FEBRUARY 2007
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GOLF COURSE INDUSTRY

SERVING THE BUSINESS OF GOLF COURSE MANAGEMENT

NEW RESEARCH SECTIONS, pp. 110, 134

Golf course superintendent Andrew Morris (front), golf professional Scott Brownfield (left), and general manager Mark Bado

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TEE 2 GREEN

"Interseeding works for us"

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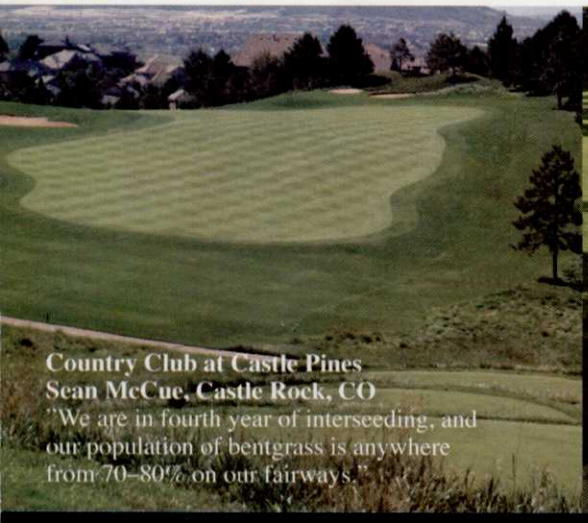
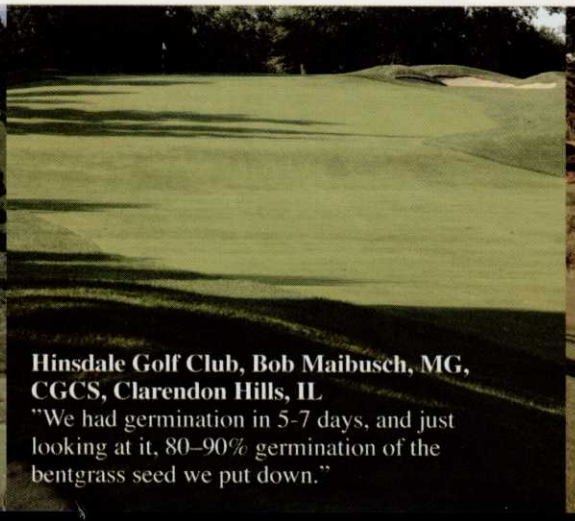
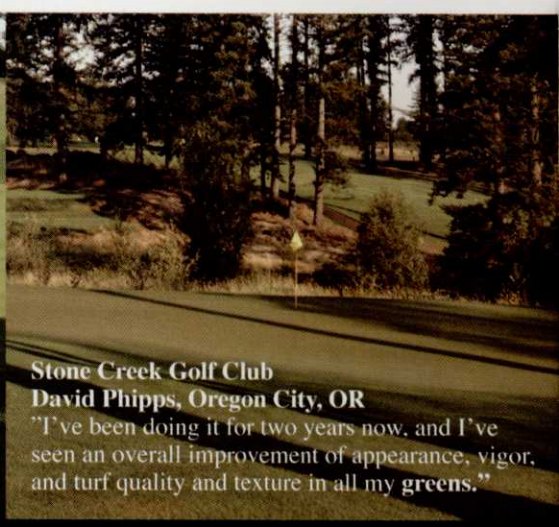


Country Club at Castle Pines
Sean McCue, Castle Rock, CO
"We are in fourth year of interseeding, and our population of bentgrass is anywhere from 70–80% on our fairways."



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

These 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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GOLF COURSE INDUSTRY (ISN 1054-0644) is published in January, February, March, April, May, July, August, September, October and November.

