hills. He's well spoken and very capable of explaining how the renovation was completed and how it will effect his operation. He wasn't even mentioned in the article. Shame on *Golf Course Industry*.

**Michael Mumper**  
Golf course superintendent  
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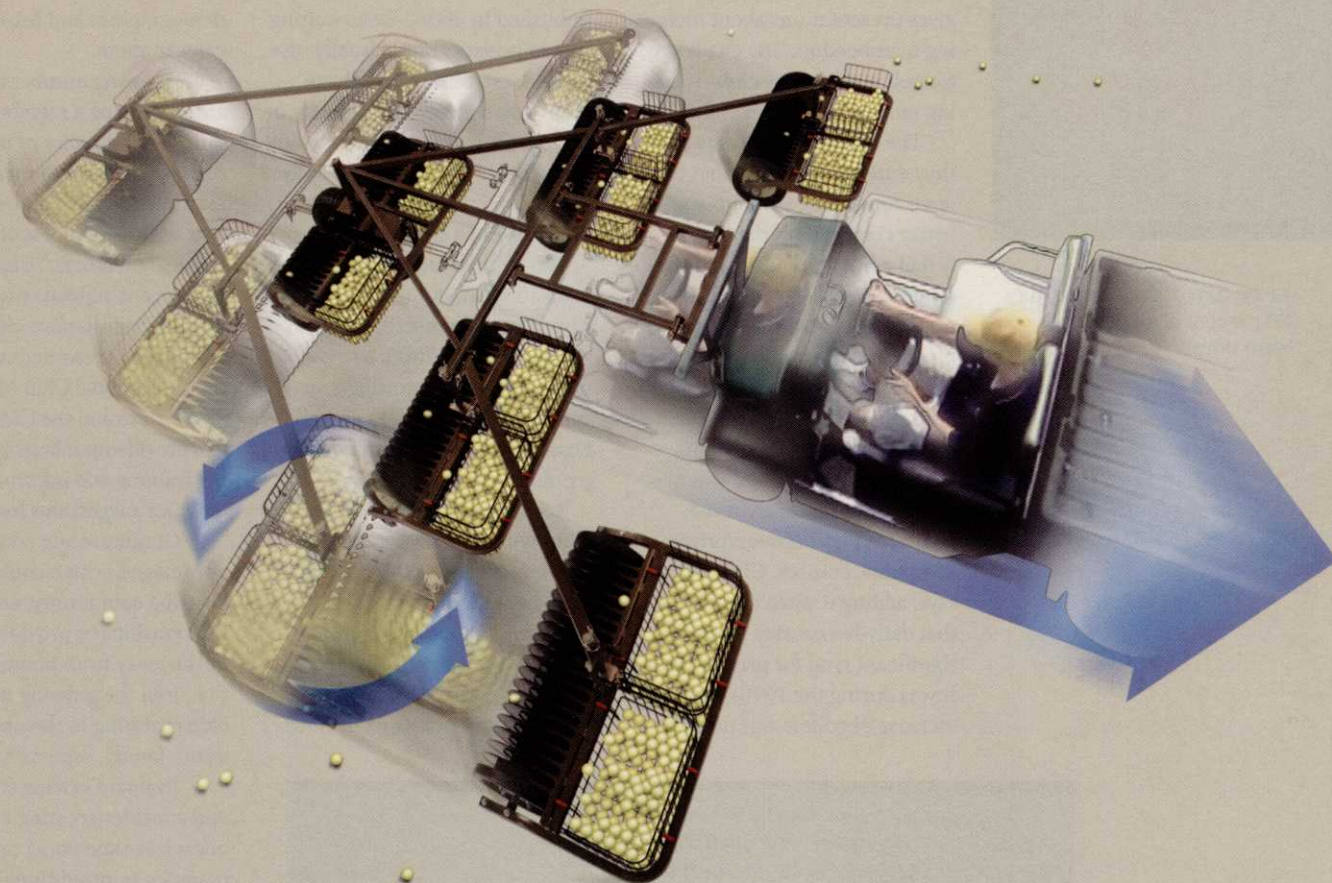


# -UP BACK-

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# Combat declining membership with new tactics

**M**embership at private clubs has been faltering since the new millennium began, but a refreshed look at what draws members could help clubs increase membership, says Candice Clemenz, Ph.D., of the Pamplin College of Business at Virginia Polytechnic Institute and State University.

Clemenz conducts and analyzes research about country club and golf club memberships and gives presentations about increasing membership. The challenge for golf and country clubs is facing more competition.

"The challenge for clubs as they entered 2000 was that they were competing with more and better competition that frequently had a financial edge, and the total market size was the same as pre-1990 because the forecasted increase of the number of golfers didn't materialize," she says.

At the turn of the 20th century, 80 percent of golf courses were private, and there was a significant difference in the quality of play between private and public courses, Clemenz says, adding it wasn't until 1990 that daily-fee courses became a significant rival for private clubs. It was during the 1990s that an increase of golfers was predicted,

and in response, many high-end, daily-fee golf courses were built.

Clemenz cites a McMahon Group study of country/golf club owners that shows only 17 percent of respondents had more memberships in 2003 than in 2001, where 44 percent reported having fewer members in 2001, and 39 percent reported their memberships to be about the same in 2003 as 2001.

Clemenz conducted research, published in 2006, about waiting lists in private clubs. Usually, the lists are established so private clubs don't exceed the capacity of their facility or as a way to create exclusivity. Waiting lists usually are an example of the popularity or success of a club.

The study, based on responses from 163 CMAA members, states 31 percent of country clubs had waiting lists. In 2000, a survey performed by accounting/consulting firm Pannell, Kerr, and Foster states 84 percent of country clubs had waiting lists.

According to Clemenz's study, clubs with waiting lists were between 50 and 100 years old, were member owned and tax exempt. Clubs with larger memberships (between 1,000 to 3,000 members) were more likely to have waiting lists, as were clubs

with gross revenue exceeding \$5 million.

"This seems to say the more contemporary clubs have been unable to capture the same foothold in their communities as clubs that weathered the depressions and world wars of the early and mid-1900s," she says.

Contemporary clubs that struggle can boost membership and compete by learning more about potential membership demographics and learning to cater to them.

"A growing number of clubs are employing a membership director or director of members services to focus on membership matriculation by assisting members with the process of sponsoring new members," Clemenz says.

Clemenz suggests membership directors or others at clubs take advantage of resources including the Professional Club Marketing Association and the CMAA, which can provide membership marketing training and information.

Other suggestions include:

- Communicate competitive advantages, which could include creating community, establishing relationships or providing a safe haven away from home;
- Join the growing number of clubs catering to the needs of the entire family, especially children;
- Evaluate pricing structures and consider creating new (and often less expensive) categories to entice nontraditional demographic segments; and
- Offer incentives for members to sponsor new members and/or encourage prospective members to join the club.

— Heather Wood



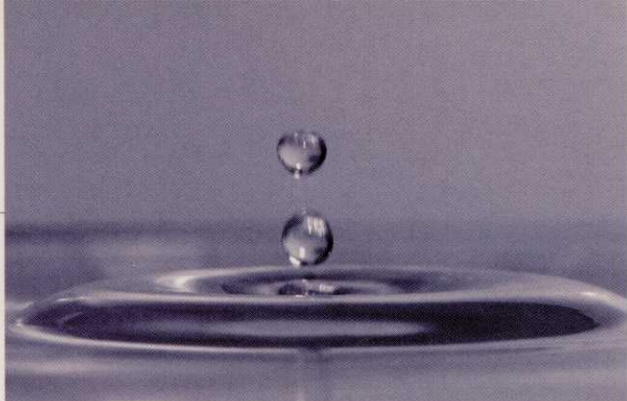
**THIS IS A  
PRIVATE  
MEMBERS  
CLUB**

At the turn of the 20th century, 80 percent of golf courses were private.

**CLUB MEMBERSHIP DURING THE PAST 10 YEARS**  
A CMAA 2007 operations report shows  
the average number of club memberships

	2007	2004	2002	2000	1998
<b>Golf clubs</b>	442	513	509	457	551
<b>Country clubs</b>	734	697	690	688	670





## Work to eliminate localized dry spot

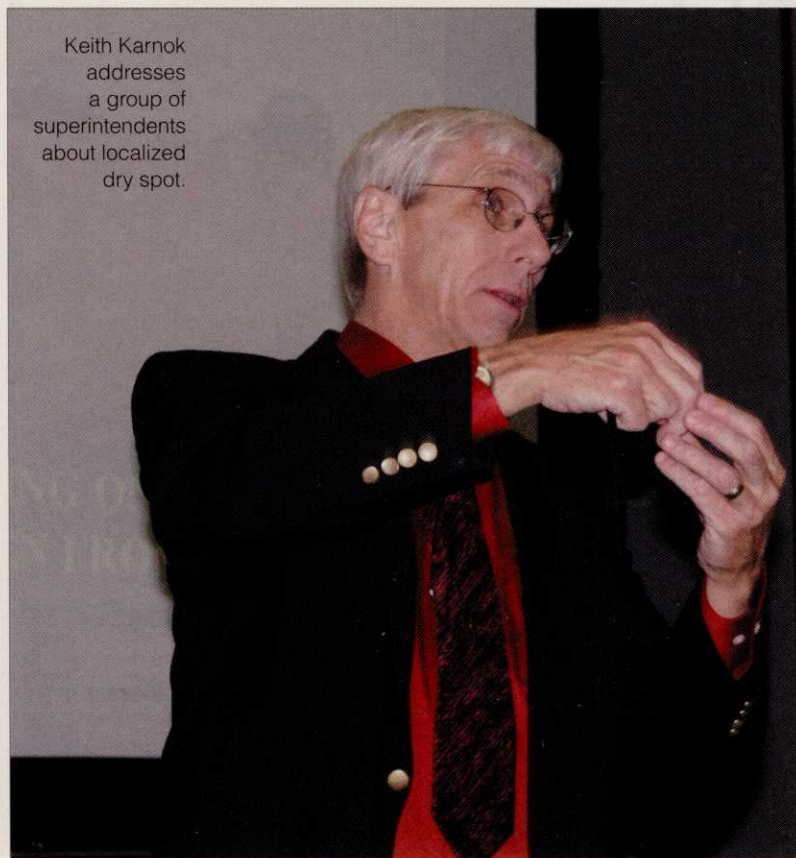
It's one of those afflictions nobody sees coming. Anywhere from eight to 18 months after green construction, when everything seems to be going well, it appears – usually in sand-based greens – with little or no warning. The affliction is localized dry spot, and it starts, like many turf afflictions, beneath the surface.

It's a greater problem now than it was even 20 years ago, says Keith J. Karnok, Ph.D., from the department of crop and soil sciences at the University of Georgia, citing the abundance of wetting agents available on the market. Kar-

nok presented a half-day session about localized dry spot at the recent Golf Industry Show in Anaheim, Calif. An increase in sand-based greens and a decrease in the height of cut on greens partly are to blame for the recent upward trend.

While prevention practices are the best way to avoid the problem, the patches of dry turf that alert superintendents to the problem are sometimes the first sign something's wrong. Knowing more about how it forms can help eliminate it.

Keith Karnok addresses a group of superintendents about localized dry spot.



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Hydrophobic or water-repellent soil causes dry spots. Signs the soil is water repellent include footprinting, blue/green coloration, wilting and ultimately the plant's death. And this isn't unique to golf courses.

"People have been battling this since there have been soils," Karnok says.

To better understand whether a patch of problem turf is a result of hydrophobic soil, take a core sample and test it. Before starting the test, make sure the soil is dry. A hair dryer or fan can be

used to dry the soil gently, but don't put it in a microwave or oven, Karnok warns. Place droplets of water on the sample every half-inch or so. If the droplets sit on the sample's surface, the soil is hydrophobic.

Localized dry spot is caused by a coating of particles that repel the water.

"That coating is the end result of organic matter decomposition," Karnok says. "These organic compounds, when allowed to dry, become very water repellent."

There are different levels of water repellency, and the levels can vary throughout a green. Soil is usually more severely hydrophobic in the summer, and it tends to appear in the top two inches of the soil profile because more organic matter resides there than further down.

Sand is usually the common denominator when water repellency is reported. In fact, coarse-textured soils are more prone to becoming hydrophobic.

"If you've got a sand-based green without fine soils mixed in

and it's a couple years old, you've got hydrophobic soil to some extent," Karnok says.

Clay-rich soil usually is able to protect turf against dry spot.

"Clay's ability to hold a lot of water overshadows the problem," Karnok says.

For those who have dry spots and no sand in the profile, Karnok recommends testing to see what else could be causing the problem. It's sometimes, but rarely, found in fine-textured soils.

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only compound the problem. Factors that contribute to localized dry spot include lower cutting heights; prolific organic matter-producing cultivars; decreased cultivation and topdressing practices; and increased golfer expectations for lush, green conditions. Some try to prevent water-repellent soil by monitoring the soil's critical moisture point – at which soil won't wet.

"In most cases, you won't get to that because it'll be dead," Karnok says.

The hydrophobic coating can't be prevented easily, but there are ways to make it less likely to occur. The best method in avoiding LDS is prevention, Karnok says.

"Strive for a deep root system – beyond the top two inches of the profile," he says. This can be achieved through practices that promote healthy turf."

Once the water-repellent coating sets in, there are ways to manage the soil to hydrate it. Some tests show sodium hydroxide, or Drano, can remove the coating.

"The problem was a little bit of uncertainty

about what's going to happen to the turfgrass," Karnok says.

A popular method of temporarily alleviating the symptoms of water repellent soil is through the use of wetting agents. They work by attaching to the organic coating that causes the repellency and allowing water to be absorbed.

While different wetting agents work on different levels, Karnok hasn't found any agents that did nothing.

"All the common available wetting agents decreased water repellency to some degree," he says.

Karnok doesn't recommend any certain brand because the most ideal wetting agent is defined by the needs of the end user.

There are few advantages of using wetting agents on nonwater-repellent soil, but Karnok says it's a good idea to apply an agent to the entire green because it's likely all soil on the green is hydrophobic to some extent. It just might not be displaying the symptoms as prominently as the dry spots. – HW

#### PREVENT HYDROPHOBIC SOIL

The best way to prevent localized dry spot is with a turf management program that promotes healthy turf, says Keith J. Karnok, Ph.D., of the department of crop and soil sciences at the University of Georgia.

Healthy practices include:

- Selecting the best turf species/cultivar for the region
- Reducing the amount of nitrogen applied
- Increasing cutting height
- Irrigating properly/evenly – usually LDS appears in areas that haven't gotten enough water
- Following a strict cultivation and topdressing routine to combat accumulation of organic matter
- Not adding to the problem – test the topdressing sand or mix for water repellency before using it



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## Golf course architects see more renovations, fewer new projects

**A**s the U.S. experiences a shift in market conditions and demographics, golf course architects have been acclimating to market changes that include more golf course renovation projects and fewer new construction jobs.

This was discussed as the ASGCA hosted a panel at the recent Golf Industry Show in Anaheim, Calif., to share observations of current market trends. The panel included ASGCA associate Gil Hanse, past ASGCA president Damian Pascuzzo and members

Steve Smyers and Doug Carrick.

There was discussion about the latest numbers from NGF, which state there was a net loss of 26 golf courses in the United States in 2006. However, there has been an increase in new golf courses elsewhere, including Europe, the Middle East and South Africa, panelists say.

One of the reasons why golf course closings outpaced openings is the value of the land on which courses lie. During the past seven years, 24 facilities in Myrtle Beach, S.C., closed or



ASGCA members discuss various trends in golf course development.



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have been slated to close, says Greg Muirhead, president of the ASGCA and panel moderator. Land's increasing value has caused several golf course owners to sell their property, he says.

Instead of new course openings, investments are being made to renovate existing courses at private club facilities, says Smyers, who's working on four such projects.

Regarding the trend of new courses increasing yardage, Hanse doesn't try to maximize yardage on renovation projects but rather honors the work of the original architect.

"If we go in and screw around with their design, they're gone forever," he says.

Another design trend has been the tendency toward faster putting surfaces, but Smyers sees that subsiding.

"Golfers will accept more undulating putting surfaces than even a few years ago," he says.

Pascuzzo suggests attendees encourage a reasonable green speed when planning a new course, saying the bulk of the membership likely favors a slower, more forgiving green.

"Talk about it upfront," he says. "Who's your market? You're not going to get a tour here. You'll mostly want them at nine or 9.5, not 10 or 10.5. I want to challenge the player around the green. If you take that tool out of my toolbox, it's going to dumb down the golf course."

People often want architects to make courses easier to play.

"How much easier can we make it?" Smyers asks. "It's not about making courses easier; it's making them more fun and playable."

When there's new course construction in the U.S., it usually is connected with real estate.

"We haven't had a stand-alone project in seven to eight years," Pascuzzo says.

Another factor that's driving the market and acting as an aid to real estate-linked golf courses is the retirement of baby boomers. There seems to be a trend among this demographic of owning multiple homes, with at least one located on or near a golf course.

"They're looking for the resort lifestyle 24-7," Pascuzzo says.

There also are ways to draw younger people to the game with programs such as The First Tee and Play Golf America. Snowboarding, for example, revolutionized winter sports by bringing attention back to the genre when skiing and other snow sports seemed to be losing popularity, Pascuzzo says.

"Golf needs something like that," he says. "Golf has to compete with a lot more now than it did 20 to 25 years ago, including the Internet, games and other distractions."

Between a wider range of entertainment options, cost and player expectations driving potential golfers away, panelists agree the industry needs to grow the game.

"We can continue to throw ideas out, but we need to work in concert," Pascuzzo says. — HW



Architects say one design trend is toward faster putting surfaces.



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## Accommodating disabled golfers opens door for revenue hike

A majority of the golf courses in the U.S. are required by law to be accessible to disabled golfers. Some courses are hesitant to move forward, citing the financial burden it could cause. But Martin Ebel, general counsel for the Massachusetts Commission against Discrimination, says not only is it the law, but it can open additional windows for revenue.

Ebel explained what's required during his presentation, Accommodating People with Disabilities – Staying out of Court and Making Money in the Process, at the

USGA Green Section Educational Conference during the Golf Industry Show. Ebel explained most golf courses' responsibilities (and recommended that all courses follow them):

- There should be a policy; it should be written and posted.
- There should be a single-rider golf cart available.
- Golf course employees should be aware of what they can and can't ask of the disabled.

There's no reason not to make the course more accessible, Ebel says. With rounds declining, there's a push to grow the game.

One avenue is to reach out to the more than 54 million disabled people in the country. Plus, the Americans with Disabilities Act applies to most golf courses. All public and municipal courses and most private courses are required to follow it. Plus, it's the right thing to do, he says.

Several arguments against becoming ADA compliant can be disproved, Ebel says. For instance, course operators are often concerned that an ADA upgrade is costly, but Ebel says initial money spent will pay off. Golfers rarely play alone, which means

disabled people likely will bring three others golfers and make it a foursome. And, once word gets out, more disabled golfers will come to play.

It can be more costly not to become ADA compliant because the disabled can file lawsuits against courses that aren't accessible.

"Even if you win at trial, you'll pay \$50,000 to \$100,000," Ebel says, adding it also costs time and aggravation.

He cites the case in 2001 in which pro golfer Casey Martin sued the PGA Tour. Martin suffers from a birth defect in his

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right leg known as Klippel Tre-  
naunay Weber syndrome, which  
can make it painful for him to  
walk, but PGA rules dictated that  
he was not allowed to use a cart.  
The ruling changed that.

"Golf cars need to be supplied  
to those who have trouble walk-  
ing," Ebel says. "It's that simple."

A single rider cart purchase  
doesn't have to put a golf course  
out of business. Tax credits are  
available for some courses. If the  
course's budget is below \$1 mil-  
lion, the government will likely  
share the cost of the equipment  
up to \$10,000 by way of a tax  
credit.

Another argument against  
upgrading for the disabled is that  
equipment like single-rider carts

can damage the course. Courses,  
including Pinehurst, that have  
grass as good as or better than  
many other courses have single  
rider carts, Ebel says.

The ADA states golf courses  
must provide reasonable ac-  
commodations. That means the  
accommodations can't be  
expensive, they must provide a  
safe experience, and they must  
remove any barriers that might  
arise for golfers. This includes  
accessible teeing grounds and  
weather shelters. There needs to

be a 5-foot-wide path every 75  
yards and each green must have a  
point of entry for the single-rider  
cart.

Besides the course, parking  
lots, restrooms, the clubhouse,  
the pro shop counter and every  
other aspect of the facility falls  
under the ADA. The only exemp-  
tion is if the changes create an  
undue burden on the course.

"This means any alteration so ex-  
pensive, it would be irresponsible  
to do it," Ebel says. However, he  
adds, it's hard to prove in court

Martin Ebel discusses the needs  
of disabled golfers.

that the alterations would have  
caused a burden.

Ebel recommends course man-  
agers start by auditing the facility  
to determine the current level of  
compliance. If there are changes  
that could be made, and they  
don't create too much of a bur-  
den, make the changes. Finally,  
invest in a single-rider cart.

Despite the ADA and the idea  
of a possible lawsuit, some golf  
course owners and managers still  
are not convinced to spend the  
money to upgrade. They're held  
back by the thought that there  
is no demand for features that  
accommodate the disabled.

"I think you'll find if you build  
it, they will come," Ebel says.

— HW



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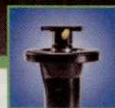
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## SUCCESS THROUGH EDUCATION

It's been difficult for assistant superintendents to further their careers. A job opening for a superintendent position can draw hundreds of applicants.

What can assistants do to compete for the opportunities we desire? We make ourselves marketable. There are many ways to accomplish this. One is through education. We can never stop learning because there are better technologies, strategies and management practices that will produce better results. We're fortunate to have numerous educational opportunities available.

There's something for each of us. It's important to find a course or program that motivates you and will help you accomplish your goals. Every bit of education and training helps us do our jobs more effectively and makes us more marketable for future careers. As the business demands of golf course superintendents increase, there will be a need for advanced degrees and business experience. I decided the best way to reach my desired position was to get an MBA from the University of Iowa. The program gives students the opportunity to learn about all aspects of business in a way that's relatable to their career fields and teaches them how a business is run and how to operate one. Whatever educational track you choose, keep these things in mind:

**Leaders are human resource managers.** They aren't only responsible for hiring and firing, they help develop their staff into a hard-working, cohesive unit. This takes leadership and the ability to motivate others. Leaders must have people skills to communicate and influence the wealthiest club and board members and those who earn minimum wage. MBA programs require human resource courses to prepare you to succeed when dealing with many types of personalities and backgrounds.

Many program projects are completed in teams, making teamwork an important part of the program. You must be able to sell yourself and your ideas, and establish credibility within your group.

As you learn to depend on the expertise of your classmates, you deal with those who can be difficult to work with to achieve the grades you desire. The diversity I work with in class is similar to what a general manager faces daily when dealing with different department heads and staff members.

**Leaders are change managers.** They have to lead and influence those around them and have vision to see what the future of their business will be like. Often times the future of our clubs will cause us to change. Last fall, I took a course about change management that taught me how to lead others through change with preparation and communication. I also learned to identify my organization's culture and to develop strategies if I had to change that culture.

For example, say you accept a new position as a superintendent or general manager. You're hired with the expectation of raising performance levels and achieving results but are surrounded by a staff known for underachieving and having a poor work ethic. Create change first by creating a sense of urgency among your staff that necessitates the need for change. Cast a vision to show your staff where you want to go as a team. Empowering others to act on this vision and removing obstacles to change will help as you create momentum through short-term wins. Making changes within your staff and developing staff members to carry out the vision also is an important component of change.

Finally, taking action to ensure the change strategy is carried out long term and the organization's old habits don't come back into common practice can be difficult but is vitally important. These steps are crucial to ensuring a leader can create and keep change and achieve results.

**Leaders are resource and financial managers.** We care for a club's greatest resource: the golf course. Studies have shown golfers come back because of well kept greens, tees and fairways. This was valued more than all other areas of their experience.

Leaders must find creative ways to deal with increased labor and supply costs and decreasing budgets. They must work to stay under budget while producing a high quality product. I'm enrolled in an accounting class that teaches students to evaluate a company's future viability and success by studying its balance sheet and income and cash flow statements. The class also will be useful when determining if an organization is worth purchasing, managing or investing in.

**Leaders are time managers.** Those in the industry know time management is a must because successful leaders are given much to accomplish to provide necessary worth and value to their club. Being in our business and continuing with education can be difficult because of time and financial constraints. Working toward achieving an MBA has made me a much better time manager, but it hasn't come without challenges. I continue to work full time and take night and weekend classes. When I started the program last fall, our club was completing the seeding phase of a grow-in. This season will be a test to balance class work load with the challenge of a grow-in. Delegation and managing your "time wasters" can go a long way toward better time management.

The MBA program will help me understand the business side of the golf industry much better. While pursuing an MBA has meant challenge, sacrifice and commitment, it will be worth it. If this educational path is something you're considering, visit [www.mba.com](http://www.mba.com). Here are two tips:

- Consider your options. What programs are available that you find interesting and motivating?
- Talk to your employer. Many are supportive of continuing education, and some might offer tuition assistance. Be ready to sell why you want to pursue higher education and how it will benefit your employer.

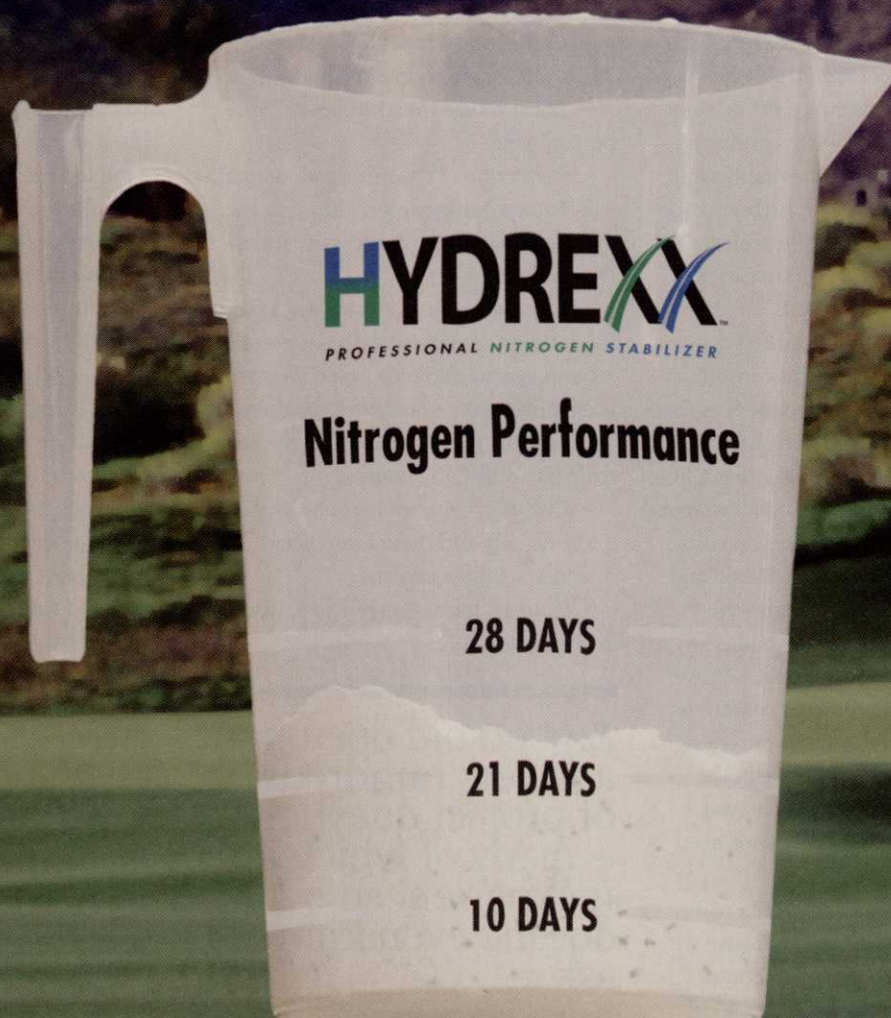
A leader once said, "If we aren't prepared and educated to make decisions, someone will make them for us, and we probably won't like it." I encourage you to consider education as an opportunity toward career success. **GCI**





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## BID OPENING EXPECTATIONS

If you become involved with reconstructing a golf course, it's likely you'll have a bid opening. While some projects are negotiated with a preferred contractor, most owners inevitably want to know if they've received the best price, which requires one to bid the project competitively using a golf course architect to prepare the documents.

Some clubs opt to bid small and medium-size renovation projects without using a golf course architect to save fees that typically equate to 7 to 10 percent of the construction cost. However, there are numerous examples of the service more than paying for itself through the best possible construction price thanks to bidding and construction evaluation to assure the quality designed is the quality built.

Bid openings are always tense because architects' design agreements require us to design within a budget and to redesign (at our cost) if the bids don't meet the budgets. So, I'm always nervous. And naturally, the first bid usually ends up highest.

Normally, we're confident bids will be close to our cost estimate because we track unit costs from recent bids and adjust our estimates for inflation, local conditions and materials, and project size. But this has been more difficult during the past year when oil prices have boosted plastic prices for drain and irrigation pipes and trucking costs for almost all materials.

Just in case market conditions have changed dramatically, we usually provide alternate bid items so we can adjust the final contract up or down to meet budget. This usually involves changing specifications rather than changing the basic design. When trying to reduce a budget, typical targets include:

- California versus USGA greens (\$190,000 savings on a recent bid).
- Local rather than imported white bunker sand.
- Reduction of tee-mix depth or quality.
- Fabric bunker liner, although this quickly is becoming a necessity rather than a luxury.
- Cart path width. It's always a painful decision to narrow paths, especially around greens and tees, but concrete is expensive. It's even more painful to accept paths that are less than eight-feet wide all around the course.
- Curbing. Courses that eliminate curbs usually add them later, poorly tied in and at a larger expense.
- Bunker, tee and green size, usually in that order.

---

**A good bid document answers hundreds of project questions – many of which an inexperienced owner doesn't even know to ask ...**

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There are many instances in which you shouldn't be overjoyed at receiving a bid lower than expected. One is when it comes from a bidder the architect or client doesn't want to work with. It's best to eliminate unwanted bidders through a strong prequalification requirement, such as being a certified member of the Golf Course Builders Association of America, or an invited bid list rather than go through the lengthy and expensive bid process only to be told you don't care to work with them. That way, you'll be

happy to work with any successful bidder.

Golf course architects also are concerned when the low bid is more than 5 to 7 percent lower than the next cluster of bids. This can indicate the contractor has missed something significant in the plans or has financial troubles and needs a job too desperately. This is why most bids allow an owner to accept the lowest reasonable bid or the one he deems is in his best interest.

Architects know how to put a bid together to assure the bidders truly are bidding apples to apples. When a club asks contractors for bids independently, assuming everyone knows what it wants when rebuilding a green, there's room for error. Most likely, the low bid is a result of a contractor bidding to build it in the least expensive way (not necessarily a bad thing) rather than the way you want it built.

Architects also know how to write bid proposals and contracts that cover the many details of a large financial transaction that protects the owner if the project doesn't go as smoothly as anticipated. A good bid document answers hundreds of project questions – many of which an inexperienced owner doesn't even know to ask – that considerably affect the bid price, the product quality and the owner's satisfaction.

Lastly, an architect is experienced in contractor negotiations. Besides determining the final bid price and contracts that minimize change orders if those arise, he'll assist you in negotiating fair change orders that will save you money.

While you might envision a golf course architect as providing you artistic vision, our experience with design agreements and payments reflect our real value: protecting you financially and legally through complete plans, specifications and bid documents. The well-planned, functional and artistic design is a bonus. **GCI**



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**Jim McLoughlin** is the founder of TMG Golf ([www.TMGgolfcounsel.com](http://www.TMGgolfcounsel.com)), a golf course development and consulting firm, and is a former executive director of the GCSAA. He can be reached at [golfguide@adelphia.net](mailto:golfguide@adelphia.net) or 760-804-7339. His previous columns can be found on [www.golfcourseindustry.com](http://www.golfcourseindustry.com).