One-year subscription rate, $33 in the United States, $42 in Canada and Mexico, and $88 in other foreign countries. One year foreign airmail rate: $102. Two year subscription rate: $65. Subscriptions and classified advertising should be addressed to the Cleveland office. Periodicals postage paid at Cleveland, Ohio, and additional mailing offices. Postmaster: Send address changes to *GOLF COURSE INDUSTRY* 4012 Bridge Ave., Cleveland, OH 44113-3399.

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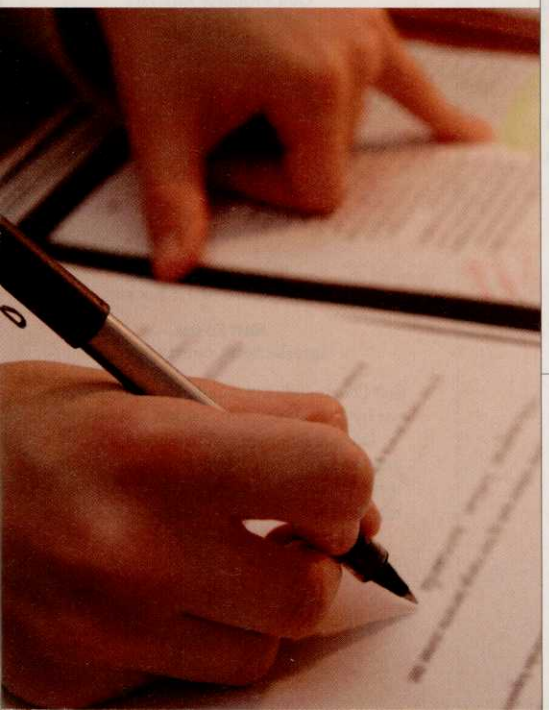

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KEEPING IT CLEAN
The irrigation system golf course superintendent Brian Morris uses at The Links at Bodega Harbour in Bodega Bay, Calif., features filters that help keep recycled water running smoothly through the system.

THINK BIG PICTURE
At the National Institute of Golf Management, golf course architect Michael Hurdzan explained long-range planning and its benefits.

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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 in one disc. The DVD is available at the online bookstore – www.golfcourseindustry.com/store.

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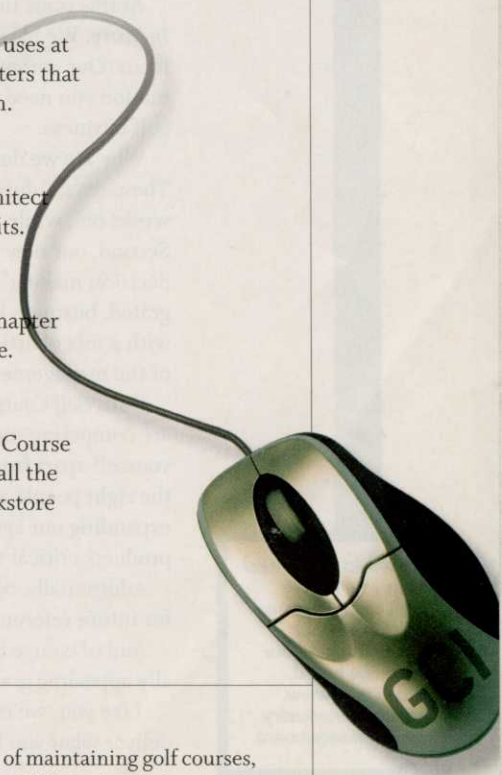

EDITORIAL MISSION STATEMENT:
Golf Course Industry reports on and analyzes the business of maintaining golf courses, as well as the broader business of golf course management. This includes three main areas: agronomy, business management and career development as it relates to golf course superintendents 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.

Kevin Gilbride
Publisher

HERE'S GOLF COURSE INDUSTRY

"The only constant is change." – Isaac Asimov

The statement above is more relevant now than ever before when it comes to the media. During the past 10 years, the media world has turned upside down, and you're continuing to witness this phenomena daily.