## A TWO-YEAR PRESIDENCY

The surest way to have someone question your sanity is to suggest it would be appropriate for GCSAA presidents to serve two-year terms (actually, two one-year terms). I can hear the outcries already: The presidents are overloaded now; how could they possibly double their term lengths, take on deeper workloads and keep their jobs? In my judgment, the two-year-presidency concept isn't only appropriate, it's a necessity.

The persistent problem with the one-year term is it denies each president the opportunity to lead because it's virtually impossible for a president to initiate new programming and see it through within a 12-month period and because it's so easy for board members and staff to simply outwait a 12-month president on any debated issue. Consequently, one-year terms mandate the GCSAA presidency remain a pure ceremonial position.

As part of the present one-year format, presidents have no leverage and, consequently, surrender any idea of leading the association and its members to new ground (i.e., the GCSAA is a rudderless ship at a time when it requires newfound leadership to find its way in today's very demanding world). Fortunately or unfortunately, there's no one else to provide the necessary leadership but the association president, given the opportunity. The GCSAA no longer has the luxury of one-year ceremonial presidencies.

It's clear the only way to create a fit between a working superintendent and a two-year presidency would be to reconfigure the presidential job description to minimize time dedicated to interfacing with sister golf organizations and to maximize the opportunity for the president to focus on the more critical needs of the membership and profession. For example:

The first scheduling issue that must be addressed is the traditional practice of having the GCSAA president attend virtually every one of the industry's key sister association events (the U.S. Open, the Masters,

the PGA Championship, the British Open, the Ryder Cup every other year, the USGA annual meeting, the PGA annual meeting, the CMAA annual meeting, Golf's 20/20 meeting and several international events in Canada, Europe and the Pacific Rim) within a calendar year. Any wonder why the GCSAA wears down its presidents and gets little in return?

As part of the present one-year format, presidents have no leverage and, consequently, surrender any idea of leading the association and its members to new ground.

Incoming GCSAA president Ricky Heine estimates he'll be traveling and representing the GCSAA for 75 days during his presidential term. It's not difficult to imagine the GCSAA president could make better use of this time to better serve GCSAA members than dedicating as much as 1,000 hours a year to flying throughout the country to repeatedly meet with the same body of industry officials as a good-will ambassador.

The pressure this extensive travel schedule places on GCSAA presidents can be comfortably eased without sacrificing industry effectiveness by dividing the annual presidential travel schedule equally among all GCSAA board members and c.e.o. Steve Mona. Each board member should be able to represent GCSAA effectively at these sister association events and report back dutifully, otherwise that person shouldn't be on the board. The objective would be to limit presidential travel for non-GCSAA

events to about five days a year.

The next obstacle to overcome would be to reschedule board meetings (except for those associated with the Golf Industry Show) and change them from the more socially oriented three- and four-day meetings with wives at premier hotels and resorts throughout the country to tight, efficient two-day business meetings (without spouses) at the Lawrence, Kan., headquarters. To insure effective two-day weekend scheduling, board members would fly into Lawrence on Friday, meet through Saturday and Sunday, and fly home late Sunday or Monday morning – a scheduling format that has served the GCSAA well for more than 60 years. Wives would continue to attend the annual Golf Industry Show.

This rescheduling would have several meaningful benefits:

1. Presidential travel days, including those needed to attend all GCSAA events and meetings, would be reduced from as many as 75 days to less than 20 days a year, which would render two-year terms plausible.
2. The reduced travel time would allow two-term presidents adequate time to shepherd meaningful, new programming that would directly benefit GCSAA members through to completion.
3. While the GCSAA board always has attracted solid leaders from within membership, the problem has been there hasn't been enough of this. The opportunity that the two-term presidency presents to make a difference would open the leadership floodgates within the GCSAA.
4. Eliminating the scheduling of board meetings at the country's best hotels and resorts would take away the persistent perk incentive for members seeking board service, resulting in better qualified, more dedicated boards serving the GCSAA.
5. The GCSAA would be refreshingly perceived throughout the golf industry as a tight, two-fisted business organization commensurate with the everyday mission of its thousands of members serving the country's approximate 16,000 golf courses.

Leadership begins at home. **GCI**





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## UNDERPERFORMING EMPLOYEES

**“O**ne rotten apple spoils the whole barrel.”

It might seem cliché, but science supports the idea behind this old saying when considering teams such as golf course maintenance staffs. Research by the Gallup Organization shows the clear relationship between (a) increased productivity, reduced turnover and less absenteeism, and (b) answering “yes” to the question: Are my associates or fellow employees committed to doing quality work?

About one in three of the more than two million in the Gallup database answered “yes” to this question. However, their answer is highly sensitive to one or more rotten apples among their fellow employees. When employees perceive the presence of one or more poor performers, the proportion answering “yes” falls to one in five. Conversely, in the absence of rotten apples, one half answer “yes.”

This and other research support the link between the presence of one or more laggards and employee motivation/performance. This research makes a lot of sense in the context of fairness. With one or more rotten apples, employees question the fairness of their hard work when others are allowed to slide by.

The message for superintendent as supervisors is clear: begin working with underperforming employees immediately and continue until the poor performance issue is resolved. Three recommended steps are: coaching, negative feedback, and discipline and discharge.

### COACHING

When speaking to fellow managers, a manager said, “When I analyze employee performance problems, 90 percent of them result from something I did.” The coaching in this step focuses on redirecting employee behavior rather than reprimanding the employee. It’s natural to blame poor performance on employee motivation, focus, effort and

concentration rather than factors beyond employee control such as lack of clarity, insufficient training, inadequate confidence and unusual conditions.

In this step, observe the employee, analyze his behavior or performance, and talk to him to identify the barriers to satisfactory performance. Then, use positive feedback to reinforce positive behavior and good performance and provide the needed training, support, resources and encouragement to redirect the employee to use behaviors, practices and procedures that result in satisfactory performance. Here’s an example:

Garth is a new employee whose performance was acceptable initially. Although he seemed motivated, he failed to pick up the pace of task achievement satisfactorily and started to regress. Performance wasn’t adequate, and other employees noticed. As the superintendent observed Garth, he noticed a pattern of hesitation during task completion. When talking with Garth, the superintendent determined the hesitation resulted from insufficient confidence in his ability to complete the tasks correctly. Garth hadn’t mastered the tasks to the degree necessary. By increasing positive feedback where appropriate, providing retraining and temporarily reducing the number of tasks assigned, Garth’s performance picked up. In this situation, a reprimand likely would have shattered Garth’s confidence, resulting in even poorer performance.

### NEGATIVE FEEDBACK

As it becomes clear an employee’s energy, focus, concentration, effort and motivation is the cause of the poor performance, a superintendent should shift from redirecting to providing negative feedback. The employee still might not accept that he’s the cause of the unacceptable performance. To the degree possible, it’s to a superintendent’s advantage to convince the employee his effort, energy, etc., is the problem. Asking questions rather than telling the

employee what to do is often helpful.

We normally think of negative feedback as a reprimand. Instead, I encourage you to think of it as providing the employee a choice: correct the behavior and/or performance issues or incur a specified consequence.

Specifying the appropriate consequence is a challenge; however, without a specific consequence, you’re not providing effective negative feedback. The consequence must include sufficient discomfort to cause the needed change in behavior.

### DISCIPLINE AND DISCHARGE

When negative feedback appears to be insufficient, consider a formal discipline and discharge procedure. Check on the rules and procedures for discipline and discharge at your course. The important characteristics of any process include:


- The purpose is employee success. Termination is a potential outcome but not the purpose of the process.
- Every step is based on the employee (not the supervisor) making the choice to perform or incur the consequence including termination.
- The process must be fair, including the presence of clear consequences (with the consequences becoming increasingly uncomfortable), and detailed documentation of the performance and consequences.

The common steps in a discipline and discharge procedure are:

- Provide a verbal reminder that’s also recorded in writing in the employee file;
- Provide a written reminder that’s also delivered verbally;
- A suspension, which is sometimes called a decision-making leave day. The employee is directed to spend the time deciding whether he wishes to return and perform satisfactorily or seek other employment (be discharged). I’ve seen excellent results from the use of suspensions; and
- The employee chooses to terminate employment rather than perform.

The bottom line is that, at the first sign of performance problems, a good manager will begin coaching and redirecting. **GCI**





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Within the GCSAA, would you like to see block chapter election voting discontinued and individual member voting guaranteed via the internet?

76% YES

24% NO

based on 263 responses,  
+/- 6 percent

Click to submit

## Quotables

"Superintendents don't want checks on their golf courses such as a 10-foot-by-10-foot square in the middle of a fairway or the corner of a green. Their job is on the line, so they won't do it. Universities can take various areas and let them become stressed or even die, but on a golf course, that can be unacceptable."

– **Clark Rowles**, CGCS, of Nakoma Golf Club in Madison, Wis., about testing biostimulants

"The turf responded like I was giving it first aid."

– **Dan Petersen**, golf course superintendent at the Warren Golf Club on Warren Air Force Base in Wyoming, about the noticeable difference after aerifying regularly

"There's nothing like being out there on the course by yourself in the morning. It's the closest thing you can get to heaven on earth."

– **Doug Petersan**, a retired golf course superintendent and consultant based in Texas

## Consider this

Is the ownership group of the golf course you manage thinking about renovating, reconstructing or restoring the course? No doubt a lot of planning is needed for such projects because there are many things to consider. Mike Hurdzan, Ph.D., a principal of Hurdzan/Fry Golf Course Design suggests focusing on the long-term aspects of such projects and not on the immediate cost. Hurdzan presented some factors to think about at the National Institute of Golf Management earlier this year in West Virginia.

### Golf course factors:

- Rising golf course maintenance standards, i.e., the cost to build and maintain bunkers is more than greens
- More sophisticated member expectations
- Drainage is a high priority
- Changing membership demographics
- Irrigation water quality changes
- Turf stands segregate and change

### Non-golf course factors:

- Outside influences that restrict change
- Adjacent land development
- Hosting tournaments and outings
- Golf and maintenance equipment changes
- An increase of liability

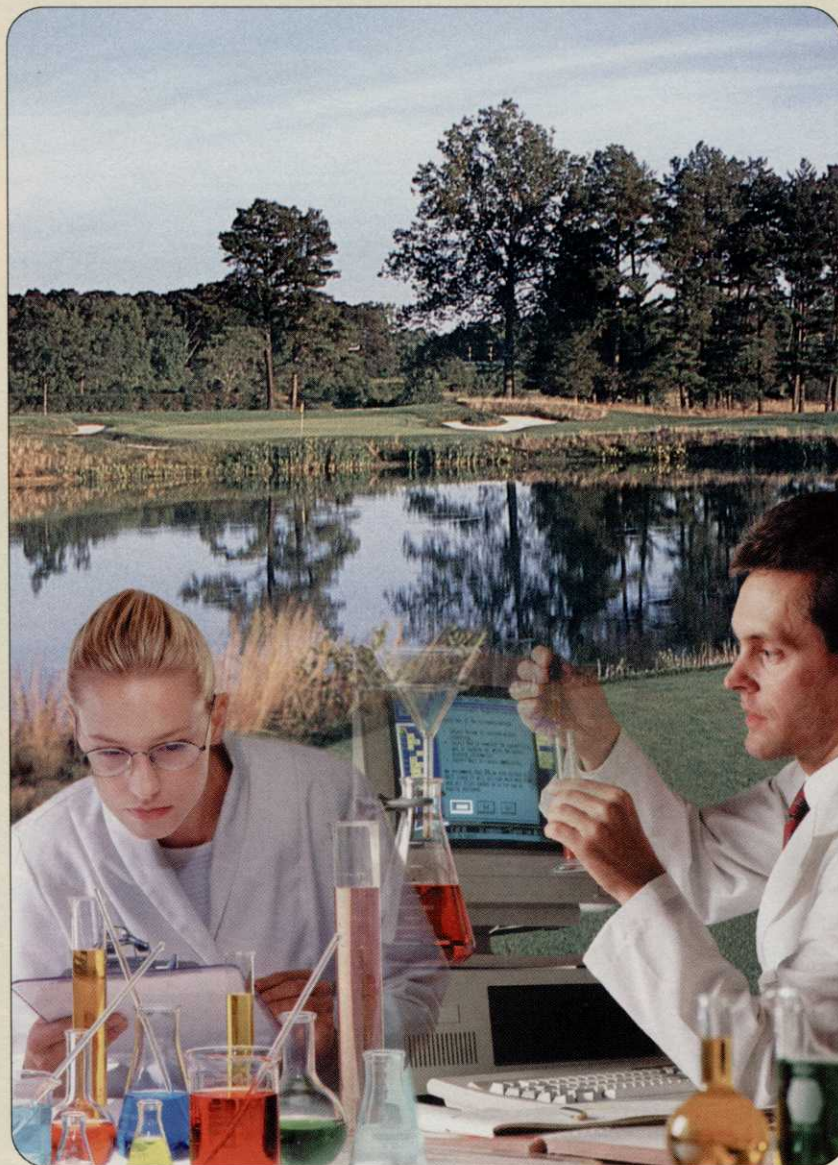




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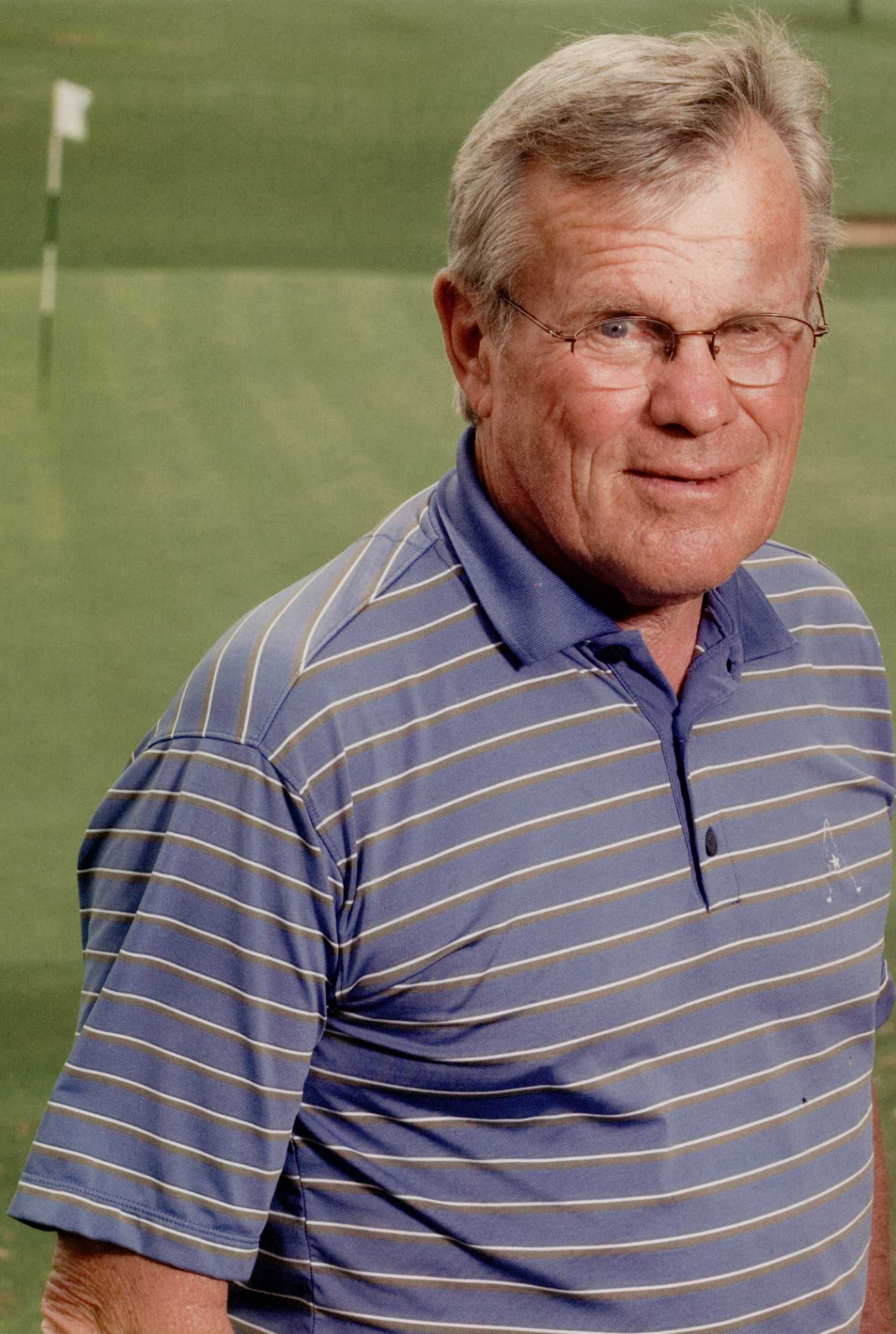
Beechtree Golf Club, Aberdeen, Maryland – Hole #2, Par 3



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BY PAT JONES

# THE GRASS WHISPERER

COMMON SENSE SEEMS TO BE AN ONGOING  
THEME IN THE LIFE AND CAREER OF A  
RETIRED SUPERINTENDENT

As a teenager, Doug Petersan had the common sense to realize life on a farm in rural Nebraska was a helluva lot of work. He went off to school at the University of Nebraska – long before they had a turf program – to study business. After his freshman year in 1960, he came home and knew he wanted something different.

“I wasn’t going to go back to the farm and throw hay bales all summer,” Petersan says.

So, at his sister’s suggestion, he got a job at a local golf course that paid \$1 an hour. By the end of the summer, he was the assistant superintendent, earning the lordly sum of \$1.75 an hour. The farm was officially in his rear-view mirror.

Even though majored in business at Nebraska, he stuck with golf. Pioneer Golf Course, one of the municipal courses in the Lincoln area, had a terrible winter and hired him as the superintendent.

“They had no grass but did 60,000 rounds a year,” Petersan says. “This was before preemergents and overseeding equipment, so I took an old aerifier and a disc (cultivator) out on the fairways just to get some seed/soil contact. It was common sense to me, but by the end of the first day, they had the mayor and the city council out to see what this crazy kid was doing.”

The crazy kid’s plan worked, and he stayed at Pioneer for four years.

From there, he kept moving up the ladder with a stint at Wedgewood Golf Course in Plainfield, Ill. (where he learned much from legendary course builder Brent Wadsworth, who lived nearby). Then, it was back to Nebraska at Fremont Golf Club, where he spent seven years and shook things up once again.

“That was one of the most significant times of my career,” he says. “We started topdressing greens with sand in

maybe ’76. That was, at the time, pretty radical. I read about it somewhere and saw it done in California. I was always looking for a way to provide a smooth putting surface without doing crazy things.”

In 1980, Petersan moved to the fabled Prairie Dunes Golf Club in Hutchinson, Kan. The course, a Perry Maxwell classic design, rates high among the best kept secrets in American golf. It’s a gem featuring links-style gorse, sand and tight fairways laid across the stark western Kansas landscape.

“We had dunes full of sand, so we did a lot of topdressing,” he says. “It drove the members crazy, so they started calling me ‘Doug Peter-sand.’”

During his 12 years at Prairie Dunes, Petersan hosted four USGA championships (two Women’s Amateurs, a Mid-Am and the Curtis Cup) and began to gain a national reputation for his minimalist, environmentally friendly practices. He also met and began to work a bit with architect Bill Coore and pro Ben Crenshaw.

In 1991, he took his skills to Baltimore Country Club, another classic where he worked with architect Brian Silva to restore the greens. But in 1999, he was lured to Texas by Coore and Crenshaw to build and manage the course at Austin Golf Club. He’s been ensconced happily there ever since. It’s also where he got his nickname.

“Our golf pro started calling me the ‘Grass Whisperer’ after I started here at Austin, so I used it as the name of my column in the club newsletter,” he says. “I kind of adapted it for the name of my consulting business as well.”

Now, after almost 50 years of bringing a common-sense vision to a succession of great golf courses, he has “retired” as a superintendent. He might be the Grass Whisperer, but he speaks loud and clear on his career,





Even though Doug Petersan isn't a superintendent any more, he still spends a lot of time on the golf course because of his and his wife's consulting company.

consulting, working with Coore and Crenshaw, and the challenges facing the industry in the future.

#### **WHY DID YOU RETIRE?**

I didn't retire so much, rather I changed my position in life. I'm no longer a superintendent, but my wife and I formed a company, and I have a consulting contract with Austin Golf Club. So, I'm still at the course a lot, but I'm essentially self-employed. We have a really good friend down here who's a financial planner, and he suggested we could do this, still keep active and defer some income to later in life.

I've also been doing some outside consulting

around Texas, including working with Nutramax Laboratories, a biostimulant company, and working with a few other courses throughout the country. I love to look at other courses, especially great golf courses.

#### **ISN'T "CONSULTANT" A DIRTY WORD FOR SOME OF YOUR PEERS?**

It can be. Consultants have brought some of that on themselves. I like to help people if I can. The last thing I want to be is one of those "job killer" consultants you hear about.

#### **ARE YOU ENJOYING THE BENEFITS OF THE PRIVATE SIDE OR JUST WORKING HARDER**

#### **IN A DIFFERENT WAY?**

I haven't changed my routine much. I try to go to church more often on Sunday now, but otherwise the schedule's about the same, and I'm at the course just about as much. I'm actually a member at Austin Golf Club, and we're building a house out here, so I enjoy being here, obviously. My wife also works at the golf course. She's been my administrative assistant for years. Her mission in life is to keep me out of the office. She handles all the details so I can spend more time on the course.

#### **TYPICALLY, WHAT ARE YOU TRYING TO HELP YOUR CLIENTS WITH?**

I look at this business in a different light. The hardest part of being a superintendent is the blending of good agronomic practices and good playing conditions. Push either envelope too far either way, and it doesn't work well. If there's one mistake I see as I visit different courses is that people push the envelope too far to make a manager or a green committee happy. They water too much or double- or triple-cut. They overcompensate, and it becomes a big see-saw. It doesn't work well. I'm fortunate here at Austin Golf Club because the last thing we judge something by is what color it is.

I developed my philosophy of working with people from my mother. She was a school teacher for 45 years, and she used to come home frustrated and say, "I don't care if I teach these kids anything if I can teach them how to think." That's what I try to do with my staff and even the courses I work with.

#### **WHAT MISCONCEPTIONS DO SUPERINTENDENTS HAVE ABOUT SALESPeople?**

I'm working with Nutramax, but it's not as much in sales as trying to spread the word about the technical aspects of the product. I'm a resource for superintendents and distributors. I spend time with them and answer questions. Nutramax is one of the tools I've used for a long time, so I'm comfortable working with them.

My philosophy always has been not to use a lot of nitrogen fertilizer – less than two pounds per thousand square feet on bentgrass greens for a 12-month season at Austin – or irrigation. I always try to use soil tests to determine what is needed for nutrients. We're not trying to influence color, just turf quality and playability.



One of the things that helped me, starting at Baltimore County Club, is that products like Nutramax help you out by enhancing leaf tissue. That carried over here. We rarely double-cut – maybe three or four times per year – but we'll have healthy bentgrass greens that roll at 11 all summer long.

#### **WHAT SHOULD PEOPLE KNOW ABOUT PRAIRIE DUNES THEY PROBABLY DON'T?**

How great of a course it is. Perry Maxwell did the first nine. For years, it was known as the best nine-hole course in the country. They opened a second nine in the early '60s. It's a small-town club. Hutchinson's population is only about 40,000. It was a secret paradise for years.

#### **YOU WERE IDENTIFIED EARLY ON AS AN ENVIRONMENTAL SUPERINTENDENT. DO YOU AGREE WITH THAT CHARACTERIZATION?**

I've absolutely tried to be one. Tom Athy, who's now the superintendent at Omaha Country Club, was one of my assistants years ago. He called a while back and reminded me of what I always told him: If you don't know what it is, don't spray it, aerify it. I've always tried to do things culturally – anything I could do to make the plant healthier. Plus, I've been fortunate to be at clubs that allowed me to do it. It's easy to put band-aids on stuff, but you don't want to put a band-aid on a broken arm. It's common sense.

#### **WHAT OTHER COMMON-SENSE ADVICE DO YOU HAVE FOR YOUR COLLEAGUES?**

One thing I've done for a long time is maintain a nursery and experiment with different things. We were the first club in this part of Texas to go with zoysiagrass fairways and bentgrass greens. I had no preconceived notions. We had to sprig the zoysiagrass because there wasn't enough of that sod in the world. I was told repeatedly I couldn't do it. We did have some problems – it was a hundred degrees, after all. But, as far as I'm concerned, it's the finest playing surface you can get with the least maintenance and inputs. I always push the envelope a little further than most people do. Grass is pretty self-sufficient if you let it be. If you dump things on it, you'll kill it faster than letting be healthy. You have to keep watching it and try different things. If I've learned anything throughout the years, it's been patience.

#### **WHAT DID YOU TRY TO TEACH THE YOUNG FOLKS WHO YOU'VE MENTORED WHO ARE NOW LEADERS IN THE BUSINESS?**

One thing I've never done is try to push my ideas on young people. I try to give them the big picture and let them figure it out. If you send a guy out and tell them exactly what to do, he'll do it. But, if you tell them what you want done and let them figure it out, they'll learn more. Many people are good at doing a specific job but don't know what the mission is. They won't be as successful on their own unless you challenge them to solve problems themselves.

#### **HOW DID YOU HOOK UP WITH CRENSHAW AND COORE?**

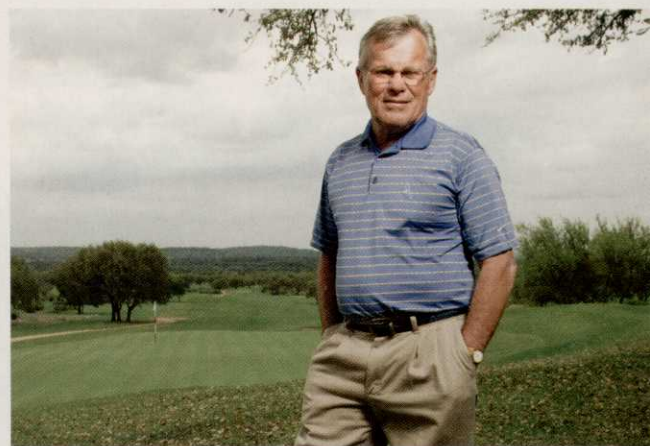
I'd used Bill Coore as a consulting architect at Prairie Dunes. I liked to run ideas by him because he has a great eye. He and Ben already were talking about getting together. In 1987, Bill helped me redo the first and second holes at Prairie Dunes to get surface water off greens. Ben visited when we did that job, and they started working together after that. Since then, I've been involved with many of their projects throughout the country. They appreciate how I try to do things, and I appreciate their philosophy about golf course architecture.

Later on, I was working with Dick Youngscap at Firethorn Golf Club in Lincoln, Neb. I spent one day a month with him. He wanted to do this project in the middle of nowhere in the Sand Hills of Nebraska. I told him, "Hell, Dick, there's no people out there!" But, he stuck with it, and it evolved. He asked me who I'd hire to do the (design) job, and I immediately said Crenshaw and Coore. That's how Sand Hills got going.

It really turned out to be a fantastic course. My assistant (Kyle Hegland) just left to go up there to be the superintendent. He'll do a great job up there for them. He's so passionate about this business it's incredible.

#### **WHAT SHOULD READERS KNOW ABOUT BEN CRENSHAW THEY MIGHT NOT BE AWARE OF?**

He makes it a point to learn what we go through daily to maintain golf courses. He understands grass doesn't have to be green to be a good surface. He was out of town a couple of weeks one time we'd had some rain. He got back to the course and said, "Doug, it turned green on us! That's just awful!"



#### **HOW DO YOU SEE THE FUTURE OF THE BUSINESS AND PROFESSION CHANGING DURING THE NEXT 20 YEARS?**

The energy crunch is big right now but, 20 years from now, water will be the issue. T. Boone Pickens made a zillion dollars in the oil business. Know what he's doing now? Buying up water rights.

You better learn to live with less water. We've never used more than 50 million gallons on 75 acres. That's about 24 inches of irrigation for the season. Our annual rainfall is only 30 inches, which usually comes in a few big falls. We keep it dry and typically water greens once a week. And they're pretty healthy. They have a good root system.

We need to teach people that green isn't always good. I'm so fortunate because Ben is my leader down here, and he completely agrees with that concept.

#### **WHAT'S THE BIGGEST THING YOU'VE LEARNED THROUGHOUT THE YEARS?**

The main lesson I would pass along is enjoy what you do. If you don't, do something else. If you enjoy this business, it's absolutely the best line of work in the world. There's nothing like being out there on the course by yourself in the morning. It's the closest thing you can get to heaven on earth.

#### **DO YOU REALLY TALK TO THE GRASS?**

No, but sometimes if you listen real close, it'll talk to you. GCI

*Doug Petersen can be reached at 512-264-9366 or [dwpeter@gmail.com](mailto:dwpeter@gmail.com).*









# the grub guide

If Grubs are your problem,  
Bayer has a Solution.



Bayer Environmental Science





## Grub

Grubs are the larvae of a group of beetles called scarabs (*Scarabaeidae*). Creamy white in color, they have a dark hind end, brown head and six well-developed legs. Depending on their age and species, grubs range in length from 1/4 to 2 inches.

### The Damage

Grubs feed on and destroy the root systems of grasses and other plants. If left untreated, you'll face not only an aesthetically unpleasing course, but a problem that can get a lot worse. Each year, grub damage requires golf course superintendents to spend hundreds of thousands of dollars in seed or sod replacement.

### The damage above-ground...

Look for irregular sections of brown or grey-green drought-like turf that don't appear better after watering or rainfall. Grub-infested turf may also feel spongy underfoot and damaged areas will peel away easily, like rolling up a carpet.

### ... But the real damage is found below-ground

In the past, sampling was the best way to assess grub damage and it is easy to do. First, map out the course and take samples from a depth of 4-6 inches in various locations. Remove a sample of soil and grass and determine the number of grubs per square foot from this sample. A square-foot population of 5 or more means you have a problem.

### When the damage typically occurs

Grubs thrive in moist soil, so damage may not be noticeable in the wet spring and fall months, when turf grasses grow quickly and their roots can recover quickly from grub attacks. But in drier summer months, root systems are easily compromised by lack of water, and increasing stress on the turf. This makes grub damage easy to recognize.





### Where grubs go, these other pests follow

Skunks, opossums, raccoons, moles and birds find grubs particularly appetizing. The digging they do to reach the grubs may cause additional damage to a golf course, creating more serious problems – and expense.

## The Bayer Solution to Grubs

As a golf course superintendent, you're the first line of defense against grubs. Only Bayer gives you a complete set of options – Merit® insecticide, Allectus® insecticide and Dylox® insecticide – that helps you provide the most effective grub control available today, for all types of grubs in every stage of their development. These are the standards against which all other grub control products are measured. Bayer invented the total grub solution and it has revolutionized the golf care industry.

No matter the severity of your grub problems, the season or even the region of the country you're in, relax. Bayer – and only Bayer – has the products you need to keep your course beautiful and green. Ensuring a grub-free, playable course that will keep your players happy.

## The Industry's Most Effective Grub Control Products

Merit® – Revolutionizing grub control as the most effective, longest-lasting broad-spectrum grub control product available. Period.

Allectus® – The best broad-spectrum residual insecticide used to control virtually every turf pest both above and below the ground.

Dylox® – The #1 curative grub control product offering reliable and consistent control of large grubs, *fast*. Great for early season and late season clean-up.



Grubs





**MERIT®**

### The Science of Merit® Insecticide

Merit insecticide interferes with nerve impulses and disrupts insect behavior. They stop feeding, stop reproducing and eventually die.

### Why It's Better Than The Competition

- Premium prevention for targeting and controlling 1st and 2nd instar grubs
- 12 years of real world, proven performance
- Usage rates up to 96% lower than many registered soil insecticides
- Greater than 97% efficacy on major grub species

### The Grubs That Hate Us

- White grubs, including these larvae: Japanese beetle, black turfgrass atenius, Northern masked chafer, Southern masked chafer, European chafer, Oriental beetle, May and June beetles, billbug larvae

### Pick Your Formulation & Pack Size

- Wettable powder (Merit 75 WP, 8 x 2oz. bottles)
- Flowable (Merit 2F, 12 x 240ml. bottles); also available in 4 x 1 gallon
- Water Soluble Packs (Merit 75 WSP, 4 x 4 x 1.6oz.); also available in 88 x 1.6oz mini drum
- Granular (Merit 0.5 G, 30lb. bags)
- Merit + Fertilizer: Rates and formulations vary

### Application Rate Guidelines

Formulation	Use Rate
Merit 0.5G	60 – 80 lbs. per acre or 1.4 – 1.8 lbs. per 1000 ft <sup>2</sup>
Merit 2F	1.25 – 1.6 pints per acre or 0.46 – 0.6 fl. oz (14 – 17 mL) per 1000 ft <sup>2</sup>
Merit 75 WSP/WP	6.4 – 8.6 oz per acre or 3 – 4 level teaspoons per 1000 ft <sup>2</sup>
Merit 0.2 Fertilizer	Typically applied at 150 lbs. per acre

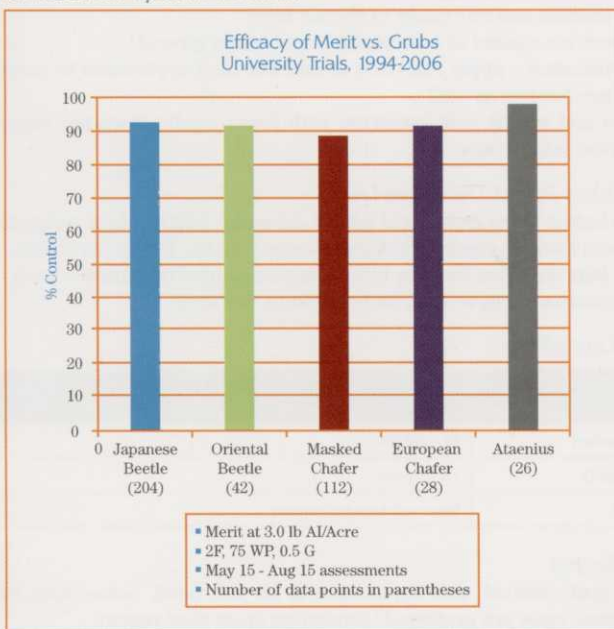




## When to Apply Merit

As adult beetle emergence occurs (followed by mating and egg laying), you should apply Merit from late May through early August, just before or after egg lay and through the presence of early instar. For more information about recommended application times in your region, please review the Merit product label.

## The Research Speaks for Itself



# Merit®







## allectus®

### The Science of Allectus® Insecticide

Allectus insecticide combines the two most powerful insecticides in the turf and ornamental markets. Together, their modes of action provide unprecedented levels of control over damaging turf pests.

### Why It's Better Than The Competition

- Premium prevention for targeting and controlling early instar grubs
- Wide treatment window and rate range to choose from
- The broadest-spectrum control of insects above and below ground
- Flexibility in application – apply just once or add a second application to control late season surface feeders as well
- Superior control and widest pest spectrum with fewer applications per season, which means lower labor costs

### The Grubs (and Other Pests) That Hate Us

- White grubs, including these larvae and adults: Japanese beetle, black turfgrass ataenius, Northern masked chafer, Southern masked chafer, European chafer, Oriental beetle, May and June beetles, billbug larvae, annual bluegrass weevil, chinch bugs, cutworms, armyworms, mole crickets, fire ants

### Application Rate Guidelines

Formulation	Use Rate (per acre)
Allectus GC G (granular)	50 – 250 lbs.
Allectus GC SC (liquid)	1.8 – 9 pints
Allectus + fertilizer	Rates and fomulations vary.

### When to Apply Allectus

For outstanding grub control, one application is all you need. Sometimes, two applications at lower rates are preferred, depending upon your region:

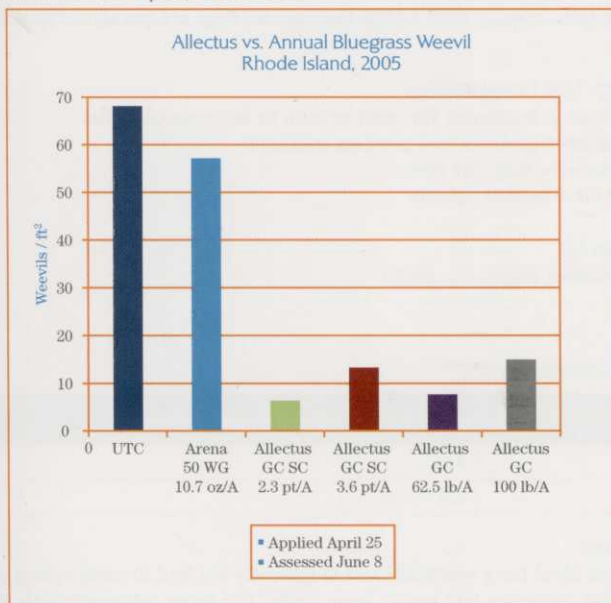
- In the Northeast and Midwest: One application in May and a second application in June
- In the Southeast and Southcentral: One application in April and a second application in July
- In the West: One application in May and a second application in July

For more information about the recommended application times in your specific region, please review the Allectus product labels.





## The Research Speaks for Itself



# Allectus®







## Dylox®

### The Science of Dylox® Insecticide

When grubs come into contact with Dylox insecticide, they are paralyzed quickly and killed fast.

### Why It's Better Than The Competition

- Fast control – a rescue treatment for early season or late-season grubs
- Most effective curative grub control product available
- Effective on surface-feeding turf pests
- Controls pests then degrades quickly

### The Pests That Hate Us

- White grubs (including sugarcane grub)
- Cutworms
- Chinch bugs

### Application Rate Guidelines

Formulation	Use Rate (per 1000 ft <sup>2</sup> )
Dylox 6.2 GR	3 lbs.
Dylox 80 T&O	2.25 – 3.5 oz

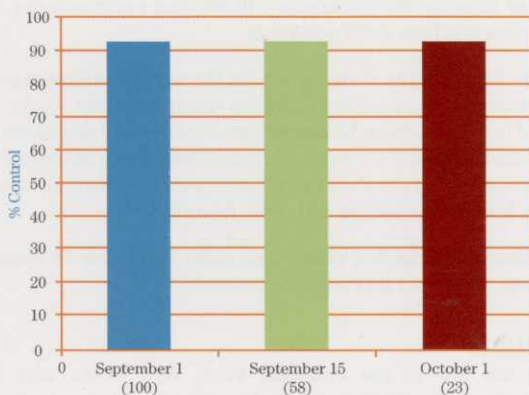
### When to Apply Dylox

Fast-acting Dylox is ideal for a quick kill and is typically applied in early spring or late summer and fall, targeting late instar, large grubs. For more information about the recommended application times in your specific region, please review the Dylox product labels.



## The Research Speaks for Itself

Efficacy of Dylox vs. Grubs, Timing of Application  
University Trials, 1988 - 2006



- Dylox 6.2 G and 80 T&O
- 6 - 8 lb AI/A
- Japanese beetle, masked chafer, Oriental beetle, European chafer
- Number of data points in parentheses

Dylox®







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We call it the "Science of Healthy Environments". Improving environments everywhere is our goal. And science is how we'll achieve it.

Science, in fact, has always driven Bayer. Today, as one of the world's leaders in product development, we have state-of-the-art testing facilities throughout the world. Here, we evaluate the efficacy of our products and formulations in real-world situations. Only after we measure our products' impact on those environments do we determine their ultimate end use. This allows us to go beyond merely eliminating pests and disease to helping create turf that is better functioning and more beautiful.

The Science of Healthy Environments. It's what helps make Bayer the #1 brand golf course superintendents use to protect turf and ornamentals.

## Other Bayer Products

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We invite you to examine our full line of products, available through our network of Bayer authorized distributors. For more information about our products, please visit us at [www.BackedbyBayer.com](http://www.BackedbyBayer.com) or speak with your Bayer Field Sales Representative.





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Superior-Angran  
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The Greenkeeper Company  
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# FLYING above the rest

HOW SOME GOLF FACILITIES PERFORM BETTER THAN MARKET AVERAGES

Rounds at Wildcat Golf Club have increased from less than 50,000 in 2002 to 60,661 in 2006. Photo: Wildcat Golf Club

**W**ith rounds growth flat the past few years, many golf facilities are struggling to increase rounds and boost the bottom line. With all of the well-documented challenges facing the industry, it's not easy. However, implementing creative, aggressive marketing; undertaking smart course renovations; and generating new dues revenue can help operators improve their businesses. Those strategies have worked well for three facilities trying to rise above the stagnant growth.

#### THE CONDITION YOU'RE IN

The National Golf Foundation defines this stagnant growth more clearly. Rounds played nationally were 502.4 million in 2002, 495 million in 2003, 499.7 million in 2004, 499.6 million in 2005 and 501.3 million in 2006.



BY JOHN WALSH

But despite the flat market nationally, the Wildcat Golf Club in Houston is one facility that's experienced significant growth recently. Elmer Stephens manages the 36-hole, public facility, and Lou Gonda, from Beverly Hills, Calif., owns the club, as he has from day one. The club, which was built on an old BFI landfill that was capped 30 years ago, opened in December 2000. Stephens is principal of ES Partners, which has been managing the property since 2002. Wildcat is the only golf property ES Partners manages.

Last year, the Houston Chronicle ranked Wildcat as one of the top five best daily-fee courses in the Houston area. Green fees, which have increased steadily, are \$57 during the week and \$70 during the weekend.

And competition is stiff in Houston. There are about 80 daily-fee courses in the greater Houston market, Stephens says.

"It's one of the most competitive markets in the U.S.," he says. "The market as a whole is struggling. There are courses that had green fees in the \$65 to \$100 range that are now down to \$29 including lunch during the week. Many courses have been taken over by large management companies, and the larger operators are hurting other courses in the area."

Fixed costs, such as insurance, fuel, fertilizer and PVC pipe, keep rising every year, Stephens says, making it more difficult to increase the bottom line.

"I only know of a handful of operators making money in this city with a daily-fee course," he says. "It's hard for owners/operators to meet debt service."

In Venice, Fla., competition is stiff, too. January through March is the busy season in Venice, a small town in Sarasota County, which has about 65 golf courses.

"There are lots of different golf courses to choose from," says Rob McCoy, director of club operations at the 18-hole, semiprivate Capri Isles Golf Club. "In the immediate market, there are eight golf courses to choose from for public play in addition to the two other courses we own in the area."

The club generated between 46,000 and 47,000 rounds in 2002. In 2003, the course was closed for 8.5 months for a renovation. It generated 49,800 rounds in 2004, 52,000 in 2005 and 58,000 in 2006. This year, the club also hopes to generate 58,000 rounds but was down 500 rounds during the first two months of the year mainly because of poor weather during February.

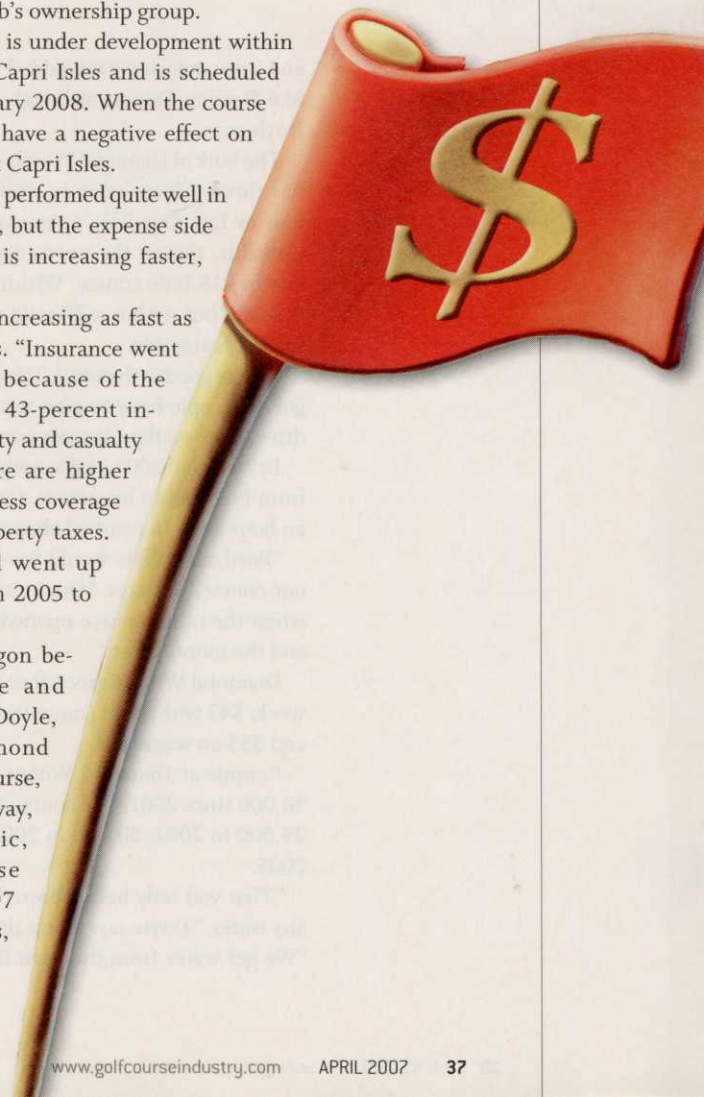
"There were a couple of golf courses that closed, and that had something to do with the increase of rounds over the past three years," says McCoy, who is part of the club's ownership group.

A new course is under development within 20 minutes of Capri Isles and is scheduled to open in January 2008. When the course opens, it might have a negative effect on rounds played at Capri Isles.

Capri Isles has performed quite well in terms of rounds, but the expense side of the business is increasing faster, McCoy says.

"Profit isn't increasing as fast as rounds," he says. "Insurance went off the charts because of the hurricanes – a 43-percent increase of property and casualty insurance. There are higher premiums and less coverage and higher property taxes. The utility bill went up 28 percent from 2005 to 2006."

In rural Oregon between Eugene and Corvallis, Jeff Doyle, owner of Diamond Woods Golf Course, is making headway, too. The public, 18-hole course opened in 1997 with nine holes,







and a second nine were added in 1998. The course isn't upscale like Bandon Dunes, although it's a championship golf course, Doyle says.

The bulk of Diamond Woods' golfers come from Eugene, which has three private courses, two 18-hole regulation courses and four or five nine-hole or executive-type courses, Doyle says. In Corvallis, there's the university course, a nine-hole course and another 18-hole course. Within a 10-minute radius, the market is small, but within a 20-mile radius – a 30 minute drive – the market is sizeable.

"We're good with events," Doyle says. "We won't get the impulse golfer. People have to plan to come to our course because it's a drive. The weather dictates our tee sheet."

In 2002 and 2003, Doyle noticed the number of golfers traveling from Portland to his course declined once a new course opened an hour away in nearby Lebanon.

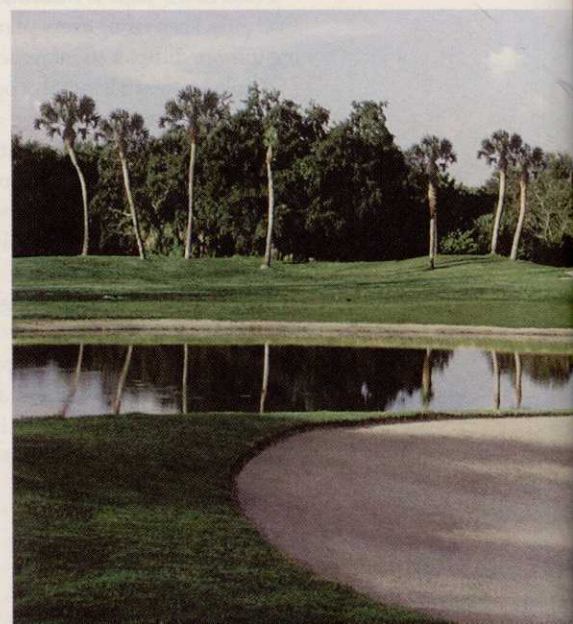
"Portland golfers would have to drive by that course to get to our course," he says. "Our rounds were increasing nicely, then, when the other course opened, I noticed a decline that month and the month after."

Diamond Woods' green fees are \$39 without a cart during the week, \$47 with a cart (more than half of golfers there take a cart) and \$53 on weekends.

Rounds at Diamond Woods have remained steady – around 30,000 since 2001. The course generated 29,900 rounds in 2001, 29,600 in 2002, 30,600 in 2003, 32,400 in 2004 and 28,800 in 2005.

"That was only because we thought we weren't going to have any water," Doyle says about the low number of rounds in 2005. "We get water from the Fern Ridge Dam. The government was

In addition to spending \$3 million on a renovation in 2003, management of Capri Isles hired a full-time marketing director to promote the club. Both have contributed to the club's success. Photo: Capri Isles Golf Club







Management of Wildcat Golf Club spent hundreds of thousands of dollars to improve turf conditions, native areas and the driving range, which has helped increase rounds at the club. Photo: Wildcat Golf Club

working on it, and they told us we wouldn't have any water for a while. So, we didn't market the course because we didn't know if we would be green."

Despite flat rounds, Diamond Woods' revenue has been increasing 5 percent each year since it opened except for 2005. 2004 was the odd year in which everyone did well because the weather was great, Doyle says. Revenue-wise, 2006 was almost identical to 2004, and so far this year Doyle says he's ahead of last year. Spring is the wild card, however, because the weather is unpredictable then, unlike during the summer.

#### A GOOD INVESTMENT

In competitive markets, some facilities increase rounds or revenue by getting a makeover. Capri Isles in Florida is one of those. The club opened in 1972 and by 2002 needed to be upgraded and modernized. In 2003, the club spent \$3 million to completely renovate the whole physical plant.

"We were losing members and public play before the renovations," McCoy says. "We heard the chatter locally that we were on a downward trend."

Renovations also played a significant role at Wildcat Golf Club in Houston. However, its road to success hasn't been easy.

"When I took over from the other management company in 2002, the course was losing about \$1.4 million a year," Stephens says. "But last year, we had a positive (earnings before interest, taxes, depreciation and amortization)."

Course management has stepped up and spent money to make needed improvements and renovations since the course opened, which has helped increase rounds steadily. In 2002, the course generated less than

50,000 rounds. But since, it generated 52,208 rounds in 2003, 57,934 in 2004, 60,740 in 2005 and 60,661 in 2006. In 2007, Stephens is projecting the course to generate 63,000 rounds.

"We had the best February and March since 2002," Stephens says. "If the weather holds up, we'll exceed our EBITDA target."

The ownership group is committed to quality, and that contributes to success, Stephens says.

"We improved the course conditions," he says. "We had to spend hundreds of thousands of dollars on turf conditions, native areas and the driving range. The course has 60- to 80-foot elevations, and on some holes, you have a panoramic view of downtown and can hear the roar of the crowd at Reliant Stadium."

"We also spent money to improve the clubhouse, increase the size of the event room and expand the bar and grill," he adds. "We have sports memorabilia golfers can buy. We have a fun atmosphere in which golfers can watch sports after golf."

Renovations are part of the recipe for success at Diamonds Woods as well. The course opened on a shoestring budget, so Doyle has been making improvements since. Doyle's brother, who is in the golf business, talked him into building a course after playing professional baseball for 10 years. So, Doyle convinced his family and friends to help.





"It's nice to open with a course exactly the way you want it," he says. "But ours wasn't. But we did spend money in the right places. We have the best irrigation system, and the layout was nice, but the course conditions were rough. The clubhouse was

small when we opened, but as we succeeded, we improved the facility. We cleared areas off the fairways, paved the parking lot, added on to the clubhouse (it was 750 square feet, now it's 4,000 square feet), and improved the area in between

the range and the clubhouse. Golfers didn't give up on us."

Doyle also invested \$175,000 into GPS on carts in 2003, covered the range and landscaped it, added tees to serve more female golfers and paved the cart paths.

"This is my first run in the golf business," he says. "We're keeping it fresh, making changes and improvements."

#### SELL YOURSELF

Even though 2005 to 2006 was flat for Wildcat, revenue increased because on-site management has done a tremendous job of branding the property, Stephens says. The course is close to downtown Houston so the club tapped into partnerships with hotels, restaurants, taxi cab companies, the convention center, the corporate market and dining-only clubs. And Stephens increased the number of tournaments Wildcat hosts annually.

"For April and May of this year, we are booked every day during the week," he says. "Last year, the course generated 16,200 tournament rounds."

Wildcat is close to major stadiums so the club struck deals with the city's professional sports teams in which Wildcat became the home course to all the teams.

"We have exclusive arrangements with each team," Stephens says. "It has paid major dividends."

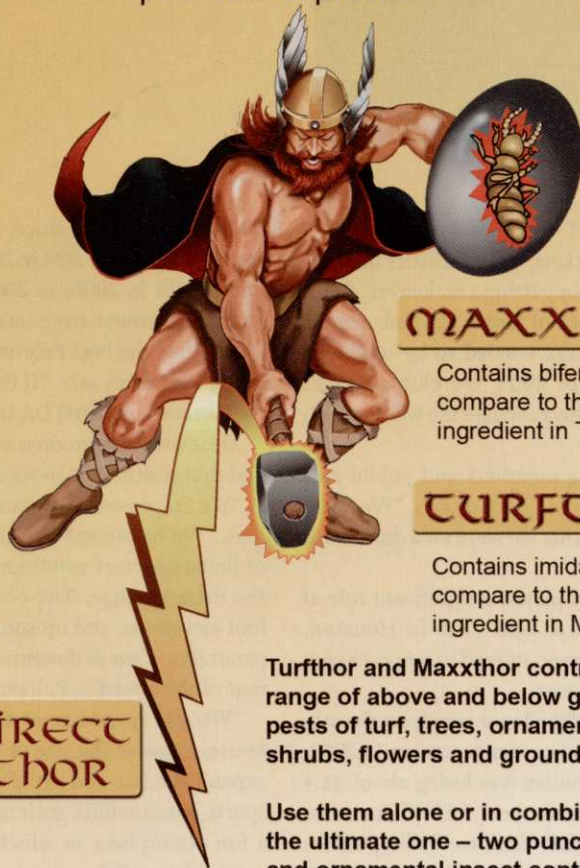
The sports-theme concept established in 2003 has grown considerably. The Wildcat clubhouse features memorabilia from all sports teams and

Rob McCoy is trying to increase league play and attract more charity tournaments to better business at Capri Isles. He says the key to success is figuring out how to get golfers to return to the course. Photo: Capri Isles Golf Club



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helps define the club's ambiance.

Gonda, the club's owner, understands the market and public relations, Stephens says.

"We've spent the money year after year," he says. "We hired a director of marketing. We also have a tournament director who deals with all tournament booking solicitations and contract negotiations.

"We needed to establish a premium brand and advanced that every year," he adds. "We're relentless with our public relations."

Each year, the club looks at what it wants to target. In the past it has targeted sports teams, ran an ad campaign locally on the Golf Channel, launched marketing campaigns to focus on the medical, legal, and oil and gas communities in the area. Stephens also has spent \$80,000 to \$100,000 each year on radio advertisements alone. Print ads, TV ads and grass-roots advertising are used as well.

Another focus of Wildcat's management is customer service. A database tracks customer preferences and purchasing habits. The club also offers valet parking, a car wash while customers play golf and high-end pro-shop merchandise.

"Last year, the pro shop was ranked in the top 100 in the U.S.," Stephens says. "It's like a high-end boutique shop. The average spend in the pro shop is \$10 or \$11 a round."

Other course improvements include a separate, state-of-the-art, indoor facility for the Matt Swanson golf school, which attracts students from all over the city.

Marketing is also key at Capri Isles in Florida.

In the past, McCoy tried to do the marketing in-house, doing things like buying ads in newspapers and on TV in different locations. He has hired a full-time marketing director who meets with the marketing professionals from the hotels

and the chamber of commerce and helps get the word out to consumers who hadn't heard of the club before.

"We have three months – January through

(continued on page 112)



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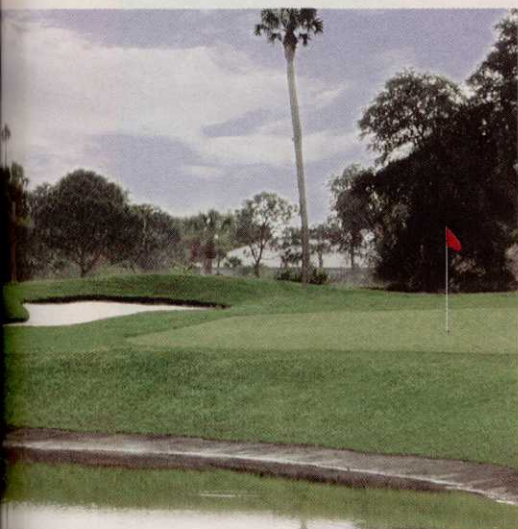


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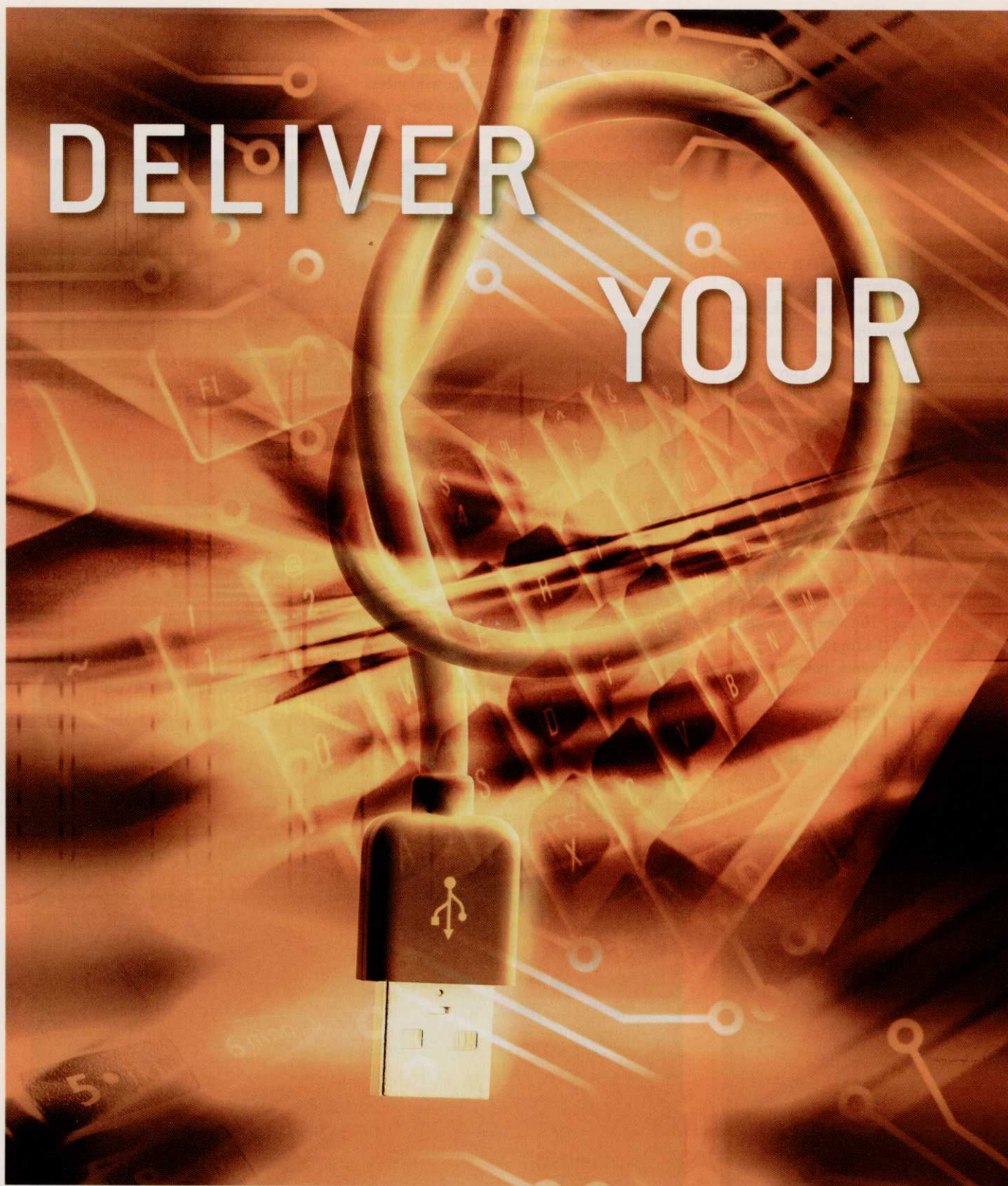
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# DELIVER YOUR





# MESSAGE

Verbal and nonverbal communication methods  
improve superintendents' relationships with golfers

BY JIM  
CONNOLLY

Every superintendent has heard it before in one seminar or another: Being able to communicate effectively to management, employees and golfers is a main key to success.

Communication is the process by which information is exchanged between individuals through a common system of symbols, signs or behavior. Communication also is used as a foundation to build relationships and share ideas. Communication techniques, including verbal and nonverbal methods, can be extremely complex and challenging. The fact that there are thousands of books and even entire colleges dedicated to communication is evidence that it's one of the most vital human interactions affecting people's lives, personally and professionally, in a dramatic way.

Communication and public relations continue to be a weakness of some golf course superintendents. Effective communication is required in every industry, and while all superintendents can't be "the Great Communicator" as Ronald Reagan often was called,

they can use some simple techniques that will help advance their careers and increase their job satisfaction.

Each day, thousands of golf courses are maintained by people whose lives depend on the 30 million people who play golf in the United States. The leading factor for golfer satisfaction is course conditioning, according to a Golf Digest survey of core golfers. Golf course superintendents have the leading role – more than course design or customer service – in providing customer satisfaction. In fact, the same study shows that most avid golfers would pay 25 percent more to play a better-conditioned golf course than a better-designed course. The leading causes of dissatisfaction among golfers are other golfers' behavior followed closely by poor course conditions.

All of this proves the importance of the role superintendents play in the economic success of golf courses.

It's common for people to be intimidated by direct verbal communication and public speaking. Fortunately, there's more than



**First Green is one way to demonstrate how golf courses benefit communities and how they can be used as environmental learning laboratories for students. First Green provides materials, literature and a video about introducing the program to students.**

**“It has been a great opportunity to present what a golf course really is, not what it’s often perceived to be.” - JEFF GULLIKSON**

one way for superintendents to communicate their ideas to members and golfers. Here are a few examples of how superintendents are using various communication methods to relay positive messages about golf courses and their conditions, as well as improve relationships with a local community and various golfers.

#### COMMUNITY OUTREACH

One way to communicate the positive role golf plays in the community is through outreach programs. The First Green Foundation is an example. First Green started in 1997 in Washington state as a way to connect school classrooms to golf courses. Jeff Gullikson, golf course superintendent at Spokane Country Club, led the initial development of the program. First Green of Washington is supported by more than 127 high school teachers and has introduced more than 8,000 students to the many facets of the golf course industry.

Using the golf course as a learning lab, students are introduced to agronomy, environmental science, clubhouse management and the game of golf. Using his experience, Gullikson created lesson plans that are used by teachers and students during field trips to golf courses. Lesson plans were developed for:

- Golf course operations;
- Golf and the environment;
- Water quality management;
- Plants and the environment; and
- Wildlife and habitat management.

Working with the schools and teachers has

been fun and rewarding for Gullikson.

“They bring the energy needed to educate, and we provide the materials for them to use,” he says. “It has been a great opportunity to present what a golf course really is, not what it’s often perceived to be.”