Since *Golf Course News* debuted some 19 years ago, the industry and world have undergone considerable changes. Once a strict news magazine, it has evolved into a resource that relies on reader interaction to deliver the most important and up-to-date information to operate a successful golf business.

Readers who have been around for awhile probably remember the "old" version that was printed on newspaper stock and established itself as a trailblazer reporting on breaking news and development projects. Four years ago, GIE Media bought the title and reintroduced the magazine as a big, glossy publication that focused on industry news, as well as articles about operational and development trends, opinion pieces and features about the golf business.

We're still the leading source of news in the marketplace. We deliver it daily through our interactive Web site, *www.golfcourseindustry.com*, and through our weekly e-newsletter, which supplement the thorough business management and agronomic content available in every print issue.

At this stage in the life of the magazine, I'm delighted to introduce *Golf Course Industry*. We have a different name, a more modern look and an expanded editorial focus. Our commitment has always been, and continues to be, delivering the information you need to succeed as an important member of a management team in the golf business.

Why are we doing this? First, news, by definition, is new and original information. These days, information that appears in industry print magazines usually is several weeks old, while the Internet offers almost instant access to news and analysis. Second, our new title reflects the realities of the current golf market. Call it "team decision making" or whatever you like, but the fact is the industry demands an integrated, business-like approach to facility management. Our mission is to provide you with a mix of articles, ideas and technical information that will help all the members of the management team survive and thrive in this highly competitive era.

With *Golf Course Industry*, you'll find more in-depth articles about how facilities are competing successfully in the market. We'll focus on practices you can use to set yourself apart from the crowd, save money without sacrificing quality, hire and retain the right people and produce the best possible product agronomically. In fact, we're expanding our agronomic content to help you keep track of research and related products critical to your overall success.

Additionally, our new design and size make the magazine easier to read and store for future reference.

And of course the magazine still will include the industry trend articles and visually appealing graphics we're known for.

Like you, we're committed to delivering a great product. The following pages deliver what you have asked for. **GCI**

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.

GOLF COURSE INDUSTRY
Serving the Business of Golf Course Management

Vol. 19 No. 2

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Golf Course Industry is published 10 times per year by GIE Media, Inc., which also publishes: *Lawn & Landscape, Commercial Dealer, Interior Landscape Business, Snow Magazine, Pest Control Technology* and *Recycling Today* magazines. GIE Media is a leader in custom publishing, book publishing, database marketing, conferences and special events.

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Cover controversy

When I received my January copy of *Golf Course News*, I, along with everyone on my staff, asked, "Why is the director of agronomy in the background?" I hate to see a picture like that right before we have our first conference together. I know many superintendents are concerned about having the general managers there with us. While the g.m. might be "large and in charge," a picture of them together would have promoted the team concept much better.

Ken Mangum, CGCS
Director of golf courses and grounds
Atlanta Athletic Club
Duluth, Ga.

I don't understand the reason for the general manager being featured in the foreground and the director of agronomy positioned in the background on the January cover. With so many of your past feature articles dealing with teamwork and relationships, I'm surprised you would position the superintendent in what seems to be a less-important role. As I read the cover article, the g.m. seemed to take a more active communication role of describing the need for the improved driving range and short-game facility.

You sourced the c.o.o. for the Oakland Hills project, the g.m. for the Estancia project, the g.m. and director of golf for the Lancaster Country Club project and the head golf professional for the Naperville Country Club project. With the exception of the director of agronomy, Mike Mongiello, CGCS, there was no input from the golf course operations area.

Perhaps you're attempting to branch out and appeal to the allied associations and professionals within the golf industry. That's your prerogative. The article would have had more credibility if you used more input from those who build and maintain the facilities you described.

While I don't intend to speak for any of my peers who might work at the four facilities you described, the impression is that the g.m. on the course with the superintendent in the background sends the wrong message of teamwork. I'd feel uncomfortable if I were asked to take a photo and our golf professional, g.m. or any of my staff were asked to stand in the background. In a true g.m. structure, everyone knows who's in charge. You don't need to show or tell everyone who's important and who's not. Normally, there's a reason someone or something is placed in the background.