Gullikson believes superintendents have an obligation to their communities and profession. First Green is one way to demonstrate how golf courses benefit communities and how they can be used as environmental learning laboratories for students. First Green provides materials, literature and a video about introducing the program to students.

Bill Griffith, turf management instructor at Walla Walla Community College in Washington, has operated the turfgrass management program at Walla Walla for 11 years, and dozens of his graduated turf students have entered the industry. He believes everyone has an inner need to give and receive recognition. Understanding that philosophy leads to a better understanding of how to please golfers. So, improving communication with golfers starts with an introspective review of superintendents’ attitudes of golfers.

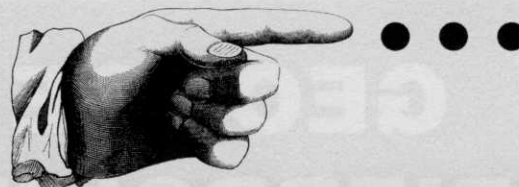
Griffith says superintendents develop views of golfers that might fall into one or more of the following categories:



Griffith



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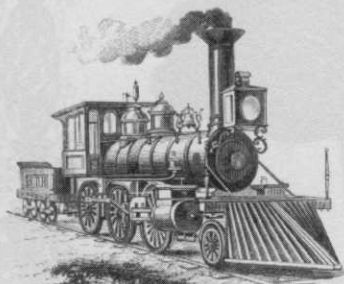
4 to 5 drums SurfSide (52-gal.) per season applied with spray tank - SurfSide pellets used for syringing hot spots - greens and tees aerified twice a year - needle tines 3 times yearly.

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- (3) Treatments are applied monthly starting in June (if a dry Spring) or by July on entire Golf Course. In dry weather, treatments are applied every 3 weeks.  
**SurfSide Pellets are used for syringing hot spots.**
- (4) Fertigation estimated at 1/4 lb./M of 18-3-6. This is applied weekly, 12 to 14 times a year through the irrigation system. Tank truck loads are delivered by **Plant Food Co.**

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• The customer is the whole reason why we exist as a maintenance organization. I'm looking for excited, enthusiastic golfers.

• The customer is important to the maintenance organization. I'm looking for satisfied golfers.

• The customer is a necessary evil that we, as a maintenance organization, must deal with. I simply want to coexist with the golfers.

• The customer is the enemy.

"Superintendents' attitudes about golfers will infiltrate their thinking and actions to the point where employees will adopt the same attitude," Griffith says. "It's important to honestly and sincerely adopt a policy in which you're looking for excited, enthusiastic golfers."

Griffith encourages students and superintendents to adopt innovative ideas for creating happy customers. Some are:

• Get to know your regular customers and their birthdays or anniversaries, and have one of the staff present them with a small gift to celebrate their special day.

• Hand out divot tools marked with the words "compliments of the maintenance staff."

• The staff always should present a positive and friendly demeanor to golfers.



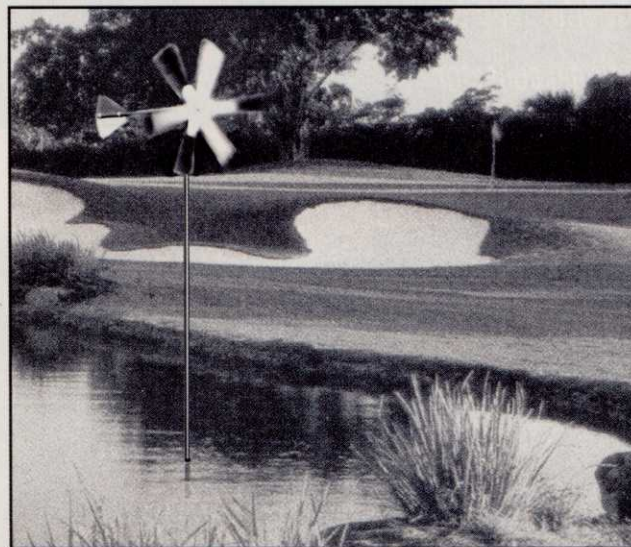
Gallardo

#### LIGHTEN UP

Humor is another way to communicate with golfers. Martin Gallardo, golf course superintendent at Sage Hills in Warden, Wash., has found the power of humor in his annual "Martin's Revenge" golf tournament. Sage Hills is a public golf course with a faithful group of regular members. The event has grown to be one of the most popular and enjoyable events at the golf course. As part of the three-day event, men play from the ladies' tees, and women play from men's tees. There also are a variety of other amusing alterations to the golf course, forcing golfers to hit shots they never have a chance to hit during the regular season.

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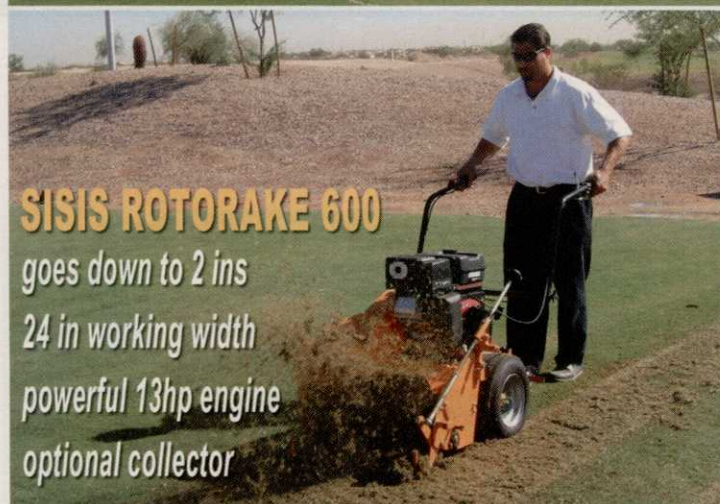




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## PROFESSIONAL DEVELOPMENT

Gallardo sets up the course in the fashion of Dante's Inferno with hole locations in the most diabolical locations. This year, Gallardo plans to put three flags on several greens with only one actual hole. The golfers won't know which flag to aim for until they are on the green. During the event, golfers also take delight in hanging a dummy of Gallardo from a tree near the clubhouse. It's all done in good fun, resulting in an improved relationship between the superintendent and golfers.

### USE A THIRD PARTY

Communication with golfers at resort golf facilities presents a unique and difficult challenge. Unlike private and public golf courses, resort courses might only have a few days of direct contact with the same golfer.

The Coeur d' Alene Resort Golf Course in Idaho is known as one of the best-conditioned courses in America, and golfers arrive with high expectations. This situation places a huge emphasis on nonverbal communication reflected almost entirely by course conditioning.

Many resort superintendents face the daunting task of maintaining excellent conditions every day. Resort courses rely heavily on word of mouth and do all they can to make the experience as pleasing as possible. The task of meeting the expectation of immaculate turfgrass at Coeur d' Alene falls to golf course superintendent Kevin Hicks.

"Knowing our clientele is where it starts," Hicks says. "The average handicap of our customer is 23. We focus on pace-of-play and strive for very true putting surfaces. Green speeds more than 10 feet would cause slow play and unhappy golfers."

Of all the staff members at the resort, the caddies have the most face-time with the golfers. They're with them for almost five hours, whereas the rest of the staff might talk to golfers for only a few minutes.

**"Green speeds more than 10 feet would cause slow play and unhappy golfers." - KEVIN HICKS**

Hicks uses this opportunity to communicate course conditions to the caddies, who park their cars at the maintenance area where Hicks has a chance to talk to them every day. Hicks is able to get his message to the golfers by discussing course maintenance objectives and practices with caddies and the staff during monthly meetings.

### OTHER RESOURCES

Poor communication can send the wrong message. As Mark Twain so aptly stated, "The difference between the right word and the almost right word is the difference between lightning and the lightning bug." But superintendents have a plethora of resources available to them to improve their communication skills and prevent poor communication. For example, the GCSAA published a manual, "Communication: the Cornerstone of Professional Relationships," that includes 36 tips about building successful professional relationships. The tips include:

- Playing golf with your employer;
- Hosting meetings at the maintenance facility;



- Keeping a photo journal;
  - Writing a letter to the club champion;
- and
- Publishing a monthly newsletter.

For many superintendents, communication skills don't come naturally. It takes work, study and practice to be a good communicator. Superintendents shouldn't be intimidated into thinking the only way to communicate is through public speaking or being a great orator. There are many ways to communicate through writing, informing others to spread the word and through innovative events that show the good-will of the maintenance staff.

Superintendents also can use communication tools provided by the GCSAA, USGA and other professional associations and educators. Additionally, there are educational seminars hosted by organizations such as Toastmasters, the GCSAA and community colleges.

Some superintendents have developed excel-

lent verbal and written communication skills and have no hesitation using their abilities. Others shy away from attempting any type of communication for fear of being embarrassed. The only way to overcome the fear of public interaction is to improve communication skills through education and experience.

If all of that sounds too difficult, superintendents should use others at their golf course to assist them. Golf professionals and club managers are trained to communicate effectively and can provide valuable assistance and advice.

Make it your goal to enlist them, as well as the aforementioned resources, in your quest to improve your communication to golfers, members and your community. Your future will be brighter for it. **GCI**

*Jim Connolly is president of JCC, Ltd. A former USGA agronomist, he's a consultant and can be reached at [jim@jccurf.com](mailto:jim@jccurf.com).*



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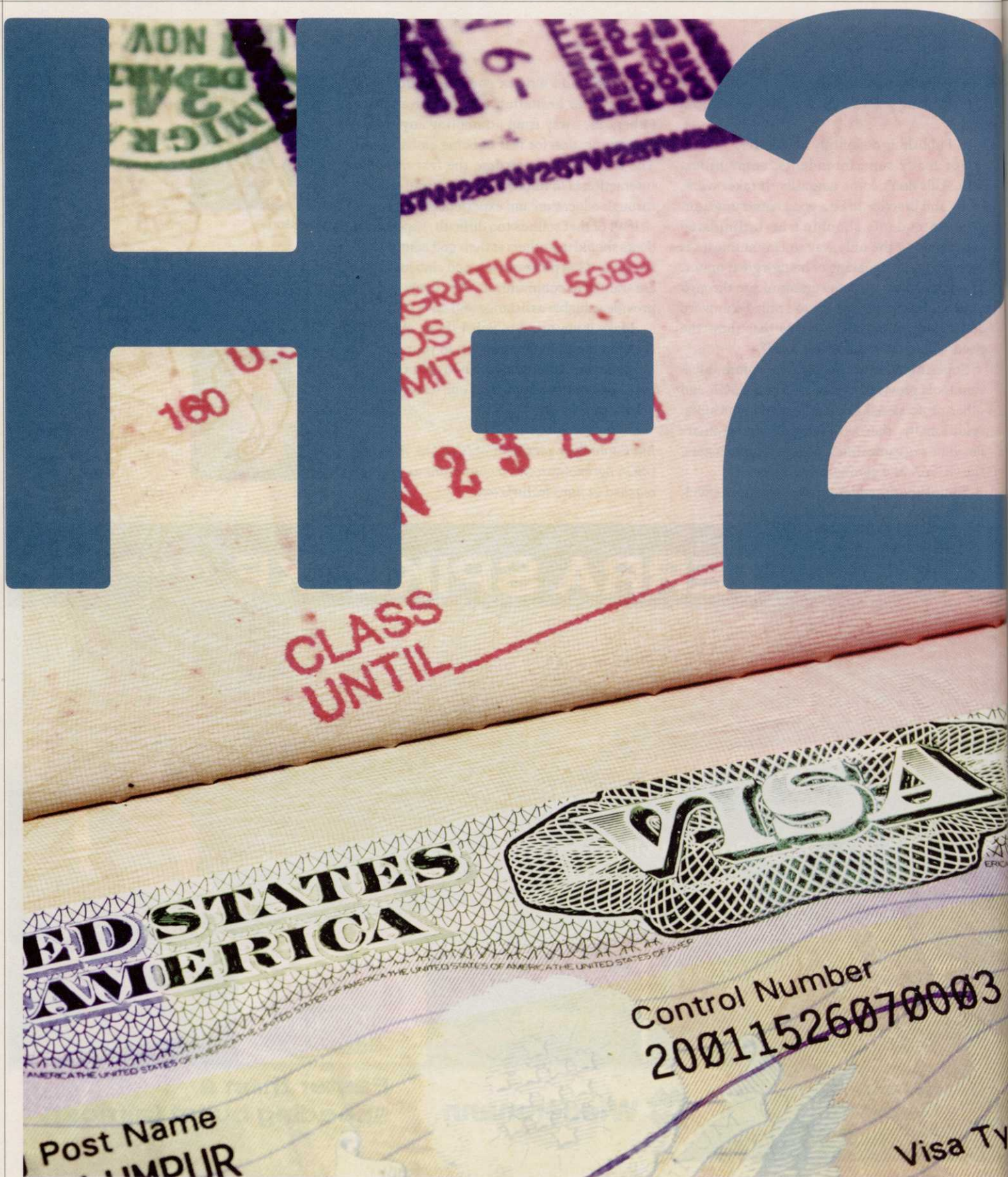
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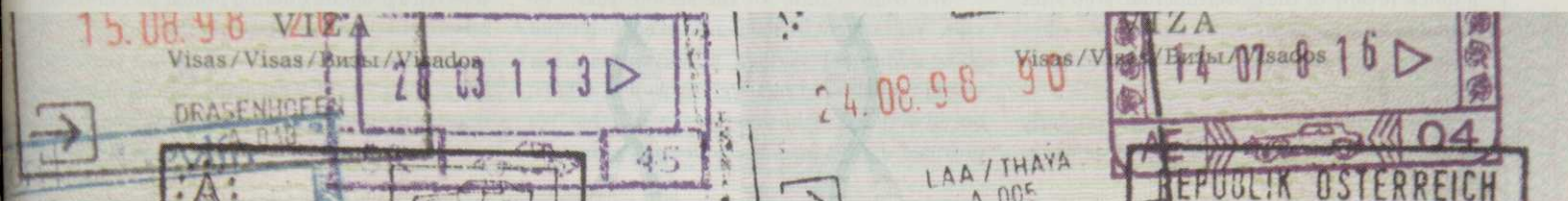
# B OR NOT H-2B?

THE SLINGS AND  
ARROWS OF  
GUEST-WORKER  
PROGRAMS CAN  
BE WORTH IT

Finding workers to fill important but low-skilled golf course maintenance positions is a problem, especially in remote areas and where other seasonal industries compete for workers in a limited labor pool. This problem will escalate as the U.S. population ages, birth rates decline and unemployment remains low.

The H-2B guest-worker program was established to provide relief for U.S. businesses that meet the qualifying criteria as stated by the U.S. Department of Labor: "The job and the employer's need must be one time, seasonal, peak load or intermittent; the job must be for less than one year; and there must be no qualified and willing U.S. workers available for the job."

Current legislation limits the number of guest workers permitted within the H-2B program to 66,000. A temporary provision exempts workers who are working in the







The Island in Plaquemine, La., provides housing for the guest workers it hires through the H-2B program. Photo: The Island

program already from counting toward that 66,000 cap. Immigration reform legislation is under consideration by Congress again, and the temporary, seasonal work force is part of the overall picture. Thus, labor and immigration are two of the GCSAA's priority issues.

"GCSAA belongs to the Essential Worker Immigration Coalition, joining with other association and industry groups to work with Congress to establish sensible comprehensive legislation that does no harm to U.S. workers, yet meets the work force needs of business while protecting our national security," says Carrie Riordan, director of information and public policy.

Although golf facilities throughout the U.S. use the H-2B program, the GCSAA doesn't know how many are using it or the locations of those courses. Information about the H-2B program is available in the members-only section of the association's Web site ([www.gcsaa.org](http://www.gcsaa.org)) addressing issues such as who's eligible, cost ranges and employer responsibilities.

Detailed information is available from the U.S. Department of Labor – Employment & Training Administration and the United States Citizenship and Immigration Services. A facility could undertake the H-2B process itself, but a quick review of the governmental Web sites explains why so many service providers offer assistance to those considering participating in the program.

It's a detailed process. The timing of properly filed paperwork is essential to requesting work-

ers. The suppliers provide advance notice of all the deadlines; the paperwork to be filled out, often with the details filled in and the places to sign marked; and the notification of what the employer is required to do once the workers are on site. The fees vary, based on the range of services provided.

#### CHOOSE WHAT TO USE

The first step is exploring the options. David McCallum, director of agronomy for The Island in Plaquemine, La., has used the H-2B program for five years. He started with a supplier in Texas but now is working with a local firm.

"The H-2B services can be handled effectively by phone, e-mail, fax and FedEx, so local sourcing isn't necessary," McCallum says. "I like the easy access and the advantage of using the same company for translation services. They've translated our entire employee manual into Spanish and conducted on-site seminars about policies and procedures for us."

Like most golf course superintendents using a service provider for H-2B, McCallum relied on the company to recruit the workers for the first year of the program. Six workers from the same area of Mexico were brought in.

"We wanted nine for the second year," he says. "We brought five back and asked their input about additional workers, understanding they would recommend relatives, as well as others, but all would have the same great work ethic. We provided those names and addresses to the sup-

plier to use on our application. We've followed the same procedure for recruiting since then."

The Island has brought in as many as 18 guest workers. The company name is listed on the workers' visas, and McCallum is listed as the supervisor.

"That limits their work to our facilities," McCallum says. "All paperwork identifies us as the employer and flows in and out of our offices. Our supplier is an agent for us, alerting us to due dates, assisting us with filling out the paperwork and overseeing all details for government compliance."

In 2007, The Island received 14 workers through the program, 12 working directly for McCallum on the course and two assigned part of the time to the golf shop working on carts and the driving range.

"We requested and got the full 10 months the visa allows," he says. "Though we're not promised a specific arrival date – a week or so is allowed for travel – our crew began arriving on February 15 and can stay through December 15."

Paul Hallock, golf course superintendent at RedTail Mountain Club in Mountain City, Tenn., is using H-2B for the second year, working through an agency based in Colorado. He has selected a program offering similar procurement services to those used by The Island.

"We brought in nine workers last year, and are getting 19 this year with contact information for the additional workers supplied by the crewmembers," Hallock says. "They arrive in



early April and go back in mid-November, which fits well with our course's seasonal cycle. All the workers are under my administration. Ten work on the course, and nine work in construction on our clubhouse and housing development."

Under this type of program, the facility is responsible for taking the guest workers to the local social security office to file an application shortly after they arrive. The card will be sent to the worker at the specified address. The process takes about four to five weeks. There's a more intense background check now than before Sept. 11, but there are no concerns about false cards, McCallum says.

McCallum also takes the guest workers to the department of motor vehicles so they can test for a driver's license that's only good for their time in the U.S. So far, none of the workers have tested for a license. In some states, including Louisiana, they can get a photo ID through the DMV, which is easier to use locally than carrying a passport, visa and other supporting documents.

"Last year, our lead worker spoke English very well and basically served as a foreman for the group," Hallock says. "If he wants to test for a driver's license this year, we'll be supportive, but won't be able to supply him with a vehicle because of liability issues. The costs to him might not be worth the benefits."

Housing and transportation might be the responsibility of the employing facility, depending on the arrangement with the service provider.

"We provide housing about one mile from our maintenance facility," Hallock says. "We provide transportation for work, weekly trips to the supermarket and twice a month to Wal-Mart."

McCallum's course also provides housing.

"We're surrounded by farmland, so off-site housing isn't available," he says. "Our course is privately owned. The owner holds property adjacent to the course that has a 5,000-square-foot block building that had been leased by another business. Prior to last year, we kept two fully equipped trailers parked on that property to house all our guest workers. When that building became available, we invested \$175,000 converting it to a first-class, guest-worker housing facility in compliance with applicable commercial housing regulations and codes. Our crew members watched it being built and moved in shortly before their 2006 stint ended. It makes a huge statement, confirming our respect for them and what their work contributes to our



## In addition to H-2B

There are programs in addition to H-2B that bring foreign workers to U.S. golf courses. One of these, the J-1 visa, can be coordinated through some universities with turf programs to provide internships for foreign students. For example, according to The Ohio State University Buckeye Turf Web site (<http://buckeyeturf.osu.edu>), Mike O'Keeffe and Mike Chrisman have more than 100 J-1 visa students interning. Penn State offers a similar program coordinated through its turfgrass department.

Bruce Williams, CGCS, of The Los Angeles Country Club, has used this program and in 2006 brought in workers from Poland and Russia.

"They were great employees, already had their Visas, wanted to work as much as possible, and would do any job on the course or anywhere else on the property," Williams says. "Our course is multicultural. We probably have 25 different countries represented in our overall work force. We find these individuals are quick to pick up on American English, building on the base they've learned in school."

Sometimes workers find you. In 2005, that's what happened to Paul Hallock, golf course superintendent at RedTail Mountain Club in Mountain City, Tenn., at the golf course he worked at previously in New Hampshire.

"I'd placed an ad in the local paper, and a company working with guest-worker programs contacted me," Hallock says. "We brought in two students from Latvia. The company and the students managed the paperwork, supplying all the necessary documents. I signed an agreement noting that as long as they were dependable workers putting in a good effort, we would keep them employed. They came in April and worked through August, taking only one weekend off. They found their own housing and provided their own transportation. Both spoke English very well. They'd have worked 65 to 70 hours every week had I allowed it. They told me they were making four times more than they could have earned back home."

A local newspaper ad also worked for Jeff Whitmire, CGCS, at Williamsburg (Va.) Country Club. Two third-year college students from Romania wanted to come to the area and found an online posting of a local newspaper ad. They worked out the details of the J-1 visa program sponsored by the Council of International Educational Exchange through online interaction with Work and Travel USA.

"I was dubious at first, but they prepared and filed all of the paperwork, found their own housing and rode bikes the seven miles to and from work," Whitmire says. "They worked from June 29 through September 29, the maximum three-month period allowed by the program. They were exceptional - hard workers, curious and smart, willing to take on any assignment and put in long hours, and their English was excellent. Their standard of living in Romania was fairly high, yet they were able to double their pay working here. We've kept in touch by e-mail and I've invited them back, but they want to explore other adventures."

Because Whitmire learned that many of the area's seasonal tourist attractions use the J-1 program, he has hired Asian students from April until June and Eastern European students for the last part of the season.

Despite the influx of foreign workers, labor is a huge issue with more than 4,000 jobs unfilled in the Williamsburg area in 2006. With numbers like these spreading throughout the U.S., more golf courses might be exploring guest worker options. GCI







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## **“We provide housing about one mile from our maintenance facility ... transportation for work, weekly trips to the supermarket and twice a month to Wal-Mart.” - PAUL HALLOCK**

golf course.”

Kris Davis, CGCS, at The Clubs of Cordillera Ranch in Boerne, Texas, is in the second year of working with a labor contractor that uses the H-2B program, which basically outsources the crew personnel needs. Davis can request specific individuals through his own recruiting with current workers.

“The supplier handles all the details and files everything with the proper governmental agencies,” he says. “We have no paperwork to sign off on. We pay the contractor a flat rate per worker per hour. The company then pays the individuals. The supplier provides their transportation and housing. I pay a \$20 weekly stipend per worker toward the housing costs. This program has worked very well for us.”

### **FACING CHALLENGES**

Despite all the benefits of the H-2B guest worker program, there can be a lot of paperwork involved. To start with, there's turnover in guest

worker personnel, so most courses will bring in some new workers each year.

“I could do the paperwork and probably save a little on the \$5,500 we're paying our supplier, but there's so much documentation and involvement with the legal system, one snag could require hours to resolve,” Hallock says. “We feel the costs are worth the services.”

If superintendents are going to use the program, they need to start early. Timetables for filing the application and upfront fees keep moving forward as more businesses vie for H-2B workers. The application and fees are due in mid-summer, ranging from early July into August of the previous year. The date depends on the workers' potential arrival time. This step takes four to five months to process.

Superintendents also need to advertise for workers in the local newspaper and document that advertising and any responses to it to back up the need and request for guest workers.

Government requirements can change at any

time and on any part of the process. For example, in 2006, facilities were required to provide payroll records for the two previous years for a specific period showing the difference in payroll figures with and without the H-2B workers to further prove the seasonality of the work force.

“My main complaint is the time restriction,” Davis says. “We're in play year-round. If anything, the golfers' expectations are higher during the cooler season when guest workers aren't available to us.”

Language is an issue, too, but not a big one. Davis and his assistant speak “golf course Spanish,” which works in job-related areas. His three year-round, bilingual Hispanic crewmembers who are U.S. citizens serve as translators if needed. Hallock and his two assistants speak limited Spanish. They took a Spanish class last winter to improve. The workers appreciate that and take it as a sign of respect.

Many guest workers brought into the country are dependable, quick to learn and deliver what's wanted, and eager to work as many hours as facilities could give them, including weekends and holidays. Those results can be worth any of the red tape involved. **GCI**

*Steve and Suz Trusty are freelance writers based in Council Bluffs, Iowa. They can be reached at [suz@trusty.bz](mailto:suz@trusty.bz).*

Some guest workers that come to the U.S. through the H-2B program refer employers to their friends and relatives for future work.



Photo: Dreamstime.com





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# Looking for answers

Opinions vary, but researchers agree biostimulants are another tool for fertility programs

**B**iostimulants remain an elusive commodity in a golf course superintendent's fertility program arsenal. However, at least they've escaped the "snake oil" reputation they carried a decade ago.

The reasons for this mystery are many because several questions surround biostimulants. First, what are biostimulants? Simply, they're materials in minute quantities that promote plant growth and metabolism. The greatest benefit is increased stress tolerance from heat, drought, ultraviolet light and even some diseases. They do this partly by stimulating root growth and partly by promoting antioxidant activity and stimulation of primary metabolic processes.

The dilemma is that there are many biostimulants on the market. Which ones work, and which are ineffective? And, because many superintendents put several products in their spray tanks to save application time, which product provide the most benefit? Finally, how much do year-to-year weather conditions factor in?

## POSITIVE RESEARCH

Gordon Kauffman III, Ph.D., is an agronomist with Grigg Brothers Foliar Fertilizers, headquartered in Albion, Idaho. His doctoral thesis at Penn State University examined the constituents of selected biostimulants and how the products function to improve turfgrass

performance under environmental stress.

"Field studies can be highly variable," he says. "The best method is to study these products in a rigorously controlled environment. Current research, which examines physiological responses, shows biostimulants can enhance root growth. Using visual examinations such as top growth or color can be more difficult to determine effectiveness."

The results of Kauffman's study support evidence for a positive growth-regulating effect from biostimulant application.

"The fact that certain biostimulants promote growth similar to the growth hormones auxin and cytokinin means it might be altering the plant's hormonal balance to favor more normal metabolism during stress," he says. "Applications of these biostimulants improved the heat tolerance associated with photosynthetic efficiency and overall quality of perennial ryegrasses."

Biostimulants can improve turf's physiological fitness, says Geoff Simril, senior technical manager for Milliken Turf Products. Scientific research conducted by Virginia Tech shows seaplant extract can increase plant antioxidant levels and make turf more stress tolerant. Research also shows seaplant extract can increase the turf's photosynthetic rate and capacity, making it more efficient by manufacturing its own food and increasing carbohydrate reserves.

"The scientific evidence of the benefit of seaplant extract is overwhelming, so it makes

good agronomic sense to incorporate quality seaplant extract in any greens management program," he says.

Kauffman recommends using biostimulants as a supplement to a sound fertility program. For best results, they should be applied in foliar form sequentially prior to the onset of stress to make the plant more tolerant. They're also effective as a granular application prior to the onset of stress. He urges superintendents to follow two simple steps when considering which biostimulant to use:

"First, understand what's in the product," he says. "Biostimulants fall into three categories, including humic substances, hormone containing products and amino acid containing products. Secondly, know what you're applying and always use a quality supplier. The product should be backed by some sort of research, either from a university or an independent firm."

## VALID SKEPTICISM

The skepticism superintendents have for some biostimulants is well placed because of limited research, says A.J. Turgeon, Ph.D., a professor of turfgrass management at Penn State University.

"Years ago, the initial reaction to plant growth regulators was negative," he says. "Now, today's (plant growth regulators) play an integral role in a golf course's turfgrass management program. Superintendents should take





the same approach with biostimulants. Take a small quantity of the product and apply it to several different test sites on the course. Observe the results to determine if there are significant differences. Only then will they gain confidence in these products.”

Turgeon cites research by Xunzhong Zhang, Ph.D., and Richard Schmidt, Ph.D., of Virginia Polytechnic Institute and State University, which showed antioxidants play a significant role in alleviating oxidant stress, usually induced by drought or high temperatures. Additionally, turfgrasses with high levels of antioxidants produce better root and shoot growth, maintain higher leaf moisture content, and lower disease incidence in normal and stressful environments.

One of Zhang’s and Schmidt’s conclusions states: “During the past 10 years, we have evaluated many kinds of biostimulants for use in the turfgrass industry. These products exert beneficial influences either through hormonal effects or by raising antioxidant levels. Although biostimulants can be synthetic chemicals, naturally occurring organic materials are excellent sources of biostimulants. For example, humic acid and seaweed extract are two commonly used turf biostimulants.”

#### INFORMATION NEEDED

Clark Rowles, CGCS, of Nakoma Golf Club in Madison, Wis., has views that sum up the position of many superintendents. Rowles used

Biostimulants exert beneficial influences on turfgrass either through hormonal effects or by raising antioxidant levels.  
Photo: David Wolff



Clark Rowles, CGCS, says biostimulants can provide certain benefits, but it was difficult for him to tell year in and year out whether they worked or not because conditions weren't consistent. Photo: David Wolff



biostimulants for a number of years but recently his fertility program has moved away from these products.

"When I frequently used biostimulants, I was at a facility with multiple courses," he says. "There was an opportunity to do one thing on a particular course and something else on another. Biostimulants can provide certain benefits, but it was hard for me to tell year in and year out whether or not they worked because conditions were not consistent.

"We had a hot year in 1995 with excessive humidity, and many guys were losing grass," Rowles adds. "I was sitting on 90 acres of bentgrass and didn't lose much turf. Was it a product I was using that contained biostimulants that made the difference, or was it timely applications of fungicide or the fertility program I had going on? That's where university research can be more beneficial than what we do in the field because we don't set up the experiments looking at the science end. We apply a variety of products and hope they work in conjunction with other products to provide us a benefit. Superintendents don't want checks on their golf courses such as leaving an untreated 10-foot-by-10-foot square in the middle of a fairway or the

corner of a green. Their job is on the line, so they won't do it. Universities take various areas and let them become stressed or even die, but on a golf course, that can be unacceptable."

It's human nature for superintendents to look for a magic bullet that will give them an edge. Biostimulants always will be popular because there's the perception they do something, Rowles says.

"If you look at a product label, there's a certain amount of fertilizer in it, primarily some form of nitrogen," he says. "The biostimulant might not be the primary ingredient based on percentages of ingredients in the product. Is the biostimulant itself causing the benefit, or is it the fertilizer attached to it causing the response?"

Rowles' fertility program includes biostimulants. He has found calcium and silica in the biostimulant package improves his turf conditions the most.

"Calcium seems to provide some benefit for shaded turf," he says. "I spray it as a foliar product, but I can also get it through various granular products. And, some fungicide programs provide significant benefits to the plant. One group of products, in particular where the active ingredient is phosphorus acid, seems to

stimulate the plant's own defense mechanisms. With the advent of new fungicides and the potential to handle disease pressures better, we're not allowing the stressors to get to the plant as has been the case in the past. So, does that mean we need to supplement turf health with biostimulants? I don't know we need to."

Because application time is at a premium, superintendents tend to put multiple products in the spray tank – fertilizers, fungicides, growth regulators, insecticides and even biostimulants. The only products Rowles applies separately are those that need to be watered in immediately or products containing herbicides.

"Many people in this business are doing so many things at one time they don't really know what's working for them," he says. "How do we know it's not that little tickle of nitrogen that's causing a response in the plant? I can't say biostimulants don't enhance the turf's ability to handle stress, but if I don't have stress, they're not necessarily needed, and therefore are they a valuable product to use?"

Kevin Cavanaugh is a former Florida golf course superintendent who's now vice president and director of golf operations of Floratine Products Group. He used biostimulants extensively



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on his golf courses.

"From first-hand knowledge, I know superintendents want root mass and density to predispose their turf to the strong stresses of weather and low heights of cut," he says. "I used the benefits of biostimulants to obtain a healthier and stronger plant to be better able to do my job."

However, superintendents face a dilemma, Simril says.

"Their goal is to grow a healthy plant, but players care most about surface conditions like speed, roll and color," he says. "Extremely low mowing heights necessary to provide that surface compromise their agronomic goals. Biostimulants, like quality seaplant extract and fulvic acid, play an integral part in giving the plant what it needs and the players what they want."

#### CRITICAL RESEARCH

Rowles references biostimulant research conducted by Frank Rossi, Ph.D., of Cornell University, saying Rossi found that areas receiving an adequate amount of N-P-K perform as well as plots with biostimulants.

"It seems like the best plots contain fertilizer, so where's the benefit coming from?" Rowles asks. "Do biostimulants make the fertilizer more

efficient? That could be."

In his research, Rossi summarizes that the results of three years of evaluation of organic and microbial products (also known as biostimulants) have offered insight into various aspects of product performance. In general, the results of the study show the performance of most of the biostimulants isn't consistently or substantially different from traditional fertilizer applications.

"However, a few product lines appear to offer nitrogen-use reductions," Rossi states in the report. "Yet, in years of high disease pressure, some of these treatments break down and allow increased disease levels."

"Much more needs to be learned about these products and programs," the report states. "This study has shown that although there are some differences, in general, traditional fertilizer applications provide acceptable putting green turf. Nonetheless, where resources allow, there might be circumstances in which incorporating certain products and programs would be beneficial."

#### ANOTHER USEFUL TOOL

Some turf experts agree biostimulants have a place in golf course fertility programs. Douglas Soldat, Ph.D., is an assistant professor of

Because many superintendents put several products in their spray tanks to save application time, it can be difficult to determine which biostimulants provide the most benefit. Photo: David Wolff

turfgrass and urban soils at the University of Wisconsin-Madison. While biostimulants can increase stress tolerance under specific conditions, he says superintendents shouldn't apply these products indiscriminately. They should be tested initially on various spots around the course.

"From the research I've seen, superintendents have to decide if the small benefits are worth the price," he says. "However, there's no question biostimulants can be another tool in a sound fertility program."

Biostimulants give added protection against the rigors of stress, Kauffman says.

"Research has shown there's a synergy between fungicides and biostimulants," he says. "They're another tool in a superintendent's toolbox; that's how I view these products."

While an intern at Augusta National, Cavanaugh helped test various biostimulant products to determine their effectiveness.

"We were able to talk to the people who developed the products to build a fertility program that was right for the course," he says. "Superintendents first should identify what they want to achieve on their surfaces. Then contact biostimulant companies to find out how to use natural growth hormones in the proper ratio. Finally, call superintendents who use biostimulants and then try them on your course."

Still, more is being learned about seaweed extract as an important biostimulant, Turgeon says.

"We're in the beginning stages of this research," he says. "In the future, there will be more information about specific formulations. However, it's known that an application of antioxidants before the onset of stress and then applying them regularly through this period provides beneficial results, particularly on bentgrass greens." **GCI**

*David Wolff is a freelance writer based in Watertown, Wis. He can be reached at [dgwolff@charter.net](mailto:dgwolff@charter.net).*



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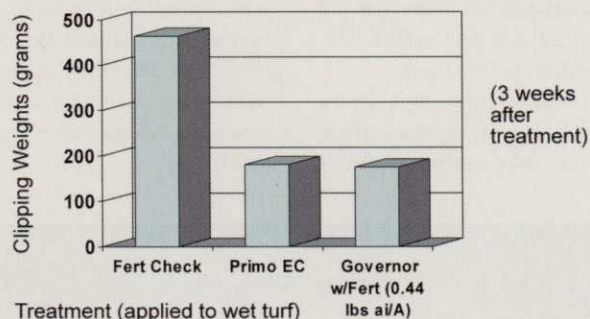
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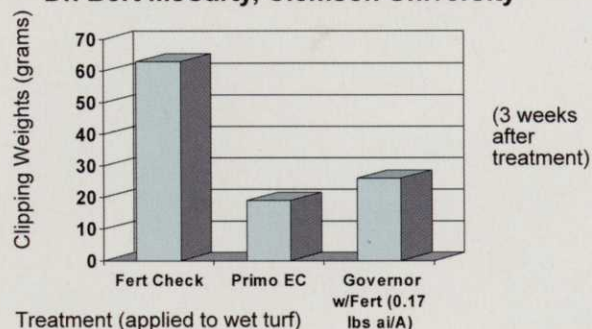
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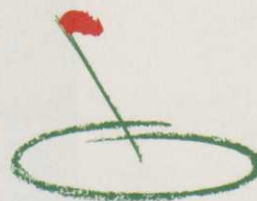


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# moss

IMPLEMENT THE RIGHT  
MIX OF PRODUCTS AND CULTURAL  
PRACTICES TO KEEP THIS PEST AT BAY

# control

By John Torsiello

**T**he Scots have a phrase, says Matt Nelson, senior agronomist with the USGA's Northwest Region.

"They say, 'Moss is a sign of poverty in the soil,'" he says. "That saying dates back hundreds of years, and it still applies today."

While poor or undernourished soil is a significant cause of moss outbreaks on golf courses, the reasons the insidious green pest takes root are varied.

Moss thrives in areas that receive a lot of moisture, little sun and scant airflow. It's especially a

nuisance in the Northeast and Northwest regions of the country that often experience damp, cool springs and autumns.

Moss, as well as its cousin algae, is most likely to attack greens that have been stressed because of extreme weather conditions or damaged during maintenance. Moss can work its way into putting surfaces often unnoticed, and once established, can be difficult to control and eradicate.

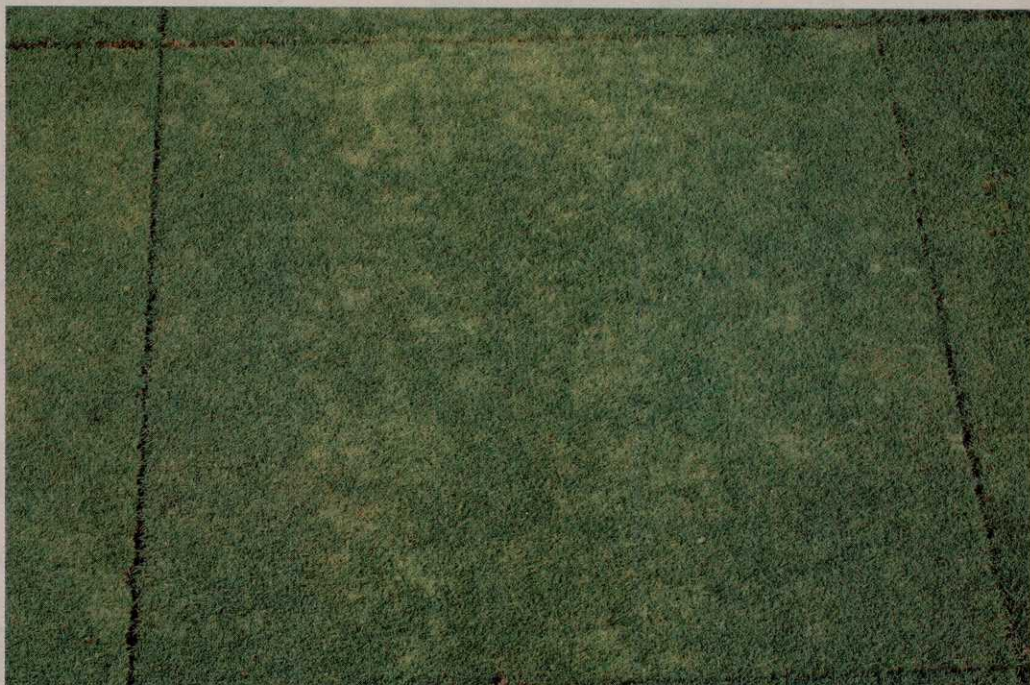
One of the most common invaders is silvery thread moss, which causes unsightly surface conditions and can take over a green if left un-

checked. It can even go into a state of dormancy, further complicating successful management.

## A PROBLEM PEST

Moss has become an all-too-common problem on putting surfaces recently. Researchers cite several possible reasons for this unfortunate phenomenon. One is the demand for faster greens, thus lowering the height of cut, which might result in thinner canopies that can become stressed and more readily populated by moss spores.

Copper products can control moss infestations successfully; however, phytotoxicity can occur when copper products are applied at high rates.  
Photo: University of Rhode Island







Another reason is the removal of mercury and other heavy metals from pesticides two decades ago. Mercury is known to have a significant impact on moss development, and controlling it was believed to have been a positive side effect when using mercury-based products.

"It's speculation, but heavy metals seemed to do a great job killing moss and algae, even though almost no superintendent put them down for that purpose," says Nathaniel Mitkowski, a professor at the University of Rhode Island who has conducted extensive research about moss problems on golf courses. "It was a secondary benefit."

Peter Landschoot, a professor of turfgrass science at Penn State University, concurs.

"An increase in moss and algae problems is largely a reflection of the changes in cultural practices of superintendents," he says. "When we started getting away from heavy metals and

the residual levels wore off, we began to see more moss on greens."

The moss problem has become more acute during the past 10 years, says Patrick O'Brien, director of the USGA's Southeast Region.

"I believe it's due to lower mowing heights on greens, which opens them up to stress and damage," O'Brien says.

Moss seeks open areas in the turf damaged by unrepaired ball marks and mower cuts, Mitkowski says. When the moss moves into the canopy, it outcompetes grass for nutrients and eventually will crowd out the blades if not eradicated.

"Even if it goes dormant, it doesn't die and can keep coming back in the same area," he says. "We have seen it take over entire greens."

Moss is really nasty stuff, says Bob Wolverton, golf course superintendent at Bayonne (N.J.) Golf Club.

When superintendents started getting away from using heavy metals and the residual levels wore off, more moss began appearing on greens, says Peter Landschoot, a professor of turfgrass science at Penn State.



Moss has been around for millions of years and has good survival mechanisms, says Peter Landschoot. Photo: Penn State University



"I had a problem at the course I worked at prior to coming here," he says. "We're seeing more of it because of lower mowing heights on greens, because all you need is a little thinning of the turf, and moss or algae pokes its head out of any little void. And that opens the way for it taking over a green."

Ryan Wycoff, superintendent at the OGA Golf course in Woodburn, Ore., can relate, too.

"There can be a million moss spores in the green canopy," he says. "You can easily see quarter-size patches of moss. But if you get down and look, there are tons of spores that will spread if given the chance. It's quite a problem in Washington, Oregon and down into California."

One of Eric Strzepek's main objectives when he took over as golf course superintendent at the Shenandoah Golf Course at Turning Stone Resort in Verona, N.Y., a year ago was to eradicate moss from the greens.

"Because of the desire to keep the course open, which led to a lack of proper aeration of the greens, moss took over, and we had greens

that were 40- to 50-percent infested. It's been an uphill battle for the previous superintendent and myself. But we've gotten a handle on it through the use of chemicals, a change in cultural practices, proper aeration and new mowers for some of the greens."

While moss and algae can pop up anywhere, most courses in southern regions of the country don't seem to be greatly affected.

"It isn't a big problem on the Southern courses," O'Brien says. "You don't see it much in climates where you have temperatures warmer than 90 degrees in the summer for long periods of time. It's tough for moss to survive in those conditions."

"We do see some in the transition zones, say in the Piedmont area of North Carolina," he adds. "It's become a bit of a nuisance problem in that area."

Moss and algae problems on greens have become fairly common complaints recently among Northwest superintendents, Nelson says.

"Mostly it's on the greens, which leads me to

believe it's a result of lower cutting heights," he says. "We hardly ever see it on tees or the fairways where the grass is kept at higher heights."

The worst moss problems occur in the Northeast and the Northwest, areas where there are cloudy conditions, mist and rain, Landschoot says.

"We're seeing it become more of a problem in the transitional areas as well," he says.

### A PLAN OF ATTACK

So what can superintendents do to combat moss? Anthony Williams, golf course superintendent at Stone Mountain (Ga.) Golf Club, which is in the northern part of the state where moss can be a problem, has never seen the troublesome pest on his course. He believes there's a relatively simple explanation – basic good agronomy.

"It's a general rule of thumb that if you have conditions that give grass the best opportunity to thrive, then you'll have healthier stands of grass that can resist things like moss and algae," Williams says.



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The protonema stage of moss on velvet bentgrass putting greens appears as black discoloration and might be mistaken for algae. Photo: University of Rhode Island

Williams and his staff are aggressive with turf management, aerating and topdressing greens often to insure the upper layer of turf is in a healthy state.

"The key is preventing moss and algae because once it takes hold it becomes a problem," he says.

Several chemical products on the market appear to work well for moss and algae in controlled tests, agronomists say. Among them is Quicksilver herbicide, which has been shown to control moss on putting greens without serious turf injury. Junction, a copper hydroxide turfgrass fungicide/bactericide, has been shown to be effective on moss preventively and curatively.

Iron sulfate has been used to control moss for many years, and TerraCyte, a granular algaecide/fungicide labeled for moss and algae control, has been shown to be effective. Interestingly, Dawn Ultra appears to do something other than clean dishes. Testing has demonstrated that when applied during cool or warm weather in 14-day intervals, the detergent has controlled moss in some instances. Baking soda can be useful, too, for spot treatment on affected greens, researchers say.

"Quicksilver has worked very well for us," Strzepek says. "We're using the product to prevent moss right now, but we've used heavier rates in the past to eradicate the problem. We've also used iron sulfate and have seen some reduction in moss with that."

When dealing with minor incursions of moss and algae, removing the affected area by hand or

spot treatment with herbicides or other products is an effective way to deal with the problem.

"We have one green on an island here, and we stay on top of it, so that when we see moss we remove it culturally," says Lane Heil, golf course superintendent at the Shawnee Country Club in Shawnee on Delaware, Pa.

Brad Smith, golf course superintendent at Fieldstone Golf Club in Greenville, Del., says there's a little algae here and there on the course.

**"Shade removal around greens ... can be a big help in preventing moss and algae."**

**- NATHANIEL MITKOWSKI**

"After a big rain, that's when you'll see it the most, and you need to take care of it right away," he says.

The timing of moss and algae treatments is crucial and varies from region to region.

"There seems to be little efficacy if you go out in the middle of the summer and treat for moss in the Northeast," Mitkowski says. "It's much better if it's done during the fall."

Wycoff treats his greens preventively with Junction during the winter and TerraCyte during the spring when the turf begins to grow more quickly.

#### CULTURAL PRACTICES

A study about moss problems by Landschoot

and Joshua Cook, also of Penn State, states that while chemical control strategies can suppress or kill moss, these measures should be coupled with changes in the cultural conditions that allowed moss to encroach upon the green in the first place.

Low nitrogen levels, overly aggressive mowing practices and too liberal irrigation all might be adjusted fairly easily, according to the report. Other causes of moss encroachment – poor drainage, disease problems, shade, traffic and poor air circulation – represent more challenging issues.

"Shade removal around greens, especially the old push up putting surfaces with no drainage, can be a big help in preventing moss and algae," Mitkowski says.

Wycoff believes raising the height of cut on greens and rolling putting surfaces once or twice a week more than normal to maintain their speed is another way to prevent a thinning of the canopy that can lead to incursions of moss and algae.

Carefully handling mowers on greens also is good preventive medicine.

"We have some very undulating greens that were being damaged by fixed-head mowers," Strzepek says. "We acquired a Toro Greenmaster Flex 21 that hugs the hills and prevents

the gouging that can foster problems on the green."

Even superintendents in the Sun Belt states should remain vigilant for moss and algae.

"I've seen silvery thread moss thrive in environments full of sun, which seems odd," Landschoot says. "But moss has been around for millions of years and has good survival mechanisms. It's wise for superintendents to look out for it, take care of it quickly if they see it, and keep an eye on the affected area to make sure it doesn't come back." GCI

*John Torsiello is a freelance writer based in Torrington, Conn. He can be reached at jtorsiello@sbcglobal.net.*



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# CHANGE IT UP

SUPERINTENDENTS TWEAK THEIR TURFGRASS  
MANAGEMENT PROGRAMS TO IMPROVE CONDITIONS



BY T.R. MASSEY

**O**n the surface, golf courses are colorful palettes of greens and browns with bright spots of richer hues mixed in as accents. Behind the scenes, however, golf course superintendents constantly must strive to strike a balance between maintenance practices and the stress of keeping a huge tract of land in proper bloom.

The art and science of golf course maintenance is evolving constantly, from increased aerification to improved irrigation techniques to foliar feeding. Accomplished superintendents must stay current with trends not only in their regions of the country, but in the industry as a whole. Often, this requires them to change maintenance practices that have been going on for years.

#### POKING HOLES IN TURF

Dan Petersen is in his second year as the golf course superintendent at the Warren Golf Club on Warren Air Force Base in Wyoming, and he's bringing successful practices he's learned during the past 30 years to the operation. Although he's an employee of the U.S. Air Force, he's not in the military.

Most recently, Petersen was the superintendent at Ramstein Air Base's golf course in Germany



from 1997 to 2006. There, he was able to let his greens grow a little longer and roll them.

"That let us get the speeds we were looking for," he says.

Based on that experience, he pushed for a roller since he started at Warren.

"I was proactive," he says. "I started to aerify and bring in rollers and demo them for members and management. We finally went out and bought a roller. The ones that hook to greensmowers don't appear to be that effective to me, so we bought a separate one that operates as a separate piece."

The rolling creates the proper surface on the green and helps cover the holes created by aerification, Petersen says. His rolling program will start this year with a frequency of three times a week.

"That causes dramatic changes," he says. "I'm looking for nine to 11 Stimpmeter speeds, eight to 10 for everyday use."

But the real secret to improving greens is an aerification program, Petersen says. Aerifying the push-up greens at Warren, which are with-

out drainage, has resulted in dramatic changes, and they've become more manageable.

"We started aerification once a month last year," he says. "We're verticutting and power raking, too. They hadn't aerified anything for three years. There was a 3.5-inch thatch layer. We've reduced it some, a quarter of an inch of thatch already, maybe a half-inch, but it's going to take a while to get rid of this."

Aerification is where it's at for Jay Wagner, CGCS, at Cherokee Ridge Country Club in Union Grove, Ala.

"It used to be standard to do it two or three times a year, and now we do it monthly, March to October, maybe more," Wagner says. "We make quarter-inch holes but don't pull plugs. Then, we run a roller behind it. You don't notice it."

This new practice is making the course at Cherokee Ridge look better, and new technology is helping, Wagner says.

"There are better aerifiers with better tines now," he says. "We have four new ones."

When Petersen began aerifying regularly at

Warren, there was a noticeable difference immediately, he says.

"The turf responded like I was giving it first aid," he says. "I'm using shatter tines and needle tines. I'm verticutting on a regular basis and topdressing. We do something once a month."

More aerifying instead of less can give turf the space it needs to breathe and grow. During the summer, aerifying opens up the turf and gets air into it.

"We have bentgrass, and it gets hot and humid and the grass doesn't like it," Wagner says. "We've also installed some fans around the greens to keep the air circulating."

A greens and bunkers renovation was completed in 2002 at the private Cherokee Ridge, which built in 1992. Two years ago, Wagner began his aggressive aerification practice. In the spring and fall, he'll core. He's also topdressing more, timing that around the big aerifying projects. Between big projects, he uses needle tines to keep organic material from building up.

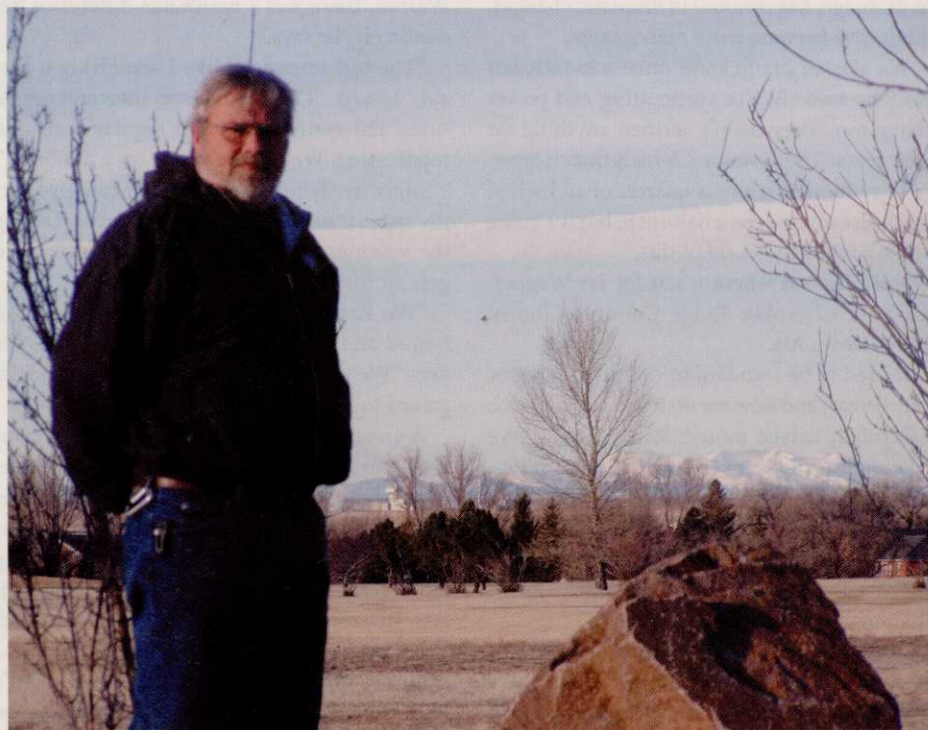
"It has improved turf quality," he says. "It's stabilized. It can get pretty sick looking at the

At Poppy Ridge Golf Course (opposite page), superintendent Todd Cook changed his fertility program and is using many more foliar applications with sulfates because it helps firm up surfaces and control silvery thread moss. Photo: Poppy Ridge Golf Course

At the Warren Golf Club, superintendent Dan Petersen is looking for Stimpmeter reading between eight and 10 for everyday use. Rolling the greens helps achieve this.







Dan Petersen increased the frequency he aerifies the push-up greens at Warren Golf Club to once a month to help reduce a 3.5-inch thatch layer.

end of the long summers that we tend to have. It was beneficial last summer when we had the hottest summer anyone could remember."

Petersen wants to take his aerification projects a step further. A drill-and-fill machine is on order.

"The Air Force tries to renovate five courses a year," he says. "If I use a drill-and-fill machine twice a year, I could save them a renovation. I'd change the soil composition. I used one at Ramstein and made dramatic changes. It really gets that sand down there."

Petersen is considering a deep-tine aerification this year, too.

"I'd like to, but it's harder to get the sand down in the hole," he says. "The drill-and-fill is better. That's the direction I'm going. I found a contractor to do the deep tining pretty cheap, and I'd like to do it twice a year, but you can't do it in September because the holes won't heal. There's not a lot of healing time after that in this area of the country."

#### PRECISE WATERING

In addition to punching holes in the turf, Petersen has to worry about his water supplies.

"It's completely opposite of Ramstein," he says. "In Germany, the course was like a cookie-

cutter in the middle of a forest. It rained and was cloudy all the time. We averaged seven inches of rain a week. Here, I don't get seven inches a year. It's been a learning experience. If my irrigation failed in Germany, Mom Nature watered. If it fails here, I'm out hand-watering."

Brian Sullivan, CGCS, is in charge of maintaining the Bel-Air Country Club's golf course in Los Angeles, another place where water is a premium. The easiest thing to do is install a good irrigation system, he says, noting that not everyone can afford a \$2.5 million system. But if one can, it's the way to go.

"It's been in the ground two years," he says. "Our distribution uniformity is as good as you can get in the industry. We have enough heads that we can separate greens, tees, fairways and roughs."

Sullivan has 3,000 irrigation heads at his disposal that allow him to target water to a specific area of the golf course and give it the proper amount of water. That way, one saves water, he says.

"If you're not overirrigating, you eliminate a good deal of wet and dry situations," he says. "So you have healthier plants without overirrigating."

Superintendents working with irrigation systems that are 20 years or older might have distribution uniformity rated in the low 60s, Sullivan says.

"In a 10-minute irrigation cycle, you'd have to run water 14 minutes to be effective," he says. "If I put in a component that's 90 percent, that's 1.1. That head could function with 30 percent less water. Now I've properly irrigated."

Because there's no off-season in Southern California, it was difficult for members to be without a golf course for four months.



**“The Air Force tries to renovate five courses a year. If I use a drill-and-fill machine twice a year, I could save them a renovation.”**

**- DAN PETERSEN**

“It’s never easy,” Sullivan says. “The amount of heads we have, near 3,000, it was four to six months, impactwise. But our membership is happy it’s installed.”

Most years, Sullivan doesn’t have to worry about a drought. But this year, starting last fall, he’s had only one inch of rain. Normally, one doesn’t have to irrigate a whole lot December through April.

“This year, we’re entirely dependent on the irrigation system, so it’s something that was really necessary,” he says.

At first, Sullivan thought the efficiency of his new system would save him money. It’s not uncommon for courses in the area to spend a quarter of a million dollars a year on water, he says.

“If you’re conserving 30 percent you’re saving money,” he says. “We are 15 to 20 percent more efficient. Of course, the price of water has gone up in the past two years, so I’m not sure exactly how much I’m saving.”

Water is a subset of a larger movement that Sullivan’s been aware of the past few years, and that’s environmentally sound maintenance practices.

“If you’re not on that bandwagon, you’re behind,” he says. “I’ve got it down to the recycling of cardboard. Our membership expects it.”

Every superintendent must embrace the fundamentals of water usage and other practices in integrated pest management, Sullivan says.

“Within the confines of that, we are stewards of the property,” he says. “You have to be environmentally conscious.”

#### FOLIAR FEEDING

Todd Cook, golf course superintendent of Poppy Ridge Golf Course in Livermore, Calif., says he’s

always mindful of the amount of chemicals he uses. During the past few years, he has changed his fertility programs.

“We use a lot more foliar applications with sulfates because it helped us firm up our surfaces and helped with silvery thread moss control,” he says. “We’re using programs developed by a consultant to get rid of moss and firm up putting surfaces at the same time.”

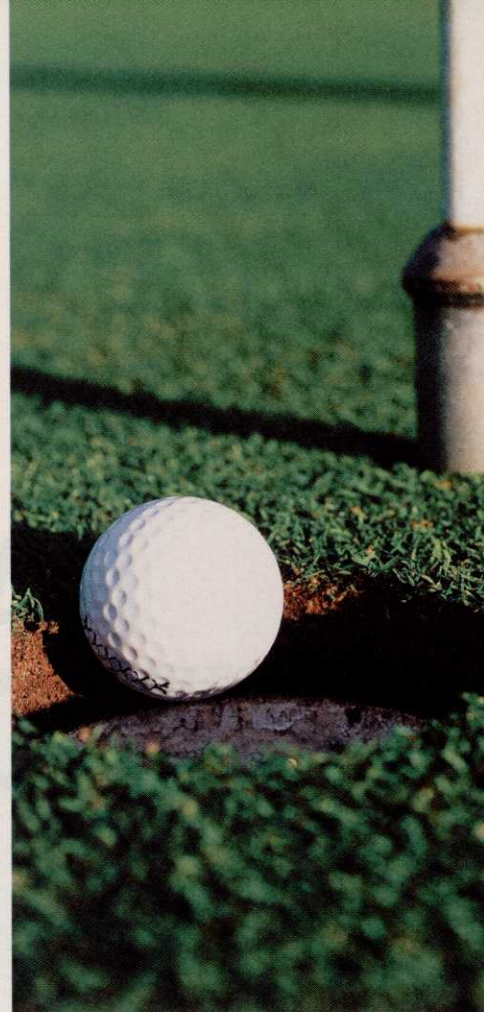
Before the past season, Cook mainly was using granular applications once a month but felt it wasn’t giving him the best bang for his buck.

“The foliar application actually is less than granular,” says Cook, a 12-year veteran who grew in Poppy Ridge. “The raw materials are less, and labor is probably a wash. Now, we’re putting on foliar applications every two weeks. Our greens have really improved. They’re a lot firmer and faster and more consistent.”

Opened in 1996 and designed by Rees Jones, Poppy Ridge is a sister course to Poppy Hills and owned by the Northern California Golf Association. It hosts some of the NCGA championships. But the one drawback to having firmer, faster greens is the loss of pin placements during competition.

“We have a couple of greens that are really undulating, so we’ve lost a couple of pin positions,” Cook says, noting the trade-off is worth it. “Only when the greens were brand new were the greens any better. This summer, we’re going to raise the mowing heights so we can keep the speed at a reasonable level. We have to work around the spots and not use them on our heaviest play days.” **GCI**

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At Salishan Spa & Golf Resort, Ryan Bancroft and his maintenance crew started fairway topdressing in 2000 on five holes and since have expanded the practice considerably. Photo: Salishan Spa & Golf Resort

# GAINING ACCEPTANCE





# SUPERINTENDENTS WEIGH THE PROS AND CONS OF FAIRWAY TOPDRESSING

BY MICHAEL COLEMAN

**T**opdressing fairways is gaining acceptance among more golf course superintendents these days, but not everyone is jumping on the bandwagon. With more pros and cons than the San Quentin Pro-Am, topdressing fairways has become a frequently discussed topic among superintendents. While accepted for years as a needed practice for greens, topdressing is becoming more popular on fairways with some superintendents.

At Saratoga National Golf Club in Saratoga Springs, N.Y., golf course superintendent Joe Lucas started a topdressing program for fairways last fall, after extensive research about the practice and materials.

"We're built on a very heavy clay soil," Lucas says. "During the wet time of the year, the playing surface is soggy."

Lucas talked with USGA agronomists and turf consultants and decided topdressing would improve the fairways at the public course. The pros and cons stack up for Lucas like they do for many superintendents. Reasons for topdressing fairways include:

- Quicker-drying turf;
- Enhanced turf appearance;
- Improved playability;
- Firmer turf; and
- A reduction of earthworm castings.

On the flip side, there are multiple negatives to consider:

- Labor cost;
- Material cost and storage;
- The need to raise irrigation heads;
- Scheduling hassles;
- A higher risk of disease; and
- Root problems.

## DRAINAGE CONSIDERATIONS

Although New York isn't like the Pacific Northwest where rainfall is measured by the foot each year, precipitation can be significant in the Empire State. Lucas, who has been at Saratoga National since construction in 2000, says the course drains well but more sand helps dry the playing surface much more quickly.

Tony Girardi, CGCS, at Rockrimmon Country Club in Stamford, Conn., decided against topdressing fairways because drainage was the real problem. During 13 years at Rockrimmon, Girardi also has seen layering problems appear on greens because of topdressing. Layering can lead to problems if the roots stop growing through the layers. He didn't like the idea of dealing with that potential problem on fairways.

"You're going to raise fairways and crown them," he says. "At this point, it's not really clear what impact topdressing will have on surrounding areas and the transition zones in the rough."

Rather than building up sand to improve percolation and water removal, Girardi suggests honing in on the real source of excess water – ineffective drainage. Girardi believes many courses aren't looking at the entire picture of what's happening in the fairways when they begin topdressing programs.

"You're actually masking an issue you have with drainage," he says.

Still, many other experienced superintendents tell Girardi they're having success topdressing fairways.

Drainage was Bob Senseman's first target, too. Senseman, a certified golf course superintendent at Oswego Lake Country Club in Oregon, has made four applications since October of 2006.

Fairway topdressing has been going on for years at Oswego Lake.

"The program is most effective when you take care of the trouble spots with drainage," he says. "We're changing the program to one similar to putting greens in which we're doing lighter but more frequent applications of sand."