Tommy D. Witt, CGCS
Director of golf course operations
Northmoor Country Club
Highland Park, Ill.

Regarding the January issue's cover and T.R. Massey's article, superintendents are very sensitive about political issues, especially when it portrays our profession as secondary. No other employee at a facility understands or has the knowledge about how to best manage and improve the golf course than the golf course superintendent. Massey's article leads the reader to feel otherwise. The issue will raise some eyebrows and reflect poorly on the publication from its largest targeted audience.

Dan Dinelli, CGCS
North Shore Country Club
Northbrook, Ill.

I don't find the picture degrading to me nor do I assume it was intended to misrepresent the role of a golf course superintendent. I thought the article was well written and covered the subject matter thoroughly.

After being a certified superintendent for 30 years, I can assure you I'm very confident in the role I have at Estancia and enjoy the working relationship I have with all the staff, especially with Keith Underwood. Keith was a little uncomfortable standing with a golf club on the green, however, we both understood the topic was about the practice facility and not about our positions at the club.

Mike Mongiello, CGCS
Directory of agronomy
The Estancia Club
Scottsdale, Ariz.

Editor's response:
It was not the staff's intention to portray the superintendent profession as second-

(continued on page 137)

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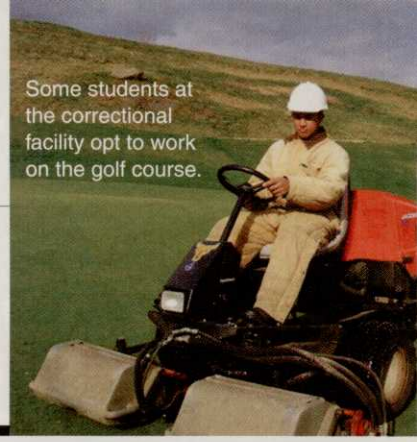
Some students at the correctional facility opt to work on the golf course.

Doing time on the front (and back) nine


The Golf Course at Glen Mills is located on the campus of a correctional facility. Photos: The Golf Course at Glen Mills

Some go to boot camp, while others attend detention centers, but there are other juveniles who, when convicted of a crime, serve part of their sentence on a golf course.

The Golf Course at Glen Mills is located near Philadelphia on the campus of Glen Mills Schools, a facility for court-referred juvenile delinquents. It's the oldest school of its kind.

While Glen Mills is a correctional facility, it's referred to as a school, and the boys sent there are called students. The philosophy of the facility is that locking up juveniles isn't the best way to promote positive change. Boys who are sent there, ranging in age from 15 to 18, are required to participate in nine units of activity per day, which vary from academics to vocational activities, including auto mechanic, print shop and barber shop work.

Some students opt to work at the 18-hole, Bobby Weed-designed golf course that has been on campus for six years. Golf course superintendent John Vogts has been working there since it opened.

Because the students are constantly rotating in and out of the school as they serve their sentences, Vogts trains 120 to 130 boys regarding golf course maintenance per year, with about 30 or 40 working at a given time, he estimates. The young men rise at 5:30 a.m. and work in tangent with a regular adult staff of about 15 full-time and part-time employees.

"We don't go into plant pathology and things like that because they're not here long enough," Vogts says, adding that the students know enough to do a good job.

Vogts trusts the kids enough to let them hand-mow greens. He says he hasn't lost any greens yet. In fact, he says Glen Mills is consistently ranked as one of the top courses in Pennsylvania and one of the top 100 upscale public courses in Golf Digest.

Rather than teach them agronomy, Vogts tries to teach them skills that apply off the golf course as well.

"We toughen them up and teach them to work in all weather conditions," he says. "They have to have a good work ethic and be well behaved."

Some of the kids end up being better workers than his regular staff, he says, adding that he gets along well with them and doesn't have to worry about missing or stolen equipment.

"I've never had to yell and get in their faces," he says. "Other people might have had trouble with them, but not me. I treat them fairly."

"We ... teach them to work in all weather conditions. They have to have a good work ethic and be well behaved." – JOHN VOGTS

Vogts could find out why they've been sent to Glen Mills (crimes include everything but those sexual in nature, arson and those committed by mentally unstable boys), but he chooses not to.

"I don't ask what their crimes are," he says. "I don't need to know."

To some, it might sound like a pleasant day on the links rather than punishment for teenagers convicted of crimes, but Vogts says that's not the case.

"It's not a pushover program," he says, adding it rivals prison in terms of its intensity.

The time on the course pays off for many. Some former students – Vogts knows of about 50 – have gone on to work on other golf courses, and others have gone to work in other fields. Vogts finds this out when he receives calls asking him to be a reference in students' job hunts.

Those who do go on to work at other golf courses leave with the experience of working at a course with a more than $1 million budget that has all the modern equipment they'd find anywhere else.

Students receive a stipend of $25 per week, most of which they deposit into an account. They're only allowed to have $5 on them at a time, which they can spend at a snack shop on campus.

The students work at the golf course throughout the winter because they need to be there to train a new batch of students in the spring.

Vogts' next goal is to help qualify students to enter turfgrass programs at Penn State (his alma mater), Rutgers or elsewhere.

For more information, visit *www.glenmillsgolf.com*. — *Heather Wood*

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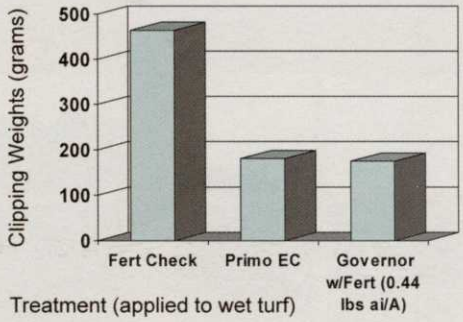

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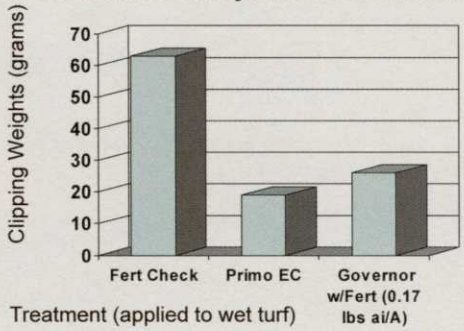
Efficacy on Tifway Bermudagrass
Dr. Bert McCarty, Clemson University



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Ted Pasko (left) and Don Lawrence suggested ways to increase rounds at golf facilities during the OTF conference and trade show. Photo: Heather Wood

Events, partnerships can help boost rounds

When times are trying (or even when they aren't), it pays to be creative with golf course operations.