Consistency and firmness are types of playing conditions golfers at Saratoga National expect, and topdressing fairways and roughs helps Lucas meet those expectations.

"Happier golfers make for more revenue because they don't have to keep carts on the paths," he says.

The additional cart revenue is expected to help counter the \$35,000 of materials cost for four or five applications annually, although Lucas isn't sure how many the crew will be able to actually complete throughout the season.

"It's a tough process to complete because something's always coming up," he says.

## CHOOSING THE MATERIAL

Many superintendents don't have the money or time to topdress fairways. However, if they decide to topdress them, they need to make sure the material they use isn't going to worsen turfgrass conditions, says Jason Henderson, assistant professor of turfgrass and soil science at the University of Connecticut.

Obviously, worsening turfgrass conditions isn't one of the goals of topdressing fairways, so superintendents should have any materials they're considering using tested by an accredited laboratory for an independent recommendation. The cost of topdressing is too high to just jump in and use material from the nearest quarry.

Lucas talked to many people before decid-





Before applying topdressing to fairways, Ryan Bancroft's crew uses a core harvester with a modified conveyor that picks up cores and transfers them to another vehicle. Photo: Salishan Spa & Golf Resort

ing which sand he would use. He took samples from all the suppliers in the area, and Brookside Laboratories examined them for particle size, infiltration and other characteristics.

"It probably took me two years of sampling before finding something I was comfortable with and that came at a good price," he says.

Lucas spent about \$9,000 for 634 tons of straight sand.

"It's a learning game," he says. "I'm just trying to figure it out for myself."

It took a while for Lucas to decide what to use because of long-term effects.

"I don't want to throw something out there that five to eight years down road could be hindering me," he says.

Negative outcomes are a possibility because the practice is so new in most areas, Henderson says. Once sand begins to settle into the turf after several applications, one starts to see changes in the infiltration rates and moisture levels.

Henderson is working on a study at the University of Connecticut that examines how various topdressing sands react with soil. His study includes USGA-spec sand, fine sand and course sand. He hopes to learn more about how each type of sand interacts with soil and what results might be seen in practical applications.

"The big challenge – the unknown right now – is once you've built up this layer of sand on top of this finely textured soil, how's it going

to change how that soil reacts to various soil moisture conditions?" he says.

#### CONCERNS

The uncertainty of the long-term effects of topdressing fairways worries some superintendents. Not everyone is comfortable with some of the risks posed by it. For example, during a storm, normal surface runoff occurs at a high rate. But with sand present after topdressing, water goes through the permeable sand to the root zone. Depending on the depth of topdressing, the soil might remain saturated, especially after a heavy rain. If a big rain is followed with extreme heat, it's a potentially lethal combination.

"You can literally cook the roots," Henderson says.

The possibility of extreme conditions causing havoc increases with a regular topdressing pro-

gram. Higher soil temperatures are detrimental in wet conditions – harsher than ambient air temperatures on the health of the turf.

"Do you essentially create the perfect storm scenario in which you get higher infiltration rates, but increase risk in terms of disease susceptibility and a lot of potential for direct injury kill?" Henderson wonders.

Henderson's concern is echoed by those in the field, such as Senseman, who recognize the potential danger.

"You put down a lot of sand, and you can fry things in a big hurry," says Senseman, whose budget for fairway topdressing materials is \$30,000 a year, which costs about \$15 a ton.

Another considerable drawback that becomes apparent as time progresses is the need to raise irrigation heads. Several superintendents that are topdressing expressed their concern about that problem. Unfortunately, that's one of the prices to be paid for the benefits of topdressing.

#### FULL STEAM AHEAD

While the negatives of topdressing can be daunting, some course managers begin to see the benefits slowly and continue to ramp up their programs. Ryan Bancroft, golf course superintendent of the course at Salishan Spa & Golf Resort in Gleneden Beach, Ore., has a staff of nine full-time employees and 10 part-time employees. Bancroft and his crew started topdressing in 2000 on five holes and then started applying heavier applications twice a year in addition to

#### The pros and cons of fairway topdressing

- Quicker-drying turf
- Enhanced turf appearance
- Improved playability
- Firmer turf
- A reduction of earthworm castings

## PROS

## CONS

- Cost of labor
- Material cost and storage
- The need to raise irrigation heads
- Scheduling hassles
- A higher risk of disease
- Root problems



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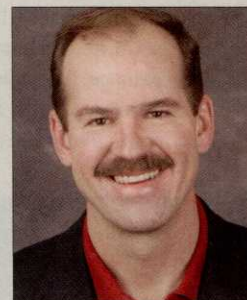
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Topdressing treatments are applied across multiple fairways to compare effectiveness of different topdressing frequencies. Photo: University of Connecticut



one light application. His topdressing materials budget for the year is \$55,000, and there's not much acreage neglected by his crew.

"We throw sand everywhere," Bancroft says. "It's on the fronts, it's on the greens, the tees, fairways and some of the high-traffic rough areas."

Bancroft favors topdressing to help percolate water and prevent thatch layers in the turf. The main reason he topdresses the fairways is because of drainage. The course receives 80 to 100 inches of rain annually. He's hoping to get close to six inches under the surface to improve

drainage and stretch the prime season.

At Salishan, nine holes close so the crew can aerify and then topdress. The process allows the crew to work a regular day, which reduces overtime and fatigue. It also allows nine holes to remain open each day and keep revenue flowing.

Ingenuity kicked in to help speed up things for Bancroft. His crew uses a core harvester with a modified conveyer that picks up the cores and transfers them over the bed where they fall into a transfer vehicle. When that vehicle is full, an empty vehicle takes its place to keep up the

pace. The process reduces the time required almost in half.

"I'm actually going to try a once-a-month application this year," Bancroft says, adding that he's planning for two moderate applications and four or five light applications. "We're just going to put a lighter amount down so it doesn't affect the golfers as much."

Senseman's crew is taking a similar approach – more frequent light applications.

"We have a program in which we're just sanding two to three fairways a day," Senseman says. "It takes us a week, and we wait three to four weeks and start over again."

While the drawbacks can be significant – some might not surface until the practice matures throughout the years – some superintendents stand by topdressing fairways as a sure way to improve conditions for demanding customers.

"The standard expectations for the golf course are continually being elevated," Senseman says. "Any kind of light-frequent topdressing you can afford to do is only going to improve the condition of the golf course." **GCI**

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At Oswego Lake Country Club, Bob Senseman and his crew have made four fairway topdressing applications since October 2006. Photo: Oswego Lake Country Club





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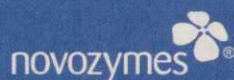
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New bentgrass sod was installed around an oak tree on the fairway of the 14th hole, which now offers members multiple shot options off each tee. Photo: Flossmoor Country Club

## BACK TO ITS ROOTS

FLOSSMOOR  
RECAPTURES ITS  
CLASSIC PAST BY  
RESTORING ITS  
GOLF COURSE

BY MARK LESLIE

**E**tched in the history books with indelible connections to venerable golf icons Bobby Jones and Chick Evans, 105-year-old Flossmoor Country Club is in the midst of a remodeling project that's expected to return it to its heyday.

Before 1962, Flossmoor hosted major events including five Western Opens, five Western Amateur Championships, two USGA National Amateur Championships and one PGA Championship. Members want to rekindle that glory and prepare the course for the future without tearing it up, says green chairman Mark Egge.

To meet that objective, the club engaged Holland, Mich.-based golf course architect Raymond Hearn, an expert in classical golf

course architecture who has restored a number of courses built during what's known as the Golden Era of golf course design.

"None of the members were interested in getting a modern marvel," says club president Nick Zagotta. "They're happy to retain the classic character of the golf course. That's one of the reasons this plan was approved overwhelmingly – because we went back to our roots instead of trying to become something we're not.

"We're in one of the oldest suburbs in Chicago, one of the oldest golf courses in Chicago and one of the greatest properties in metro Chicago," he adds. "We wanted to embrace that."

Connecting to Flossmoor's history through this project, it was fitting that:



- Charles "Chick" Evans, Chicago's favorite son in the early 1900s and one of golf's great amateurs, won his first national U.S. Amateur Championship at Flossmoor in 1916.

- The club has been a strong supporter of the Evans Scholars Program.

- Hearn happens to be one of the only two practicing golf course architects who's an Evans Scholar, receiving a full four-year college scholarship from the program.

- Bobby Jones' then club-record 67 was broken in 1996 by Egge.

- Having hosted some of the great amateur events many years ago, Flossmoor remains committed to the amateur game by welcoming a U.S. Open qualifier last year.

Hearn, who teaches a golf course architecture class overseas each year and has an appreciation of traditional design, holds this project dear to his heart, and for more reasons than his and Flossmoor's connection to Evans.

"There's something magical about Flossmoor," he says. "Just entering the property is surreal. It has such a rich history and tradition, and they're so humble about it. I visit a hundred golf courses every year, and what I normally see are courses that have so many inherent problems that you will look like a hero no matter what you do to them. Then, once in a while, you find a course that's so good you tell members, 'Let's preserve what we've got.'

"Very, very seldom do you run into a place

The restoration project includes a new greenside bunker on the 14th hole. Photo: Flossmoor Country Club







Golf course architect Raymond Hearn and golf course superintendent Robert Lively examine construction plans and a new bunker liner before sand is installed. Photo: Flossmoor Country Club

that's already very, very good, but yet there are opportunities to take it to the next level two to three notches up," he adds. "Flossmoor blew me away. Never in 22 years in the business have I met a membership like this that's so committed to this project – bar none. My hat's off to them for agreeing to such subtle changes. This is off the charts for me."

#### A CLASSIC LOOK

Flossmoor's members are interested in, for the most part, classic golf course design and obviously because of the overwhelming vote, they wanted to return to that, Hearn says.

This is no typical restoration of a famous old golf course. Hearn has used limited original sketches by architect H.J. Tweedie, a Briton who

designed a dozen golf courses in Illinois, Indiana and Wisconsin until his death in 1921.

But Hearn isn't restoring all things Tweedie.

"He was good at routing and shot value, and his greens were very good, but bunkers were not a strong part of his palette," he says. "He was probably influenced by Willie Park Jr., C.B. Macdonald, Harry Colt and C.H. Alison. He was definitely not influenced by A.W. Tillinghast, Donald Ross or Alister Mackenzie."

Hearn's goal is to restore a classical look and flair that has been lost over time because of tree plantings, greens that mowing patterns have made smaller and rounder causing pin placements to vanish, bunkers that have lost their shape and other course changes.

"The greens are the heart and soul of the golf



course," Hearn says. "Lose that relationship, and you lose the relation of the green concept with the adjacent bunkers and the approach contours. Equally as important is restoring lost shot values and playability. We've been able to restore many of the old options that have disappeared over the years and created many more."

Working with golf course builder Jerry Deemer of Traverse City, Mich.-based Country Golf, Hearn is placing bunkers perpendicular to fairway edges and undoing years of well-intended but poorly placed tree plantings by cutting down a number of trees. Because the course isn't landlocked and has plenty of interior acreage, he's also able to expand and create multiple attack angles and shot options on several holes that will test the ingenuity and shot-making of the best golfers, while adding uniqueness and variety for others.

He also has blown up the stereotypical bunker-bunker in front of greens, allowing the bump-and-run game, and added 80- to 100-foot bentgrass areas behind the greens.

Aiding the work is Flossmoor golf course superintendent Bob Lively who, Hearn says, is incredible and an advocate of the old school

of firm and true fairways, greens and bunkers. That fits perfectly with Hearn's desire to revive the classic feel and bump-and-run play of the original golf course.

"We wanted an architect who wouldn't turn up a lot of dirt," Lively says. "Ray has a lay-of-the-land approach to his projects and is the perfect architect for us. His bunker styles are like landforms. They're gorgeous and unique."

"He's changing a lot of contours in the fairways, especially where he's doing the bunkering," he adds. "I'm impressed."

#### PHASE IT IN

Phase I of the project comprises restoring holes 14 through 18. Phase II, including restoring holes one through three and 10 through 13, will begin this fall. Phase III includes restoring holes four through nine and will be carried out in 2008.

Lively won't have to alter any of his maintenance practices, and there won't be a need for special mowers because of banks or bunkers.

Meanwhile, because of the club's age, the turfgrass on the golf course is a mix of bentgrass and *Poa annua*, including all kinds of mutations from

#### AT A GLANCE

#### Flossmoor Country Club

**Location:** Flossmoor, Ill.

**Type of project:** Restoration (three phases)

**Cost:** \$1.8 million

**Phase I:** Six holes started and completed in fall 2006

**Phase II:** Six holes to be started and completed in fall of 2007

**Phase III:** Six holes to be started and completed in November 2008

**Architect:** Raymond Hearn

**Builder:** Country Golf

**Golf course superintendent:** Bob Lively

**Turfgrass:** Bentgrass and *Poa annua*

**Length:** 7,139 yards



Raymond Hearn and Robert Lively examine construction plans and a new sand bunker lip. Photo: Flossmoor Country Club





The restoration project includes new fairway sand bunkers on the 18th hole. Photo: Flossmoor Country Club

tee to green, Lively says. Because the course isn't being closed during the restoration, regrassing the greens is impossible. Besides, members are pleased with the conditions of the greens and don't want them touched, Lively says.

Therefore, the only new greens will be on holes eight and 13, which will be built to USGA specifications and seeded with a mix of Penn-A bentgrasses. The existing 13th hole is a 118-yard downhill par-3 whose 4,800-square-foot green explodes from top right to bottom left with a 6.5-degree slope and contains only 1,000 square



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feet of pinnable space.

"It's a terrible green, and when greens got faster in the 1980s and '90s, it became especially unfair," Lively says.

As part of Phase II this year, Hearn is moving the entire 13th hole left into a wooded area where it will become a 145-yard hole with bunkering on the right side, giving it bump-and-run possibilities.

As part of Phase III, the eighth hole, a 305- to 425-yard par 4, will be transformed. Two small ponds built 40 years ago will, by necessity, remain in play on the hole. But Hearn will lengthen the hole 40 yards and give the green a lower profile like the others but with a better relationship with the water and a bump-and-run feeding into the green from the left.

Additionally, Egge, Zagotta and Lively reference the great lawn effect Hearn created in front of the clubhouse, where the large 16th, 17th and 18th fairways converge.

"It is a very nice aesthetic look, and it really opens up the view through the course from the veranda," Lively says.

#### DOING THE RIGHT THING

Already, club members are excited about Hearn's work.

"People are thrilled with the plan and look forward to finishing it," Zagotta says.

"When all this work is done, it's going to be phenomenal," Egge says. "It will be a lot more fun and challenging. We're adding some native grass areas that will create a memorable golf experience. The prestige associated with the club will be elevated within the Chicago Golf District. It's already a special place, but it will be better."

Zagotta gives credit to the hard work of the previous five club presidents – Tom Gillie, Dennis Gillie, Bob Blum, Taylor Cope and Greg Palumbo – who laid the groundwork to complete

the long-range plan.

"Anything at a golf course is like politics," Zagotta says. "You can't turn the Titanic around on a dime. All five men were integral in getting it done. They laid all the groundwork and got the members accustomed to the idea."

Although Bandon Dunes developer Mike Keiser wasn't involved with the Flossmoor resoration, Zagotta knows and respects Keiser, who influenced the Flossmoor project.

"Guys like him are pioneering the effort back to classic golf," Zagotta says. "His decision-making process and success and great vision played a role in us getting back to our traditional roots. If you want a model in 2007, you can't go wrong looking at that model. That's one of the reasons we know we've done the right thing." GCI

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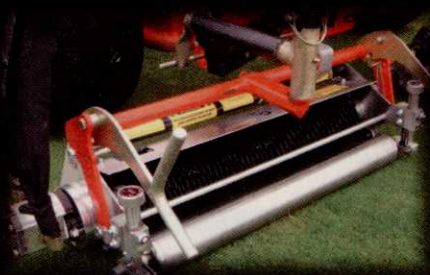
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BY JOHN R. STREET AND DEBORAH D. HOLDREN

## The fertilizer/disease link

How nitrogen source, rate and timing application method effect creeping bentgrass quality and dollar spot

Dollar spot (*Sclerotinia homoeocarpa*) is a major problem on high maintenance turfgrasses such as bentgrass (*Agrostis palustris* Hudollar spot), annual bluegrass (*Poa annua*), Kentucky bluegrass (*Poa pratensis* L.) and perennial ryegrass (*Lolium perenne* L.).

Foliar and granular fertilization programs were compared on bentgrass performance and dollar spot incidence at various nitrogen rates and application frequencies. The granular fertilizer source consistently resulted in lower color ratings than the foliar sources. Good to excellent color responses didn't always result in acceptable dollar spot suppression; however, foliar fertilization consistently resulted in less dollar spot than comparable granular treatments. Foliar sources provided dollar spot suppression for at least 70 to 80 days and 154 days without fungicide at 0.25 of a pound of

N/M weekly (every seven days) in 2004 and 2005, respectively.

This research suggests foliar feeding with sufficient nitrogen can reduce dollar spot severity and potentially result in less fungicide use.

### PREMISES AND OBJECTIVES

Dollar spot continues to be problematic on high maintenance turfgrasses such as bentgrass, annual bluegrass, Kentucky bluegrass and perennial ryegrass. As such, golf course superintendents reportedly spend more money on fungicides to control dollar spot than for any other turfgrass disease (Vargas, 1994).

Superintendents managing bentgrass fairways are reporting more intense dollar spot pressure and increased difficulty in dollar spot control. Many reasons for these problems have been

hypothesized, including resistance in field populations of *S. homoeocarpa* to chemicals, lower nitrogen fertility programs, fungicide interactions and plant growth regulator use.

Chlorothalonil has been used as a standard contact fungicide for dollar spot management throughout the years. Recently, chlorothalonil use by golf courses has been restricted to a certain seasonal limit. This restriction has significantly influenced superintendents' fungicide-usage programs and their chemical family alteration strategies for dollar spot management.

The purpose of this research project was to:

1. Reiterate previous Ohio State research about the effects of nitrogen fertilization rate, (light rates vs. traditional heavier rates), frequency (seven-day vs. 14-day application schedule) and application method (foliar feed vs. granular feed) on bentgrass quality and dollar spot severity; and
2. Determine the latter interactions on dollar spot incidence, fungicide efficacy, reduced fungicide rates and extended fungicide application intervals.

### MATERIALS AND METHODOLOGY

This study was conducted in 2004 and 2005 at the Ohio Turfgrass Foundation Research and Education Facility at The Ohio State University in Columbus, Ohio. The study was a randomized complete block design with three replications. The creeping bentgrass cultivar was 'Lopez'.

Four fertilizers (three liquid and one granular), four nitrogen rates and two timing frequencies were used (Table 1). The granular

**Table 1. Fertilizer rates, frequencies and timings**

N rate		Frequency	Total N / month	
lb N/M	kg N/ha		lbs N/M	kg N/ha
0.175	8.6	weekly	0.70	34.4
0.25	12.2	weekly	1.0	48.8
0.35	17.1	biweekly	0.70	34.4
0.50	24.4	biweekly	1.0	48.8
Untreated check	---	--	--	--

Fertilizer treatments received either no fungicide, half rate or full rate "predisease" applied at 30-day intervals beginning May 11, 2004 and May 26, 2005.



fertilizer Tee Time 20-4-12 (The Andersons) was applied using a drop spreader. The liquid and water-soluble fertilizers were applied using a CO<sub>2</sub> pressurized sprayer using two flat-fan nozzles calibrated to deliver two gallons per 1,000 square feet.

Tee Time is a granular fertilizer containing 1 percent polymer – coated ammoniacal nitrogen – and 19 percent urea nitrogen with 12 percent of the urea as microprilled sulfur-coated urea. Bulldog 28-8-18 is a dry, water-soluble fertilizer with 2.1 percent ammoniacal nitrogen, 5.4 percent nitrate nitrogen and 20.5 percent urea nitrogen for liquid/foliar feeding.

ACLF 20-2-1 and HPF 19-1-1 (Agro-Culture Liquid Fertilizers) are liquid fertilizers also designed for liquid/foliar feeding composed of urea, nitrate and ammoniacal nitrogen with micronutrients.

The nitrogen rates were 0.175 of a pound of nitrogen per 1,000 square feet and 0.25 of a pound of nitrogen per 1,000 square feet applied every seven days, and 0.35 of a pound of nitrogen per 1,000 square feet and 0.5 of a pound of nitrogen per 1,000 square feet applied every 14 days.

Chlorothalonil (Daconil Ultrex) was split across the fertilizer source/rate/timing treatments as no-fungicide, half rate (1.625 ounces per 1,000 square feet), and full rate “predisease” (3.25 ounces per 1,000 square feet), resulting in 54 total treatments. Applications were made on about a 30-day treatment schedule beginning May 11 and ending Sept. 14, 2004, and again on May 26 and ending Sept. 30, 2005.

Additionally, on April 27, 2005, a preseason preventive rate of chlorothalonil was applied as a blanket application to the entire study. This preseason application was designed to bring all plots to 0 percent prior to 2005 treatments.

Mowing was performed three times a week (Monday, Wednesday and Friday) using a Toro 3100 triplex mower with a bench setting of 0.5 inch, and clippings were removed. The site was irrigated regularly to prevent wilt. Insecticide

**Table 2. Dollar spot severity as affected by nitrogen source, rate and application frequency**

Fertilizer source	N rate (kg ha <sup>-1</sup> )	Timing	% Dollar Spot					
			Aug. 2, 2004			Sept. 22, 2005		
			No fungicide	Half	Full	No fungicide	Half	Full
Tee Time	8.6	7 day	56.7	33.3	20	25	21.7	11.7
ACLF	8.6		20	16.7	10	21.7	20	8.3
Bulldog	8.6		8.3	10	5	16.7	11.7	8.3
HPF-N	8.6		18.3	15	11.7	16.7	11.7	6.7
Tee Time	12.2	7 day	46.7	31.7	18.3	28.3	28.3	18.3
ACLF	12.2		1.7	1.7	0	11.7	8.3	3.3
Bulldog	12.2		0	0	0	1.7	1.7	0
HPF-N	12.2		1.7	0	0	6.7	1.7	1.7
Tee Time	17.1	14 day	46.7	21.7	23.3	33.3	25	18.3
ACLF	17.1		21.7	20	13.3	28.3	25	16.7
Bulldog	17.1		26.7	13.3	8.3	21.7	13.3	10
HPF-N	17.1		28.3	16.7	18.3	20	18.3	11.7
Tee Time	24.4	14 day	30	20	16.7	26.7	25	16.7
ACLF	24.4		20	10	6.7	25	18.3	10
Bulldog	24.4		18.3	8.3	3.3	1.7	0	0
HPF-N	24.4		21.7	6.7	6.7	10	8.3	3.3
Unfertilized	–	–	46.7	35	26.7	30	25	18.3
			LSD (0.05) 10.52			LSD (0.05) 12.56		



# Research

applications were made for cutworms, white grubs and black turfgrass ateniinus. Preemergent herbicide was applied each year in April.

Dollar spot ratings were taken during active dollar spot period. Dollar spot was active in May and June and again in late July through September 2004 and August and September 2005. Dollar spot was rated subjectively as an estimate of percent plot infected with no visible disease and total dollar spot cover.

Turfgrass color ratings were taken biweekly using a scale of one to nine with one representing poorest color, six representing just acceptable and nine representing best (dark green).

Clippings were harvested on Sept. 13, 2004, and Sept. 20, 2005, by making a single pass down the center of each nitrogen treatment with a commercial walk-behind greensmower. Clippings were bagged, dried at 149 F for 72 hours and analyzed for total nitrogen content of clippings (percent by weight) using the standard Kjeldahl method.

## DOLLAR SPOT

Dollar spot severity is reported for the peak period in August 2004 and September 2005 (Table 2). Only one major outbreak of dollar spot occurred in 2005 (August, September and October).

All granular treatments resulted in consistently more dollar spot when compared to equivalent foliar treatments. Among the granular no-fungicide treatments, 0.5 pound N/M every 14 days resulted in the least amount of dollar spot and was the only granular no-fungicide treatment to exhibit a dollar spot reduction less than the unfertilized no-fungicide check.

All granular treatments with or without fungicide in 2004 and 2005 failed to provide levels of dollar spot control that would be acceptable among most golf course superintendents (Table 2).

Among the no-fungicide foliar treatments, all sources at 0.25 pound N/M every seven days consistently exhibited the least amount of dollar spot (see photo at right) and provided remarkable dollar spot suppression for 80 days and 154 days in 2004 and 2005, respectively. The no-fungicide 0.25-pound N/M treatment with all three foliar sources resulted in dollar spot suppression equivalent to the latter nitrogen rate with half- and full-rate fungicide. This clearly points to the importance of nitrogen

rate, source, and application timing in nitrogen fertility and dollar spot interactions.

All the foliar treatments at 0.25 pound N/M every seven days in combination with half-rate fungicide resulted in less than 3 percent dollar spot in 2004, less than 10 percent dollar spot in 2005, and minimized peaks in dollar spot severity as compared with fertilizer treatments alone, and dollar spot control was equivalent to the full-fungicide rate.

At the foliar nitrogen rates of 0.175 of a pound N/M and 0.35 of a pound N/M every seven and 14 days, respectively, Bulldog was the only foliar source that consistently exhibited a trend toward acceptable dollar spot control at the half- and full-fungicide rates in 2004 and 2005.

All the foliar sources at 0.25 pound N/M every seven days consistently provided better dollar spot control than the foliar sources at 0.5 pound N/M every 14 days.

Finally, granular treatments had lower foliage nitrogen levels than the foliar treatments within the same rate/frequency programs with average foliar nitrogen contents of 5 percent in 2004. In 2004, all three foliar sources at the 0.25-pound N/M rate, which consistently resulted in the least dollar spot incidence among treatments, exhibited foliage nitrogen contents of 5.3 percent (Table 3).

In 2005, granular treatments again showed a trend for lower foliage nitrogen levels than the foliar treatments within the same rate/frequency programs. Foliage nitrogen levels in 2005 were on the average 0.5 to 1.0 percent higher than in 2004, which might reflect a buildup of residual nitrogen or conditions more conducive to nitrogen use efficiency (i.e. 2005 summer temperatures relative to 2004). The granular treatments (Table 3) in 2005 resulted in foliage nitrogen levels ranging from 5.56 to 5.9 percent. Dollar spot incidence was still significant at these latter foliage nitrogen levels suggesting factors other than foliage nitrogen content might be connected to higher dollar spot incidence with granular vs. foliar feeding.

## TURFGRASS COLOR

Among all nitrogen source/rate and application frequency treatments, turfgrass color wasn't influenced by fungicide rate (i.e. zero, half and full) in either year. For example, the turfgrass color ratings for ACLF at each rate

and frequency within any rating date were the same whether at zero, half or full rate of chlorothalonil. This trend was consistent within each fertilizer source/rate and frequency treatment throughout both seasons.

Within the granular treatments, initial green-up responses were significantly slower than any of the foliar treatments in 2004 and 2005. After green-up, seasonal color responses with all granular treatments were acceptable with color ratings ranging from six to seven in 2004 and six to 7.5 in 2005. The granular treatments within any comparative fertilizer rate and frequency consistently resulted in color ratings of one to three units less than foliar treatments. Within the granular treatments, the highest and most consistent turf color resulted with the 0.5-pound N/M rate biweekly.

The foliar treatments consistently provided higher turf color than the granular treatments. All the foliar treatments provided good to excellent green-up responses. All the foliar treatments also provided good to excellent color responses throughout the season. The highest and most consistent turf color among all the foliar sources occurred at the 0.25-pound N/M weekly treatment with average seasonal ratings from 8.5 to nine.



This photo shows the differences among dollar spot severity of the 0.25-pound-nitrogen, seven-day foliar treatment (yellow box on the left) vs. 0.5-pound-nitrogen, 14-day foliar treatment (yellow box in the middle) and 0.5-pound-nitrogen, granular 14-day treatment (yellow box on right) with no fungicide and one-half-rate fungicide applied (red boxes).



## IMPACT ON THE BUSINESS

# Treating dollar spot preventively saves in more ways than one BY CINDY CODE

Dollar spot is one of the most recognized and ubiquitous diseases on golf courses, wreaking havoc on cool-season turf but less destructive to warm-season turf such as bermudagrass.

Its economic impact is hard to quantify, but it's considered enough of a threat that most superintendents work proactively to treat dollar spot rather than wait for the disease to make an appearance.

However, that wasn't always the case. In the past, if superintendents were surveyed with the question of when they first spray fungicides to manage dollar spot, many would answer after they first see it. Historically, this was true because there was no sure way of predicting it. Depending on the year, the first outbreaks of dollar spot might appear any time from June to early July, and were treated on an as-needed basis.

Now, superintendents work to treat their courses for dollar spot because they prefer not to see the familiar round, tan spots on their courses.

"Superintendents are spending more money on pesticides because they don't want to see insect or disease infestations," says Stan Zontek, Mid-Atlantic director for the USGA Green Section. "Many courses figure it's easier and cheaper to spend money upfront to prevent a problem than to fix it."

Treating diseases is becoming much more of a preventive than curative proposition because turf blemishes are unacceptable, Zontek says.

"It becomes a real problem if you get into treating a disease because if you have dollar spot on fairways and a golfer or a g.m. asks you, 'Why does that grass look the way it

does?' Some try to save money and wait until they see a problem and then try to react as quick as they can," he says. "A huge percent of cases that I see, people just don't want to see dead grass, particularly if it's preventable."

Consequently, superintendents decide to spend the money upfront. In many cases, it's the separation between the better clubs and average courses.

Contact and systemic fungicides are used to treat dollar spot. While systemics must enter a plant, go through a transformation and be metabolized by the plant to manage dollar spot, contacts act more as a topical skin cream but can easily wash off. As a result, many superintendents tank mix contact and systemic fungicides to create twice the chemical to cure the disease and prevent the next outbreak.

Most superintendents are sensitive to criticism. Each club has to make judgment decisions. Some choose to wait while others don't.

Dollar spot has become more prevalent during the past five to eight years, says Terry Bonar, CGCS, at Canterbury Golf Club in Beachwood, Ohio.

"I don't know if it's a different variety from years ago, but it's more of a problem today," he says. "Before, we could outgrow it by putting nitrogen down and growing the grass. Now when it affects the turf, it takes it down to the dirt. It's a disease to be reckoned with and very prevalent in this part of the country. It's a problem for every course."

Bonar preventively sprays light rates of fungicide every week – rather than every other week – to manage dollar spot. Daconil is his

primary contact fungicide of choice.

"Once you have dollar spot, you have to increase your fungicide rates to get rid of it," he says. "Certainly not the whole course, but you need to spray where it's infected. Once it appears, the next time disease pressure appears, dollar spot pops up. So, it's certainly easier to keep it out."

Bonar follows research conducted by The Ohio State University that shows treating dollar spot in the early

**"Superintendents are spending more money on pesticides because they don't want to see insect or disease infestations."**

**— STAN ZONTEK**

spring knocks the inoculant down. For superintendents who only spray three times a season, Michigan State University recommends that spring is the most important application, he says.

Bonar generally applies a systemic fungicide (Bayleton) in early April and then turns to a weekly program beginning in May until the first or second week of September. By the end of the season, dollar spot isn't a problem. Bonar will spot spray in the fall, but it's not just for dollar spot; he's also treating snow mold.