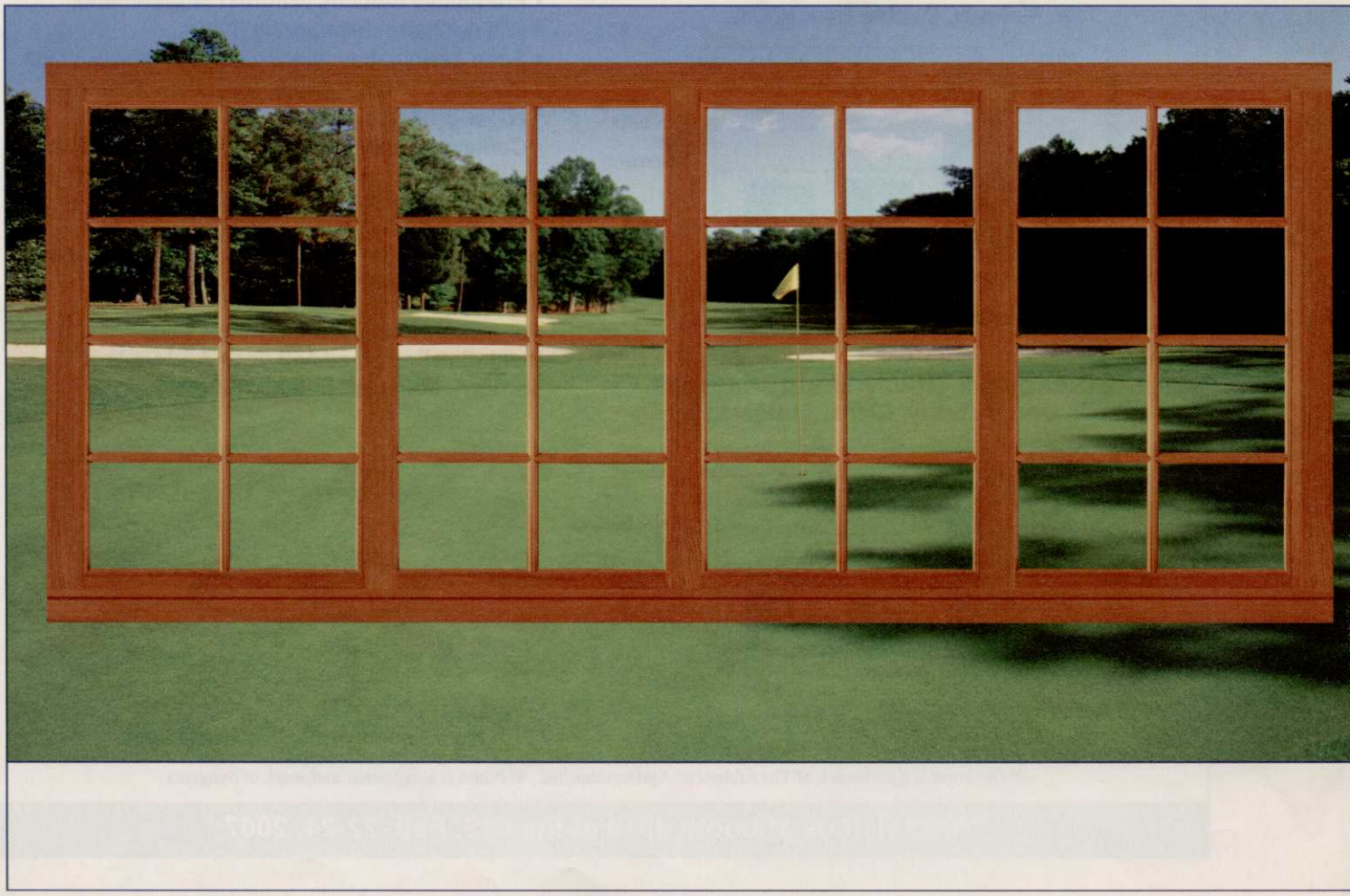
This was the message a panel of golf course owners and managers sent to attendees at the session "Marketing your golf course – thinking outside the box" at the Ohio Turfgrass Foundation's conference and trade show in Columbus, Ohio, in November. Some panel members acknowledged rounds have been decreasing this decade and outlined ways they're trying to remedy the situation.

As far as Don Lawrence of Red Hawk Run Golf Course in Findlay, Ohio, is concerned, electronic organization of tee sheets is a marketing must. The system allows a golf course manager to track customers and see what type of customer spends the most and on which items at a course. The manager can send out e-mail blasts to these customers to alert them about special events or for other reasons.

Likewise, Lawrence keeps the course's clubhouse available for weddings and banquets, primarily in the winter months when course business is slow.