Canterbury spends about \$35,000 a year treating turf diseases, which is comparable to other private clubs. Bonar says he's fortunate to have the resources to keep dollar spot at bay. He's been superintendent at Canterbury since 1984 and says dollar spot appears the worst on tee edges and fairways. GCI



**Table 3. Effect of nitrogen rate, timing and application method on nitrogen content of creeping bentgrass foliage\***

Treatment	Rate (lb N/M)	Timing	% Total N**	
			2004	2005
1. ACLF	0.175	7 day	5 efg	5.95 abcd***
2. HPF-N	0.175	7 day	4.8 fgh	5.94 abcd
3. Tee Time	0.175	7 day	4.7 gh	5.60 d
4. Bulldog	0.175	7 day	5.0 efg	5.92 abcd
5. ACLF	0.25	7 day	5.5 abc	6.38 a
6. HPF-N	0.25	7 day	5.3bcd	6.16 abc
7. Tee Time	0.25	7 day	4.7 gh	5.90 abcd
8. Bulldog	0.25	7 day	5.6 ab	6.13 abc
9. ACLF	0.35	14 day	5.1 def	5.75 cd
10. HPF-N	0.35	14 day	4.9 efgh	5.61d
11. Tee Time	0.35	14 day	4.6 h	5.56 d
12. Bulldog	0.35	14 day	5.2 cde	5.85 bcd
13. ACLF	0.5	14 day	5.6 ab	6.16 abc
14. HPF-N	0.5	14 day	5.8a	6.24 abc
15. Tee Time	0.5	14 day	5 defg	5.72 cd
16. Bulldog	0.5	14 day	5.7 ab	6.29 ab
17. Check	—	—	3.7 i	4.93 e
LSD			0.35	0.53

\* Clippings collected on Sept. 13, 2004 and Sept. 20, 2005

\*\* Nitrogen content determined by the Kjeldahl method

\*\*\* Numbers followed by the same letter aren't significantly different

## CONCLUSIONS

A positive relationship exists between dollar spot control/suppression, nitrogen rate and application frequency with foliar nitrogen sources. Nitrogen rate and application frequency are important.

This research to date suggests dollar spot control/suppression is impacted by higher nitrogen rates (i.e. one pound N/M) than are typically being used by golf course superintendents. Foliar fertilization provides consistently superior dollar spot suppression than equivalent granular fertilization. Foliar fertilization every seven days results in better dollar spot control than foliar fertilization every 14 days (see photo on page 88).

It's also apparent that nitrogen source responses that produce acceptable color responses might not be sufficient monthly or seasonal totals to impact dollar spot suppression significantly. The nitrogen content of foliage among the various treatments suggests dollar spot suppression via nitrogen fertility requires foliage nitrogen levels at the upper end of the sufficiency range of 3 to 6 percent with a target of at least 5 percent or greater.

This research suggests foliar feeding with sufficient nitrogen can reduce dollar spot severity and potentially result in less fungicide use. The impact of foliar feeding on dollar spot severity might be related to a number of factors, including more efficient use of foliar-applied nitrogen, a simple dosage response relative to slow-release granulars, an interaction with the pathogen on the leaf surface, a physiological response because of the production of a chemical that suppresses the pathogen in or on the foliage or simply related to a critical nitrogen rate.

More research needs to be conducted about foliar feeding, foliar feeding efficiency, nitrogen rate and fungicide programming and plant growth regulator/foliar feeding responses. **GCI**

*John Street is a professor of agronomy at The Ohio State University, department of horticulture and crop science in Columbus, Ohio. Deborah Holdren is a research associate for The Ohio State University.*

*Literature cited for this article can be found on our Web site, [www.golfcourseindustry.com](http://www.golfcourseindustry.com), posted with this article.*



BY S.J. KOSTKA, J.L. CISAR, S. MITRA, D.M. PARK, C.J. RITSEMA, L.W. DEKKER AND M.A. FRANKLIN

# Irrigation efficiency

Soil surfactants can save water and help maintain turfgrass quality

Golf courses are highly visible users of water, and the impact of their irrigation practices is scrutinized continually. Increasing regulatory mandates by government agencies and water utilities are driving the need for irrigation efficiency and conservation. Water might be conserved by maximizing input effectiveness (irrigation, precipitation) or minimizing output losses (transpiration, evaporation, runoff and leaching or drainage below the root zone).

Soil water repellency is a barrier that inhibits effective water management and conservation. Soil water repellency is a well-established phenomenon occurring worldwide in diverse soil types and with a range of crops and cropping systems (Wallis and Horne, 1992; Dekker et al., 2001). The phenomenon is attributed to the accumulation of hydrophobic organic compounds as coatings on soil particles and aggregates, as well as physiochemical changes that occur in

decomposing soil organic matter of plant or microbial origin (Miller and Williamson, 1977; Hallett, 2001).

Soil water repellency decreases infiltration of irrigation water and precipitation, causes nonuniform wetting of soil profiles, increases runoff and evaporation and increases leaching due to preferential flow (Dekker et al., 2001). This nonuniform wetting deprives the plant of a consistent supply of water and impacts turf health because of ineffective delivery and non-uniform distribution of soil-directed fungicides, insecticides and fertilizers.

Even small amounts of hydrophobic material can dramatically influence wetting in soils and the effectiveness of soil-directed products. When hydrophobic sand particles were mixed with hydrophilic sand in a model porous substrate system, as few as five to six hydrophobic particles per 100 (5 to 6 percent) induced resistance to

spontaneous wetting (Bauters et al., 1998). At 3 percent hydrophobic particles, the infiltration wetting pattern shifted from a wide horizontal wetting front to an unstable fingered pattern. Even at only 1 percent hydrophobic particles, flow behavior was modified negatively, yet the substrate was still considered wettable (Crist et al., 2004).

## TOOLS FOR CONSERVING WATER

Soil surfactant use is well documented for the management of soil water repellency in thatch and soils, for control of localized dry spot on golf greens and for improved turf quality in highly managed turfgrass (Miller and Kostka, 1998; York and Baldwin, 1992; Cisar et al., 2000; Kostka, 2000; Karnok and Tucker, 2001). Recently, research and superintendent use have proven some soil surfactants can be used in best management practices to:

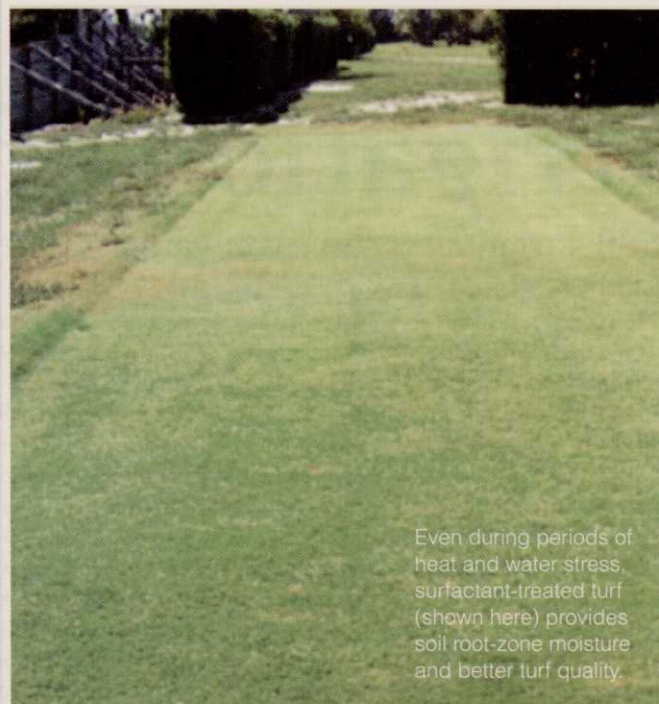


Soil water repellency is a barrier that inhibits effective water management and conservation. Photo: Rain Bird





**UNTREATED**



**TREATED**

Even during periods of heat and water stress, surfactant-treated turf (shown here) provides soil root-zone moisture and better turf quality.

- Improve irrigation efficiency;
- Increase delivery and distribution of soil-directed fungicides, insecticides and fertilizers; and
- Conserve water.

Following is a review of recently published and nonpublished research conducted about irrigated soils to illustrate the effects of surfactant treatments on soil wetting, runoff, turfgrass performance and water conservation strategies.

## CALIFORNIA CASE STUDY

A two-year study was conducted at the Center for Turf Irrigation and Landscape Technology at the California State Polytechnic University in Pomona (Mitra et al., 2003). Twenty-four plots of bermudagrass (*Cynodon* spp. 'GN-1'), grow-

ing in a clay loam soil and maintained under fairway management conditions, were laid out in a replicated, split-plot design. Treatments included three different surfactants and an untreated control. The plots were irrigated at 100 percent of the reference cumulative monthly evapotranspiration demand in May, and were reduced to 70 percent ETo in June, followed by a further reduction to 30 percent ETo in July and finally, 10 percent ETo in August. Soil volumetric water content was monitored throughout the experiment using time domain reflectometry. The results were:

- All surfactants improved water retained in the root zone when compared to the control.
- There were notable differences observed between surfactant treatments.

• ACA 1848 (APG-EO/PO block copolymer surfactant blend, currently commercialized as patented Dispatch) maintained adequate soil moisture between irrigation cycles.

• ACA 1848 performed better than other surfactants, and the effects were more pronounced under elevated moisture stress (30 percent and 10 percent of ETo). See chart on bottom of page 93.

## FLORIDA CASE STUDY

A three-year study, 2002-04, was conducted on bermudagrass (*Cynodon dactylon* X *Cynodon transvaalensis* 'Tifdwarf') growing in a sand root zone at the University of Florida, (Fort Lauderdale Research and Education Center). One surfactant, ACA 1848, was tested and compared

## RETURN ON SURFACTANT INVESTMENT

State	Yearly water consumption [millions of gallons]	Yearly water and energy costs	Yearly cost - surfactant	Net dollar savings
Rhode Island	20	\$20,000	\$3,000	\$1,000
Texas	110	\$120,000	\$6,000	\$18,000
California	115	\$125,000	\$7,500	\$17,500



to an untreated control.

Plots were exposed to a dry-down period after treatment applications and allowed to recover between dry-down/declines with irrigation applied on a daily schedule until monthly surfactant treatments were reapplied. Turfgrass quality (scale of one to 10 with 10 equaling dark green turf, one equaling dead/brown turf, and six equaling minimally acceptable turf), volumetric water content, and localized dry spot (percent), when evident, were taken for the duration of the experiment (Park, et al., 2004). In 2002 and 2003, the results were:

- Turfgrass quality and localized dry spot were improved significantly by surfactant treatments.
- Weekly surfactant treatments produced more consistent quality ratings than the monthly treatments and maintained higher turf quality ratings than the control throughout the test period.
- Improved turfgrass quality in the surfactant-treated plots was a consequence of increased root-zone moisture.
- Surfactant-treated plots showed turf quality was maintained even at reduced ET replacement rates.
- Surfactant treated plots showed acceptable turf quality despite water deficits and severe stress conditions. This was achieved at 41 percent ET replacement in 2002 and 62 percent ET replacement in 2003.

In 2004, the protocol was modified. Studies were conducted to see what influence the surfactant had on turf quality when irrigation was reduced. Three sets of replicated turf plots were exposed to three, three-day dry-down periods. All plots were irrigated once before initiation of each dry-down period.

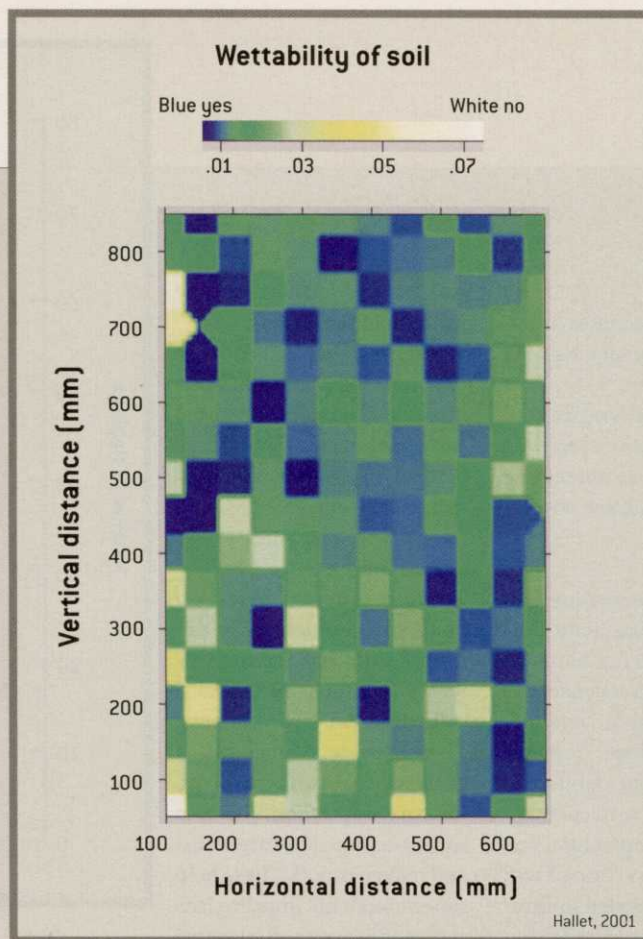
1. Treatment one didn't include a surfactant but received irrigation during the next three days. (100 percent ET replacement)

2. Treatment two didn't receive a surfactant application or irrigation.

3. Treatment three received surfactant applications but no irrigation. (Nonirrigated surfactant treatment.)

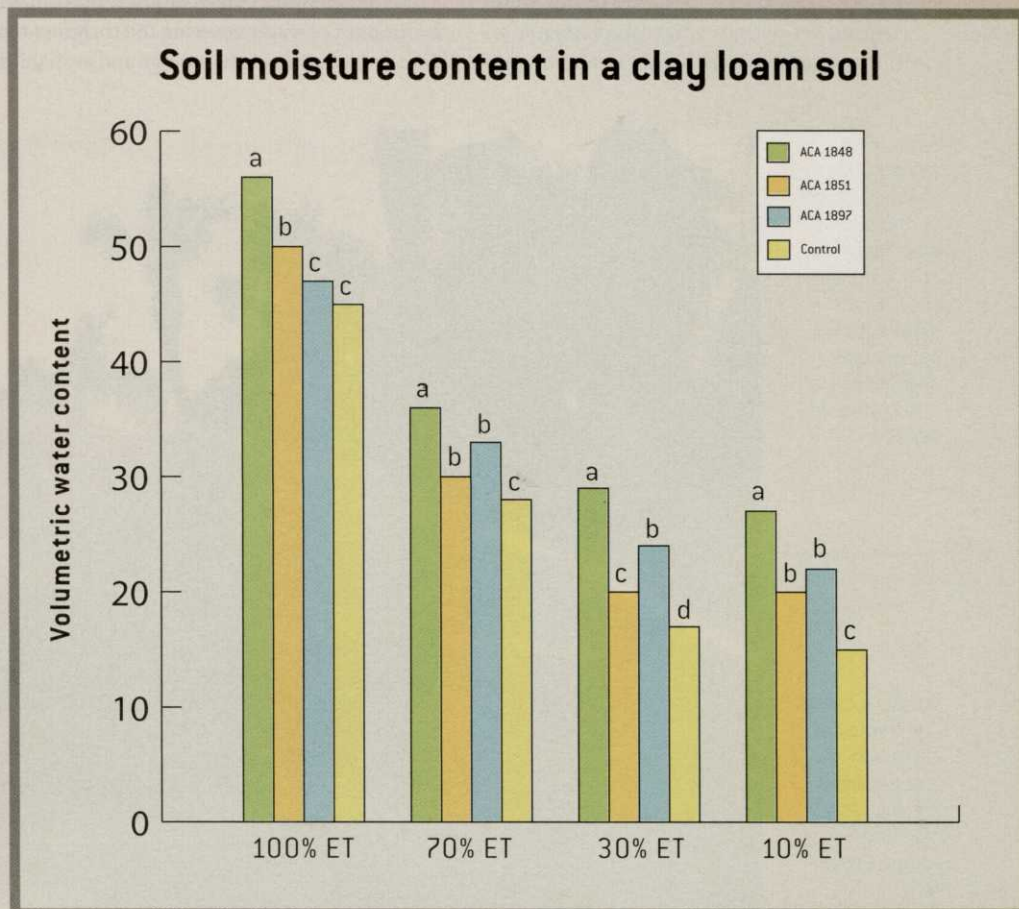
Turfgrass quality and localized dry spot symptoms were monitored visually and with an active infrared/red sensor (Park, et al., 2005). The results were:

- Nonirrigated surfactant-treated plots (treatment three) statistically had significantly equal visual quality ratings as the irrigated plots



Even low levels of soil water repellency dramatically influence wetting of soil and, therefore, distribution of fertilizers, fungicides and insecticides (left).

ACA 1848 improved soil moisture content better than any of the other surfactant formulations and the control (below).





# Research

(treatment one)

- Nonirrigated surfactant treated plots (treatment three) had less localized dry spot than the irrigated plot (treatment one)

- Even with reduced water, the nonirrigated surfactant treated plot (treatment three) showed equal photosynthetic activity as treatment one and significantly better than treatment two.

## OHIO CASE STUDY

Surfactant effects on water conservation and runoff were evaluated at The Ohio State University Turfgrass Research Center in Columbus on established bentgrass (*Agrostis stolonifera* L. 'L93'). Plots were established on a wettable, silt loam soil with a 4-percent slope. Controls received no surfactant treatment, while the remaining plots received weekly surfactant applications (ACA 1848). Soil water potential was monitored with in-ground sensors. Runoff was during periods when rainfall exceeded infiltration capacity of the soil. It was measured using tipping buckets installed at the lowest end of each plot (Sepulveda, 2004). The results were:

- During dry periods when supplemental irrigation was used, the surfactant treatment pro-

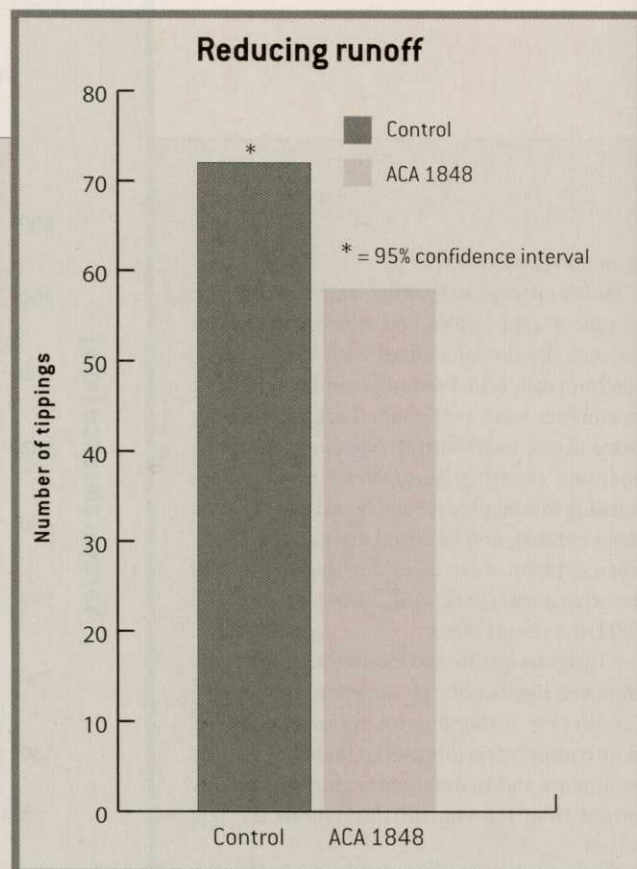
vided more available root-zone water than the control.

- During wet periods when inputs exceeded the infiltration capacity of the soil, runoff from surfactant treated plots was 20 percent less than from the control plots (P equals 0.05).

## CONCLUSION

These results are based on multi-year evaluations in different soils supporting different turf types in dramatically different environments. They provide science-based evidence that surfactants can improve infiltration, increase soil root-zone moisture status and reduce runoff. These help superintendents improve irrigation efficiency and conserve water.

The key to water conservation is maximizing the amount of water entering the turfgrass root zone and maximizing its storage and availability



ACA 1848 significantly reduced runoff on the sloped area (chart above right). Less runoff means more of the water and pesticides percolated into the soil.

Soil surfactants can improve infiltration and increase soil root-zone moisture status. Photo: Toro





once in the root zone (Carrow et al., 2005).

Best management practices propose a diversity of options for conserving water including the potential for use of surfactants (Barton and Colmer, 2004; Carrow et al, 2005). Surfactant use as demonstrated in these studies provides a low-cost, high-return strategy to:

- Improve delivery of water to the root zone and reduce losses to runoff;
- Conserve water;

- Maintain golfer and management expectations for quality turfgrass; and

- Manage resources effectively – be those resources water or energy required for pumping, or fertilizer, fungicide and other products.

Future research is planned to:

- Further substantiate water conservation estimates;
- Establish effects on agrichemical runoff and leaching;

- Quantify improvements in irrigation efficiency and distribution uniformity; and

- Develop an understanding of surfactant use and its relation to soil nutrient availability, and the effect on fungicide and insecticide performance. **GCI**

Literature cited for this article can be found on our Web site, [www.golfcourseindustry.com](http://www.golfcourseindustry.com), posted with this article.



Research and superintendent use have proven some soil surfactants can be used to improve irrigation efficiency. Photo: Toro

## IMPACT ON THE BUSINESS

# Making financial sense of surfactants

**M**anufacturers say surfactants offer a low-cost, high-return benefit for golf courses. Research indicates a well-planned, well-executed surfactant program can reap considerable rewards, including improved delivery of water to the root zone, reduced run-off and better stress resistance. They can also help manage inputs including water, fertilizer and pest management products more effectively.

### FINANCIAL RETURN

Surfactants can have an impact on overall water usage. Originally developed to hold water for better plant performance, golf course superintendents are using them now to stretch limited water resources.

With average water expenditures topping \$50,000 per course – and significantly higher in the Southwest and other year-round golf regions – a properly managed surfactant program can save thousands of dollars per year.

### UP-FRONT INVESTMENT

Spot treatments can have an excellent agronomic impact, but the business impact is limited. However, by using surfactants as part of a fertigation or fairway application program, the return on investment can be extended substantially. Fertigation systems cost between a few hundred dollars to several thousand. But, for facilities that pay a considerable amount of money for

water, the use of surfactants through fertigation systems can more than pay for itself in the first year.

### DROUGHT MANAGEMENT

Water restrictions have become a fact of life throughout the country. In some cases, the restrictions are short-term. In others, they are permanent. Surfactants and other water management tools are essentially “Hamburger Helper” for irrigation. A facility with a well-implemented water management program is likely to be green and healthy far longer than one that is not.

### DOWNSIDES

The biggest downside to any water

management tool is misapplication. Some need to be watered in properly at the time of application, while others are good from the time they’re put down. Use research from manufacturer’s Web sites and other sources to ensure a product is being applied as effectively as possible.

### THE BOTTOM LINE

Surfactants and wetting agents can be excellent tools for golf course superintendents, either in stand-alone situations or in combination with other products. Superintendents should consult their peers and check with researchers, USGA agronomists and other experts before embarking on a particular wetting agent program. **GCI**



# the Wish list

check to see which pieces of  
equipment you need to maintain  
your course better

By Terry Buchen, CGCS, MG

**T**he following golf course maintenance equipment list is comprised for an 18-hole golf course, practice putting green, chipping green, driving range and short-game practice area. It's an updated version of the list I prepared for the magazine back in the 1990s. This new-and-improved version reflects new types of maintenance equipment available. The list also is updated with equipment needed to provide upgraded agronomic and playing-condition standards today's golfers demand.

Obviously, this list is for a high-end facility and should be used as a guideline, adjusted accordingly, for private, semiprivate, public, municipal, resort, casino and military-type golf course maintenance operations. Adjustments depend on each venue's agronomic and playing-condition standards, goals and objectives, as well as available capital and maintenance operating budget funding.



### ✓ Greens (practice areas also)

- 10 walk-behind greensmowers with groomer attachments
- 8 maintenance carts with trailers
- 2 tow-type, spinner greens topdressing machines
- 2 topdressing drag brushes
- 1 300-gallon sprayer mounted on a maintenance vehicle with a walk-behind windfoil spray boom, hose reel and attachments (four-wheel drive where applicable)
- 4 rotary push-type fertilizer spreaders
- 2 drop-type stainless steel fertilizer spreaders
- 5 self-propelled, walk-behind blowers
- 2 tournament speed rollers with spiker/brush attachments with trailers
- 2 sets of light verticut reels for triplex greensmowers
- 2 walk-behind, deep verticut machines with topdresser attachments
- 1 set of spiker attachments for triplex greensmower
- 2 greens aerifiers
- 1 deep-tine greens aerifier
- 1 greens sweeper
- 2 water injection aerifiers with optional head
- 2 aerifier core harvesters
- 2 plug pushers
- 1 portable, subsurface greens drainage portable blower/pump

### ✓ Maintained roughs, short roughs and walk paths (practice areas also)

- 1 12-foot- and/or 16-foot-wide riding rotary mower (four-wheel drive where applicable)
- 2 72- to 88-inch-wide riding rotary mowers (four-wheel drive where applicable with leaf mulch kits where applicable)
- 2 reel- or rotary-type triplex mowers (all-wheel drive where applicable)
- 2 triplex reel-type mowers (all-wheel drive where applicable)
- 10 string-line trimmers
- 10 hovercraft-type rotary mowers
- 1 PTO tractor-mounted blower
- 2 turbine blowers with a trailer or maintenance cart mount
- 1 pull-type vacuum/sweeper
- 3 self-propelled, walk-behind blowers

### ✓ Fairways (practice areas also)

- 4 five-plex fairway mowers with one spare set of cutting units (four-wheel drive where applicable)
- 2 pull-type fairway topdressers with material handling systems
- 2 large fairway topdressing drag mats
- 2 triplex greens mowers with one spare set of cutting units (all-wheel drive where applicable)
- 1 large rotary PTO fertilizer spreader
- 1 rotary fertilizer spreader mounted on a maintenance vehicle
- 1 combined rototiller/seeder
- 2 300-gallon sprayers mounted on maintenance vehicles with windfoil spray booms, hose reels and attachments (four-wheel drive where applicable)
- 2 pull-type sweepers/vacuums
- 1 three-gang pull-type fairway/rough roller
- 2 fairway aerifiers
- 1 deep-tine fairway aerifier
- 1 shatter/pulverizer/slicer
- 2 plug pulverizers/sweepers
- 1 set of light verticut reels for five-plex fairway mowers
- 1 deep fairway verticut PTO unit
- 1 PTO verticut/seeder
- 1 grass clipping scattering/dispersal machine

### ✓ Tees, collars/approaches/collection fairways (practice areas also)

- 7 walk-behind 26-inch-wide tee/collar mowers
- 6 maintenance carts with trailers
- 3 triplex tee mowers with one spare set of cutting units (all-wheel drive where applicable)
- (Use fairway mower if practice tees are large enough)

### ✓ Clubhouse

- 2 walk-behind, self-propelled rotary mowers with grass catchers
- 2 riding trim mowers with sulkies
- 2 maintenance carts with trailers
- 2 sidewalk edgers
- 2 backpack blowers
- 2 backpack sprayers



## Miscellaneous

- 3 utility tractors with turf tires (four-wheel drive where applicable)
- 1 skid-steer loader with fork lift, power auger and attachments
- 1 miniexcavator trackhoe with rubber tracks
- 1 300-gallon, self-contained hydromulcher
- 3 maintenance vehicles with hydraulic dump body (four-wheel drive where applicable)
- 1 one-ton dump truck (four-wheel drive with snow plow and salt spreader where applicable)
- 1 large dump trailer
- 1 three-quarter-ton pickup truck with power lift tail gate (four-wheel drive where applicable)
- 1 four-door SUV for the superintendent (four-wheel drive where applicable)
- 1 18-inch junior sod cutter
- 3 bunker/sidewalk powered reciprocator-type edgers
- 1 portable, 6,000-watt electric generator (with trailer where applicable)
- 1 portable, three-inch diameter trash pump with suction/discharge hoses and trailer
- 1 electric (48-volt) golf cart for the superintendent
- 1 equipment transport trailer licensed for highway use
- 2 riding bunker rakes with front sand blade and one landscape scraper box (all-wheel drive where applicable)
- 1 powered riding utility roller
- 1 three-point hitch tractor-mounted landscape scraper box with spring loaded teeth

- 1 three-point hitch tractor-mounted landscape rake
- 1 drag-type landscape harrow
- 1 row boat with oars and electric trolling motor
- 3 chain saws and climbing equipment
- 2 gasoline-engine-powered pole tree pruners
- 3 backpack sprayers
- 1 mechanic's all-terrain vehicle with generator, air compressor and tool box (four-wheel drive where applicable)
- 1 gasoline-powered firewood splitter (where applicable)
- 1 irrigation-system electric wire locator
- 1 irrigation-system electric wire fault finder
- 1 metal detector
- 1 irrigation-system PVC pipe specialty locator
- 1 sprinkler-head-leveler devise
- 1 portable GPS location devise
- 1 irrigation technician maintenance vehicle with generator, air compressor and tool box (four-wheel drive where applicable)
- 6 roller squeegees
- 1 500-gallon water wagon/tank trailer mounted.

## Irrigation and drainage

- 1 loader/16-foot backhoe tractor with turf tires (four-wheel drive where applicable)
- 1 loader/six-foot backhoe compact tractor with turf tires (four-wheel drive where applicable)
- 1 four-wheel drive trencher or backfill blade with pipe or wire puller and attachments

## Optional equipment and attachments

Optional equipment and attachments for the aforementioned should be acquired, as necessary and appropriately, from the original equipment manufacturers or aftermarket manufacturers. Examples include roll-over protection and other employee safety equipment and attachments, electrically and/or hybrid operated equipment, and mower front rollers. GCI

Terry Buchen, CGCS, MG, is president of Golf Agronomy International. He's a 38-year life member of the GCSAA and can be reached at [terrybuchen@earthlink.net](mailto:terrybuchen@earthlink.net).

Many thanks to the following golf course managers for reviewing this updated equipment list and for providing their input, comments, ideas and suggestions:

- Jim Hengel, CGCS, Miromar Lakes (Fla.) Beach & Golf Club
- Dave Mahoney, Siwanoy Country Club, Bronxville, N.Y.
- Jim Nicol, CGCS, Hazeltine National Golf Club, Chaska, Minn.
- Tom Walker, Anne Arundel Mannor Golf Club, Annapolis, Md.
- Bruce Williams, CGCS, Los Angeles Country Club
- Tommy Witt, CGCS, Northmoor Country Club, Highland Park, Ill.



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APRIL 2007

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☐ F-Golf Course Owner  
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☐ H-Architect/Engineer  
☐ I-Research Professional  
☐ K-Assistant Superintendent  
☐ L-Golf Course Management Company Executive  
☐ Z-Others (please describe)

### 4. Number of Holes: (check one)

- ☐ A-9 Holes  
☐ B-18 Holes  
☐ C-27 Holes  
☐ D-36 Holes  
☐ E-Other

### 6. Total Annual Maintenance Budget: (check one)

- ☐ 1-Less than \$50,000  
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☐ 7-\$1,000,000+

### 7. Total Course Acreage \_\_\_\_\_

### 8. Course Renovation Plans for the Next 12 Months

- ☐ 1-Full Reconstruction  
☐ 2-Partial Reconstruction  
☐ 3-Greens  
☐ 4-Tees  
☐ 5-Fairways  
☐ 6-Irrigation System  
☐ 7-No Renovations Planned

### 9. If Only a Partial Reconstruction is Planned, Please Indicate the Number of Holes \_\_\_\_\_

### 10. What is the Name of the Architect Who Designed the Course? \_\_\_\_\_

### 11. What Year was the Course Built? \_\_\_\_\_

### 12. Is this course part of a

1. Resort Chain  
2. Golf Course Management Company  
3. Municipal Course System  
4. None of the above

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S E E D



FERTILIZER

BY JOHN WALSH

## The need to justify

Illinois superintendent chooses a more cost-effective fertilizer

All golf course superintendents can relate to Ron McCarthy. He has to justify what he spends maintaining the 18-hole golf course at the private Edgewood County Club in La Grange, Ill., where he's the golf course superintendent.