Ed Fisher of the Hamilton County Ohio Park District values programs in which golf courses partner with organizations to promote the game of golf. One day last spring, the county opened up one of its courses for the Professional Golfers' Association of America's Play Golf America promotion.

"About 950 people came; 400 of them were already customers, but 500 of them were new families," he says, adding that a higher number of families came during the months following the



Attracting families, becoming part of a golf program, offering golf lessons and hosting charity events are a few ways to help increase the number of rounds at a facility.

event to sign up for programs. "We'll jump on it if the PGA does it again."

The county's courses also have partnered with the PGA for Link Up To Golf, which offers a welcome package to new golfers. The course offers lessons and opportunities to play with the golf pro for a discounted price.

Rich Kitchen knew little about golf course management when he first started Locust Hills Golf Club in Springfield, Ohio, with his twin brother, John, in 1966.

The course is located in a dry township, which limits his refreshment offerings. He hasn't let that slow down business, though. Pork chops and ice cream have become popular food items. The course is also a hit with church groups and other organizations who aren't interested in serving alcohol at their outings.

The food offerings are some of the characteristics for which the course is known, and Kitchen relies primarily on word of mouth to drum up business.

Another marketing tool is the course's dedicated times for discounted fees for college students. The fee is reduced to $5 for nine or 18 holes. Kitchen doesn't budget money to advertise this special.

"The advertising is right there in the price," he says.

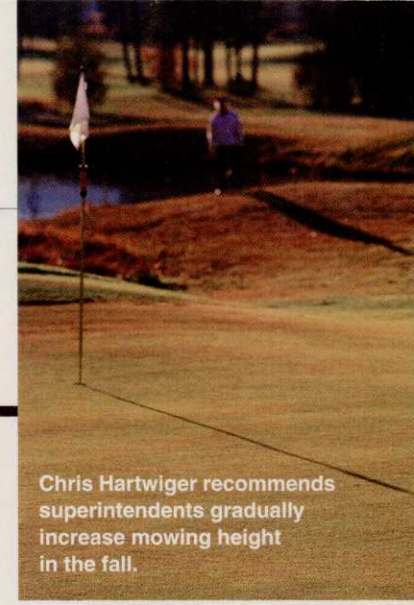
The course also offers specials to appeal to golf outing groups, couples and families.

Ted Pasko, owner of Deer Ridge Golf Course in Bellville, Ohio, hosts events with local charities as a way to gain publicity. Public service announcements advertise the events on the local media. For example, they hosted a food drive in which golfers bring food items instead of paying the green fees.

Pasko has tried different types of advertising, but in the end, he agrees with Kitchen's marketing strategy, the kind that money can't buy.

"Golfers aren't going to play your place if they haven't heard from a buddy that it's a good place to play," he says. — *HW*

Managing Bermudagrass during the winter



Chris Hartwiger recommends superintendents gradually increase mowing height in the fall.

During the winter in many parts of the country, turfgrass is dormant and there's not much to manage. This winter started off is a little different because many regions of the country were experiencing balmy weather. Golfing in January in places like Connecticut, Ohio and New York? Surprisingly, yes.

During the fall, golf course superintendents in the North spend time preparing turf for dormancy during the cold of winter. But in the transition zone and South, the goals of fall maintenance are a bit different. According to Chris Hartwiger, a USGA Green Section senior agronomist in the Southeast region, there should be three main goals:

1. Put the grass to bed healthy;
2. Manage growth to avoid excessive winter green speeds; and
3. Provide golfers with the best putting conditions of the year.

Mowing height management is one aspect of maintaining healthy turf. Cool temperatures during the fall and winter months are a natural growth regulator. Green speeds can increase with no change in mowing height when the turf falls out of optimum growing conditions, Hartwiger says. Speeds on greens cut at 0.125 of an inch in the summer will be different than greens cut at 0.125 of an inch in the fall. Superintendents should gradually raise the mowing height in September to prepare for the winter, but they might have to roll greens to maintain green speeds.