As a result, he changed the main fertilizer for his fertility program because he couldn't justify the cost to members. Even though McCarthy has a \$1.2 million budget, he still feels pressure to spend money prudently. As part of the overall budget, McCarthy's line item for fertilizer, which includes some specialty calcium products but doesn't include any pesticides, is between \$75,000 and \$80,000. His annual budget starts in November,

For the first time, Ron McCarthy will use the same time-release fertilizer he uses on the rough, fairways and tees on his greens, too. Photo: Edgewood Country Club





McCarthy dissolves granular time-release fertilizer in water before applying it on the golf course.  
Photo: Edgewood Country Club

which means he puts together his budget for the year at the end of the summer.

Overall, McCarthy believes he receives a decent price for fertilizers. Usually, he sends his query out to bid. As it happened the past two years, he has purchased the majority of his fertilizer from the same distributor because it carries the product he was looking for: UMaxx, a time-release fertilizer he dissolves in water before applying to the turf. McCarthy purchases fertilizers three times a year: in the spring, summer and fall. Edgewood doesn't have the capacity to store a large amount of unused fertilizer, so each time he purchases fertilizer, he already has used what he bought the last time.

Fertilizer is one of many products tied to the price of gas, but McCarthy says he has avoided any significant price hikes last year because of the timing of his purchases. During the past few years, fertilizer prices have increased about five percent year to year, he says. However, since he has been using UMaxx, he has used 20 percent less fertilizer. Before UMaxx, McCarthy was using IBDU fertilizer.

"I haven't changed my habits because of cost, I'm just using a more economical product," he says.

McCarthy has changed his fertility program somewhat, though. He was using the granular IBDU product on the fairways, banks, tees and rough. Then he tried sulfur-coated urea that was dissolved in water but didn't like that. Finally, he tried UMaxx. He first tried it on the clubhouse lawn as a trial for eventual use in the rough area. Then he tried it on fairways and liked it.



"Now we use UMaxx on fairways, roughs and tees, and will try it on the greens this year," he says. "We'll use it on the entire property. UMaxx is the cheapest thing I can find that gives me the color I got when I used IBDU; but I couldn't justify the cost of the IBDU."

McCarthy has been treating the greens differently because he wants total control and didn't want to use a controlled-release fertilizer on them. He's been using an ammonium sulfur product called Nutraculture. He spoon-feeds the greens in the spring and fall right before they're aerified.

"If I can control the release time and get the color I like, I will continue to use UMaxx on the greens," he says.

As for McCarthy's fertility program, he uses granular UMaxx that's dissolved in water. He still gets a control release but not as much as if the fertilizer were applied in granular form. He used to get seven to 10 days with the dissolved urea, but now he gets 14 to 20 days with the dissolved UMaxx, even though he doesn't get the "high kick flush" he used to with IBDU.

In the primary roughs, which encompass 120 acres, McCarthy uses three-quarters of a pound per 1,000 square feet three times a year

at the end of April or beginning of May, the beginning of June and then in mid-August. For fairways and tees, which are on a spray program, he uses one-quarter to one-third of a pound per thousand square feet every two weeks when he starts mowing. And for greens, he uses one-half to one-third of a pound per 1,000 square feet when aerifying in the spring and fall, and one-tenth to one-fifth of a pound every two weeks through June – but not in the heat of summer – and picks it up again in mid-August.

That program – the amounts and the timing – haven't changed in eight years; just the products have changed.

"The changes were primarily because of cost," McCarthy says. "The members want proof they're getting 100 percent of their money's worth. There's a lot of pressure to justify what I do. If things keep going, they might put pressure on us not to fertilize as much."

Yet members understand brown turf doesn't necessarily mean poor playing conditions, McCarthy says.

"They want the best of both worlds: lush green turf and fast and firm turf," he says.

Sound familiar? **GCI**



## PRODUCTS



### 2500E hybrid riding greensmower

- Can be equipped with a liquid-cooled gas or diesel engine
- Includes electric reel motors that reduce 102 potential hydraulic leak points
- Electrical power-to-reel circuit is generated by a 48-volt, 90-amp alternator that's belt driven by the engine
- Reel controllers regulate power-to-reel mowers, allowing reels to maintain consistent speed
- A reel switch box replaces a backup valve

John Deere

[#200](http://golfcourseindustry.com/readerservice)

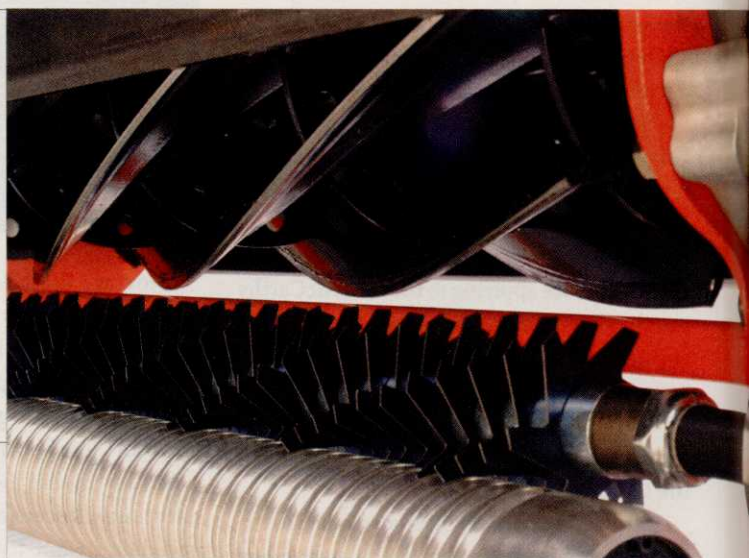
### Aqueduct soil surfactant



- Promotes fast recovery from localized dry spot
- Also can be used as a pretreatment
- Reduces turf wilt
- Moves water deeply into problem areas, reducing water repellency and restoring the root zone

Aquatrols

[#201](http://golfcourseindustry.com/readerservice)



### Turf groomer

- Available for all Jacobsen fairway mowers with 7-inch-diameter reels
- Reels can be sharpened while the groomer is attached
- Adjustments are made from the front of the reel
- Shorter roller base allows the cutting head to follow contours closely
- Roller is cleaned continuously, even when the groomer isn't lowered
- Redesigned Poly-V belt is less likely to break if the mower hits an obstruction

Jacobsen

[#202](http://golfcourseindustry.com/readerservice)



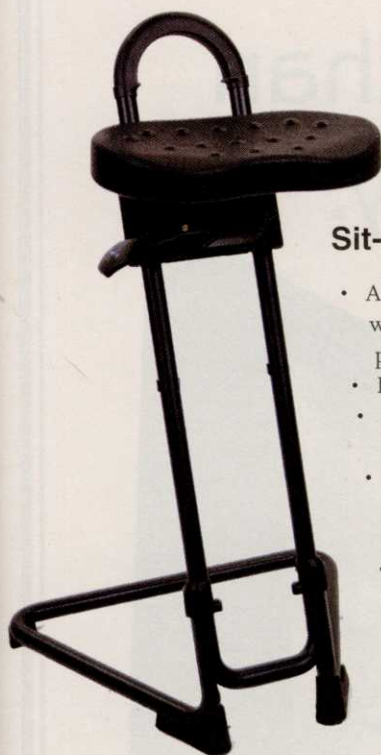
### Precise insecticide

- Polymer coating allows for a gradual, predictable release of the insecticide via diffusion
- Benefits include reduced applicator exposure and decreased environmental impact
- Precise technology allows for several different pesticides to be combined into one product
- Active ingredient isn't in direct contact with the user

Agrium Advanced Technologies

[#203](http://golfcourseindustry.com/readerservice)





### Sit-stand stool

- Allows users to work in an upright, standing position with their weight partially supported on the padded seat
- Designed to decrease fatigue and increase productivity
- Mechanism allows easy height adjustment from 22.75 to 33.75 inches
- Ergonomically designed padded seat swivels 16 degrees in either direction and tilts forward 20 degrees
- Triangular base allows close proximity to work
- Handle makes it easy to carry

*Lyon Workspace Products*

[#206](http://golfcourseindustry.com/readerservice)



### Carryall 295 utility vehicle

- Four-by-four vehicle includes the IntelliTach, quick-change hydraulic tool attachment system
- Four-wheel-drive system automatically senses driving conditions and provides power when needed without the driver having to push any buttons or pull any levers
- Easy-to-operate joystick allows for added precision to maneuver in tight spaces

*Club Car*

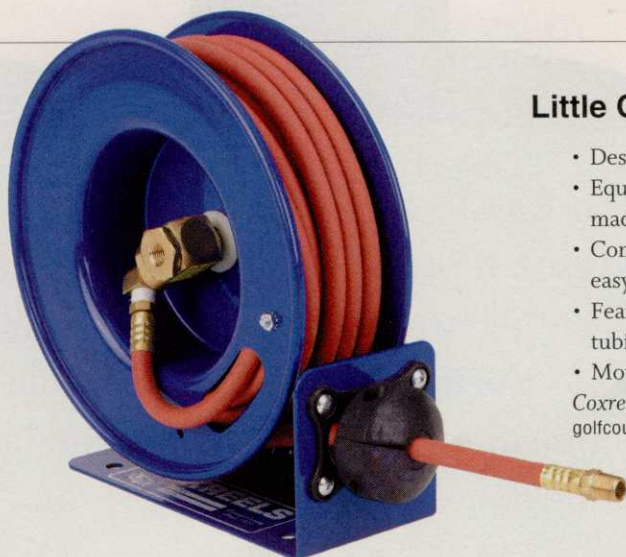
[#204](http://golfcourseindustry.com/readerservice)

### WatchDog sprayer station

- Helps operator to manage pesticide drift effectively
- Includes a weather station that measures wind speed and direction, air temperature, humidity, dew point, wind chill and barometric pressure
- Smaller than a can of soda
- Contained in a UV-stabilized, waterproof, chemical-resistant housing
- Includes an internal compass and built-in GPS

*Spectrum Technologies*

[#207](http://golfcourseindustry.com/readerservice)



### Little Giant hose reel

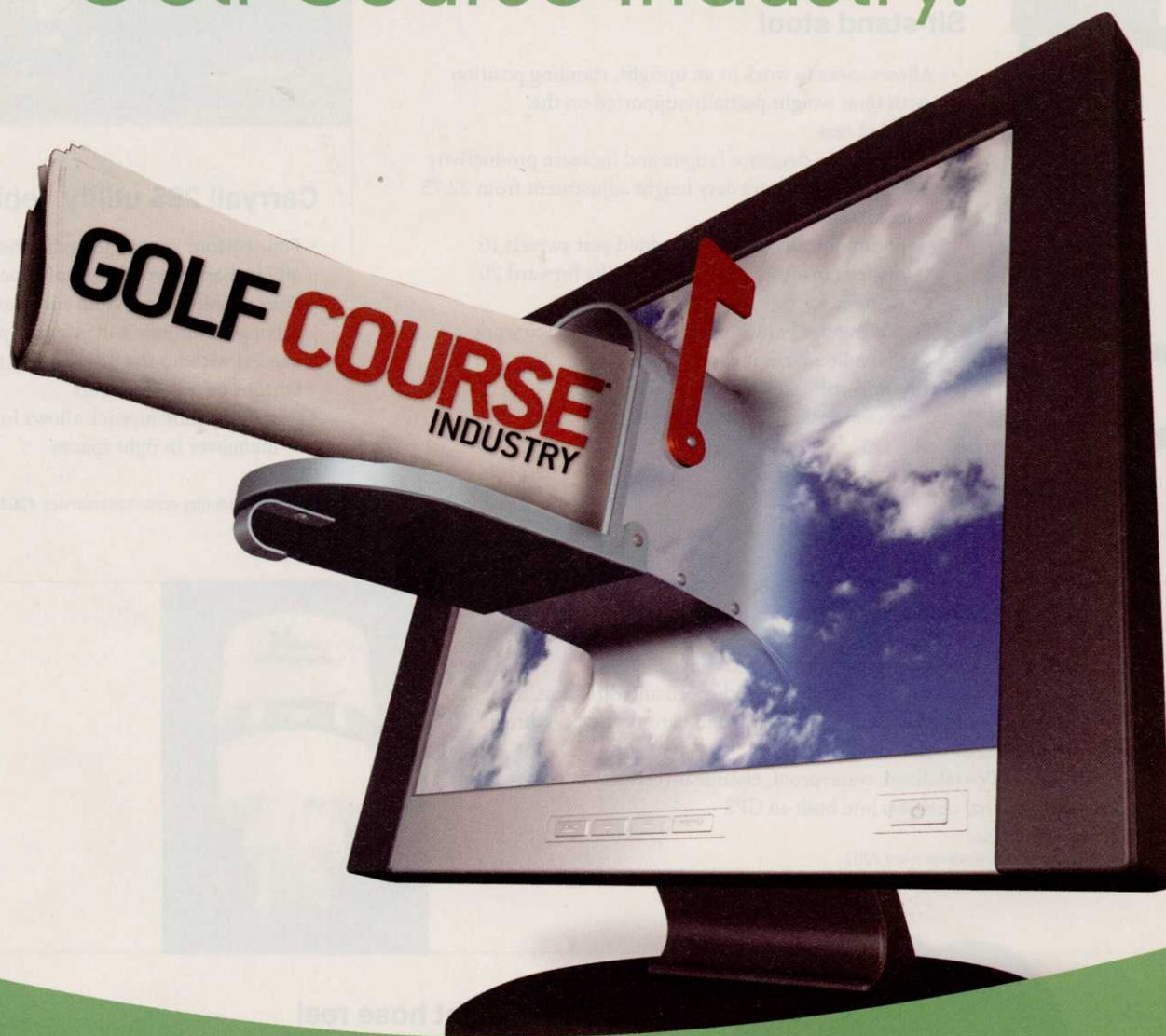
- Designed for tubing and air/water applications
- Equipped with a continuous radius, grommet-style tubing guide made of bearing-grade, unique FDA-compliant C-PEP composite
- Contains no rollers for tubing to catch on and a slick surface for easy glide
- Features lower pull tension to reduce the chance of stretching tubing
- Mounts to any horizontal or vertical flat surface

*Coxreels*

[#205](http://golfcourseindustry.com/readerservice)



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### EU6500is generator

- Produces 6,500 watts of power
- Wave form distortion factor is less than 2.5 percent
- Weighs 253 pounds
- Uses a separate triple chamber construction, a centralized intake/exhaust system and Eco-Throttle design for a reduction of 5 dB at rated load
- High-efficiency-inverter design aids low fuel consumption

Honda Power Equipment

[#208](http://golfcourseindustry.com/readerservice)



### Precision FCI hose-end nozzles

- Series of solid-metal products are designed for site-specific applications, including syringing and cooling greens, applying wetting agents and hand-watering dry spots
- Features stainless-steel, professional-grade diffuser plates with rubber covers
- Precision spray patterns ensure optimum flow rates and uniform droplets
- Models range from 15 to 50-plus gpm

Underhill

[#209](http://golfcourseindustry.com/readerservice)



### Eagle 705/755 wind-tolerant rotors

- Designed to distribute water in persistently windy areas
- Reduces the loss of range without decreasing the distance of throw
- Features an inverse, wedge-shaped spray pattern and larger water droplets
- Flow channel design lessens frictional loss as water moves along the flow path and through the nozzle
- Designed with a 12-degree trajectory

Rain Bird

[#210](http://golfcourseindustry.com/readerservice)



### Veemo dethatcher

- Uses durable, tungsten-tipped blades for maximum thatch removal with minimum surface disturbance
- Three independently floating heads follow ground contours closely without scalping
- Depth setting incorporates locking micro-adjusters on each unit
- Includes a large-volume tank
- Braided, flexible pipes allow for improve heat dissipation

SISIS

[#211](http://golfcourseindustry.com/readerservice)





## 1530 WideSpin topdresser

- Features an updated version of its three-position control unit
- Crews can reduce its noise level quickly while golfers are nearby



- Offers the ability to apply heavy topdressing applications as far as 15 feet or light topdressing applications as far as 30 feet
- Spinner angle is adjustable from zero to 15 degrees
- Offers an accessory cross-conveyor attachment that allows it to be used for material handling

*Turfco*

[golfcourseindustry.com/readerservice](http://golfcourseindustry.com/readerservice) #212

## KRH300A handheld blower

- Powered by a 26.3-cc Kawasaki engine
- Weighs 10.4 pounds
- Produces 450 cfm maximum air volume
- Fuel tank holds 16.9 ounces of gas
- Features low noise and low vibration

*Kawasaki Motors Corp.*

[golfcourseindustry.com/readerservice](http://golfcourseindustry.com/readerservice) #214

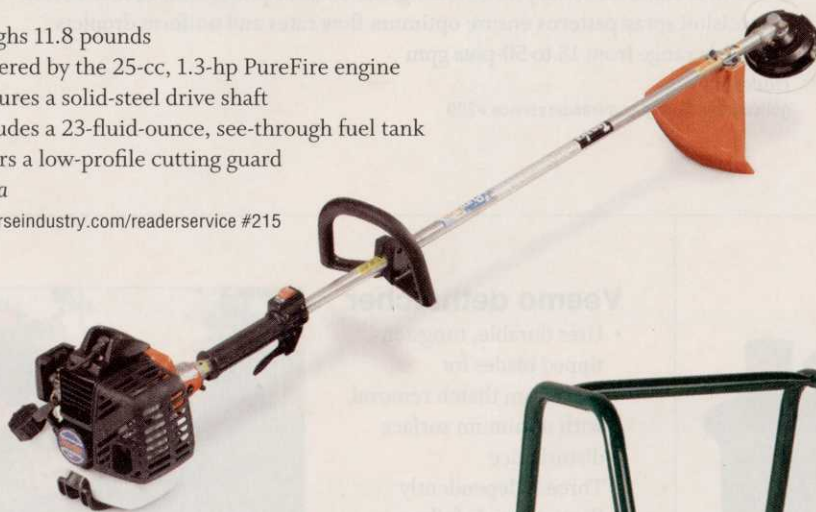


## TBC-255PF grass trimmer

- Weighs 11.8 pounds
- Powered by the 25-cc, 1.3-hp PureFire engine
- Features a solid-steel drive shaft
- Includes a 23-fluid-ounce, see-through fuel tank
- Offers a low-profile cutting guard

*Tanaka*

[golfcourseindustry.com/readerservice](http://golfcourseindustry.com/readerservice) #215



## Bag stand

- Made of powder-coated steel
- Holds full bags or individual clubs
- Can be stacked on top of one another to conserve space

*Standard Golf*

[golfcourseindustry.com/readerservice](http://golfcourseindustry.com/readerservice) #216





## TerraSpike GXi

- Features the same technology that's part of the TerraSpike XF (extra fast) and the TerraSpike XD (extra deep)
- Will offer tighter hole spacing than the XF model
- Offered with a 385- or a 485-rpm drive

Wiedenmann

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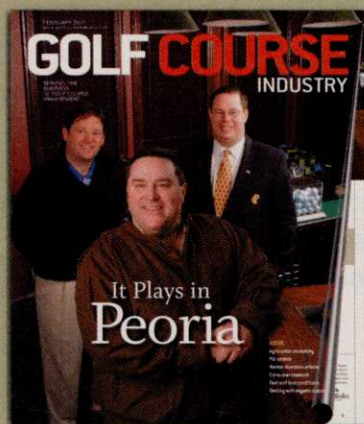


## DT30/DT50 Synergy Series irrigation sprinklers

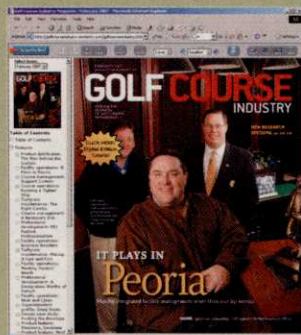
- Dual trajectory sprinklers
- Equipped with a feature for the main nozzle that allows for an adjustment of 15 or 25 degrees
- Main nozzle adjustment helps the sprinkler to withstand the wind better or avoid obstacles such as trees or bunkers
- Available as complete sprinklers or as conversion assemblies to upgrade existing systems

Toro

[golfcourseindustry.com/readerservice/#218](http://golfcourseindustry.com/readerservice/#218)



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This year, *Golf Course Industry* is publishing feedback from golfers throughout the United States. We're conducting this research to establish a dialogue between the professional community and golfers. On this page, we'll report trends, likes/dislikes, suggestions and other information we gather through our face-to-face, Web-based and phone research.

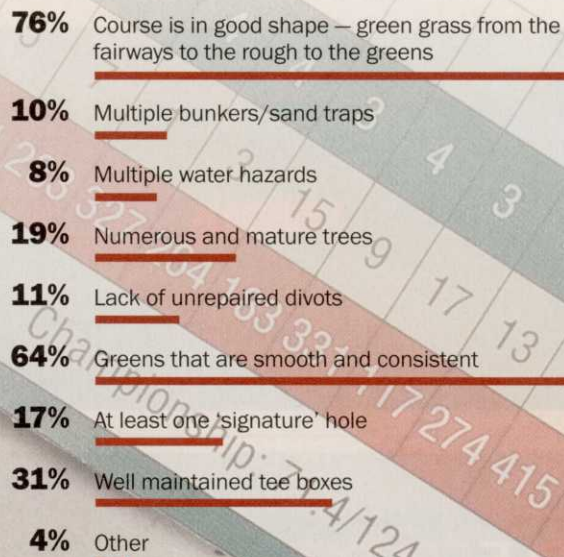
## Ooohhhh! That looks nice.

**A**esthetics is an integral aspect of the game of golf. Some properties are naturally in the perfect setting; others need more earth-moving and tree-cutting during the development process to become aesthetically pleasing. Like golf course architects and builders, superintendents have a role in making a course beautiful. Maintaining green grass, different heights of cut, striping and tree management are a few examples.

But what might be aesthetically pleasing to one might not be to another. Below are charts depicting what golfers think about the importance of golf course aesthetics.

A random sample of golfers throughout the country were surveyed by Insight Express, a market research company. Golfers surveyed play at least five rounds a year. There were a total of 200 responses and multiple answers were allowed.

### What aesthetics are most important to you when selecting a course to play?



**If you were to choose between two courses to play and all things were equal, including price, which course would you choose to play?**



**Terry Buchen**, CGCS, MG, is president of Golf Agronomy International. He's a 38-year, life member of the GCSAA and can be reached at [terrybuchen@earthlink.net](mailto:terrybuchen@earthlink.net).



## EQUIPMENT IDEAS

### A fan for cleaner air

**R**alph Arnt, equipment manager at Hazeltine National Golf Club in Chaska, Minn., since 1988, is highly skilled at fabricating anything from scratch. Arnt built an exhaust fan for the express dual-reel grinding machine to remove iron filings when reels are ground and improve air quality for the operator.

The fan's framework, which was welded together, consists of 0.040-inch-thick aluminum sheet metal (\$35) that measures 22 inches by 52 inches, aircraft-type rivets (\$25) and 17 feet of 1-inch-by-1/8-inch square steel tubing (\$1.13 per foot).

The exhaust fan, which fits in the back of the grinding machine, sticks out from the machine 16 inches at its deepest point. The 12-inch-by-25-inch-high outlet opening allows the fan and motor to fit inside comfortably. Two 20-inch-by-25-inch, pleated furnace filters (\$6.50 each) catch the iron filings so they don't contaminate the air in the mechanic's shop area. They're replaced as needed. The used 1,450-cubic-feet-per-minute exhaust fan and motor (\$30, \$306 new) came from a heater furnace.



### A box for tourney prep

**R**onald McNeill, director of golf course operations at the Doha (Qatar) Golf Club, hosts the annual Qatar Masters Tournament on the European PGA Tour in January. McNeill's staff installs all of the tournament equipment (gallery ropes, stakes, etc.) during advance week then tears it down after the event.

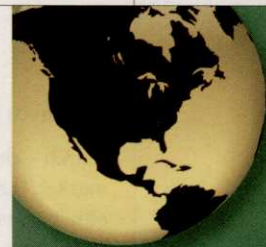
To help with the installation and tear-down of the tournament equipment, the maintenance staff built oversized wooden boxes and installed them on the back of golf cart-type maintenance vehicles after the golf bag racks were removed.

The two metal brackets behind the seats are used to mount the fiberglass top used during the rest of the year. It was removed for the tournament so the maintenance carts could drive underneath the tournament ropes with ease.

Each box is made of 3/4-inch-thick, marine-grade plywood measuring 47 1/4 inches by 35 1/2 inches by 11 3/4 inches. The sides are held together with industrial glue and L-shaped screw-type metal brackets. The plywood is coated with water-repellent stain.

The underframe was built using 2-inch-by-4-inch and 4-inch-by-4-inch construction-grade wood held together and mounted to where the rear bumper formerly was with nuts and bolts and heavy-duty nails.

It took about four hours to build each box, and materials for each cost \$70. **GCI**



## Travels With Terry

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



(continued from page 41)

March – during which we almost don't have to market," he says. "So we focus on the months on either side of that time and during the summer. As a result, we've filled tee times during those months."

McCoy also is trying to increase league play, trying to attract more charity tournaments and is working on service club angles.

In Oregon, Doyle's marketing of Diamond Woods has included two-for-one coupons that were good Monday through Thursday.

"We got 2,500 rounds for that, but last year, we eliminated it because we didn't get any loyalty," he says. "One big change we made for the people that came out a lot is gave them frequent

play cards and the best price. If we see a person out there two or three times a year, we offer them a frequency card. The card cost nothing, but they can put hundreds of dollars on the card. We allow two players on one card. It builds loyalty."

In the past Doyle's marketing efforts included TV, newspaper and radio ads that promoted the frequency card.

"This year is our 10th anniversary, so we're going to promote that in a TV ad," he says. "But people know we're always busy making improvements to the course. It's what we're known for."

Doyle is joining with other Lane County golf courses and is working with hotels to make sure traveling golfers know about Diamond

Woods. And the future looks promising for the course because the area is growing. There are two subdivisions under construction that will include between 500 and 600 homes in nearby Junction City.

"We might be fortunate that way, but another golf course can go in," Doyle says. "Golf sells real-estate. We're in a pretty good position going forward."

#### JOIN THE CLUB

Membership is another revenue area of focus for Stephens and McCoy. Even though Wildcat is a public course, it has 220 members. The facility generated \$467,000 from membership in 2005 and \$604,000 in 2006. The annual program







used to cost \$3,000, which was paid up front and gave a member access to the course for a calendar year.

"But we struggled with that," Stephens says. "People felt it was too much to pay up front. Now we've implemented a monthly fee. It started out at \$250, but now it's \$275. Members get unlimited play, range balls in the cart and can make advance tee times. Having 36 holes helps. It's difficult to implement these member benefits at an 18-hole course. Attrition has been low considering the alternatives in the city."

At Capri Isles, membership was 225 to 230 before its renovation. Now it has 280 members, but because the facility is part of a retirement community, attrition hits the club every year. Single

membership is \$1,700 annually and \$2,800 for a family. It's a one-time annual payment.

"It has increased, but we're trying not to raise it every year; however the fees need to be adjusted every two to three years based on the bottom line," McCoy says. "We're on the lower end of the scale for the cost of membership, but we're fair."

#### MANAGEMENT STYLE

Renovations, marketing and membership all fall under a management philosophy about operating a golf facility. Stephens' philosophy is to be a leader not a follower.

"We brainstorm internally and don't rely on following competition," he says.

Stephens' philosophy includes hiring the best people he can find.

"We have had little turnover," he says.

He also believes in giving back to the community and charities.

"They have paid big dividends because people see us doing our civic duty," he says.

The key to success is figuring out how to get golfers to return to the course, McCoy says.

"You need to make them feel at home and provide a good product for a fair price," he says. "People feel comfortable here. It's an attitude. Say hello when golfers walk in the door, call people by their names, ask how they played or if they had a good time. Ask yourself, how would you like to be treated when playing golf?" GCI

Even though it's a public facility, Wildcat Golf Club generated \$604,000 from membership in 2006. Photo: Wildcat Golf Club





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**Pat Jones** is president of Flagstick LLC, a consulting firm that provides sales and marketing intelligence to green-industry businesses. He can be reached at psjhawk@cox.net or 440-478-4763.

## WHAT'S IN THE INBOX?

One day, I decided it would be educational for my kids to hear about what it was like to work in a magazine office in olden times. I regaled them with descriptions of rotary telephones that were actually dialed, typewriters that made a “click clack” sound, blue language that would make a crack junkie cringe, ink-stained copy editors wearing fedoras and smoking fat cigars, and the time-honored tradition of chasing buxom young secretaries around desks. My kids seemed to really like that last part, but then snuck away to play Wii.

My daily routine back then included sorting through a dozen envelopes containing press releases from various manufacturers, firms and associations in the golf business. The majority were straightforward and not exactly earth-shaking.

Times have changed. I can't remember the last time I received an old-fashioned paper press release via snail-mail. Instead, they arrive in my e-mail inbox with a deceptively pleasant ding. And arrive and arrive and arrive. E-mail has made it too easy to send announcements to the media. Instead of eight or 10 a day, it's often dozens. I still try to read most of them, but my finger usually hovers over the delete key as I do so.

I hesitate to call many of these digital announcements news releases. Few, if any, are newsworthy in the “stop the presses” sense. And even fewer contain anything I didn't already know. Interesting product innovations have usually been “sneak previewed” in the market for months before an official announcement is made. And, I often hear through the grapevine about personnel changes ages before a company or golf facility gets around to telling editors about them formally.

Yet, I received two news releases recently that got my complete and immediate attention.

The first was about John Deere agreeing to buy Lesco. It was no surprise to anyone

Lesco wanted to sell. Rumors had been flying for years. The company had done everything short of putting a “For Sale” sign in front of its Cleveland headquarters. Its shareholders – big institutional investors who are interested in profits – wanted out.

Lesco is a great company with a long tradition of service and success in the green industry. But during the years since founder Jim FitzGibbon retired and subsequently passed away, things had changed. It went public, deviated from its core distribution business and unwisely misjudged customer loyalty by eliminating its golf

**The second press release that really grabbed my attention was the GCSAA's announcement it's partnering with the LPGA.**

sales team. Independent distributors, who feared extinction during Lesco's meteoric rise, fought back hard. Thus, the Goliath of the industry felt the impact of the hard work of many smaller Davids.

Lesco forgot its roots and floundered, particularly in geographic areas where small, nimble independent distributors provided better service and support. The lesson is that you can be a powerhouse business, but people buy from people. If you forget that, you won't succeed.

That said, there's no better company than Deere to try to take on the challenge of fixing the Lesco network. The acquisition has the potential to increase the presence of John Deere Landscapes significantly on the lawn-care side of the business. Its impact on golf is yet to be seen. The question is whether Deere can or will even try to maintain the Lesco brand in the golf

market in light of its commitment to the Deere One Source concept.

The second press release that really grabbed my attention was the GCSAA's announcement it's partnering with the LPGA to provide an agronomist for events on the ladies tour.

At first blush, it seems like a slick idea. It's a decent profile-raiser for the GCSAA and, theoretically, will help relationships between tournament host superintendents and the LPGA staff and players. But, consider it a little more, and maybe you'll wonder about the same things I did. Who's paying for it? Is it a potential conflict for a GCSAA staff person to be in this position? Is this the beginning of a larger effort by the GCSAA to get into the agronomic consulting business?

Bryce Gartner, the GCSAA's managing director of marketing, says the association will fund salary and related costs of the position, but the LPGA will cover most travel expenses. However, he says the GCSAA will receive considerable promotional opportunities to communicate the value of GCSAA members through many of the LPGA media outlets.

Also, Gartner describes the new job as a liaison who helps the host superintendent and LPGA agree on conditioning issues: “The agronomist will assist in this translation to help set expectations on both sides. Additionally, the agronomist will assist the LPGA in focusing its efforts on more uniform playing conditions week to week.”

Finally, he says the positives in the relationship far outweighed the negatives. Good answers, for the most part, but I still wonder how it will work.

Am I alone in my concern the GCSAA is shelling out major bucks to maybe have an impact on how a tournament host superintendent is perceived at LPGA events – where there's never been much of an image problem to my knowledge – or, of perhaps greater concern, that the association is getting in the business of consulting in which a member of the staff has to try to serve two masters? That's my take. What do you think? **GCI**



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