At the Carolinas GCSA Conference and Show in November, Hartwiger presented a few items to consider about mowing height management:

- You have to raise mowing height, and September is time to do that;
- You should increase height incrementally;
- How high you raise the height depends on the climate; and
- Mowing heights should be decreased incrementally during the spring.

Aside from mowing heights,

green covers are another management practice that can aid turf during the winter. They're more prevalent in the North, but they can be used effectively in the transition zone and South as well. Green covers help prevent winter injury, which is the Achilles' heel of Bermudagrass putting greens, Hartwiger says.

Covers can prevent winterkill, but they don't guarantee you'll never have winterkill. Many superintendents face the decision to cover or not cover their greens. Varieties of ultradwarf Bermudagrass are found as far north as Memphis, Tenn., and as far south as Key West, Fla. Hartwiger says those with Bermudagrass north of central Georgia should have them, and those below might want to have them if temperatures dip below 25 degrees for a significant length of time.

Hartwiger says covers aren't popular and many superintendents have a negative perception of them, however, it's the USGA's view that they're an insurance policy for greens. Research suggests the cover type isn't critical, but using one that's easy to use is.

The average weight of a cover is between 150 to 180 pounds, and a simple system is needed to secure one. One goal is to cover or uncover a green in 10 to 12 minutes with three guys. However, some superintendents say it takes an average of six guys to cover or uncover a green and it takes longer than 15 minutes because if wind is present, the cover acts like a sail and it's hard to control. Ideally, when covering greens, the maintenance staff should follow the last foursome of the day.

Covers can keep greens green and growing during the winter if greens are covered when the temperatures stay consistently below 45 degrees, Hartwiger says.

The average cost of a cover is $1,000 for one green, Hartwiger says.

Green covers also can protect Bermudagrass greens from a late spring frost. During spring transition, Bermudagrass greens green up in late February or early March, then they can get hit in late March with a frost, which knocks their growth back a bit.

Also in the spring, light, frequent topdressing can be used to dilute organic matter. Disease can be an issue in the spring, too, but not as much as during summer because the grass is growing so vigorously.

Asked which ultradwarf Bermudagrass was the best, Hartwiger ranked Champion – which he says grows in better than Miniverde – first, TifEagle second and Miniverde third.

"There have been instances in which people were golfing six weeks after Champion was planted," he says. — *John Walsh*

Short notice

> Joe Hubbard, CGCS, and the maintenance crew at The Old Course at Broken Sound prepared to host the Allianz Championship for the first time

Eight hurricanes blew through the area and left the course with 2,000 fewer trees.

Soon after the mega-spotlight shone on Miami for the Super Bowl on Feb. 4, a smaller spotlight shone on the area. This one for golf.

Nearby Boca Raton, and more specifically, The Old Course at Broken Sound, played host to the Allianz Championship and its ancillary events Feb. 5-11. In addition to the tournament, the event featured the Drive for Wives ProAm, which groups pros with NASCAR drivers, owners and amateur players.

Like preparing for the Super Bowl, director of golf maintenance Joe Hubbard, CGCS, started preparing for the golf event well in advance. But he didn't exactly have as much advance notice as grounds crew at Dolphin Stadium likely had. In fact, Hubbard didn't even have as much time to plan as those getting ready for this tournament usually do. Last year, the event was held in Iowa in July. This year it was relocated to Florida, and the date was moved up a few months.

Yet Hubbard believed he and the course were ready. Besides, it wasn't his first time hosting an event of this caliber. He has had practice with state and amateur tournaments at previous jobs during his 35-plus years in the industry, 23 of those as a golf course superintendent.

Hubbard started at the 18-hole Broken Sound in August 2004, just before hurricanes Ivan and Charlie and a year before Katrina

and Wilma blew through. Eight hurricanes later, the course is left with 2,000 fewer trees than it had when Hubbard started.

The losses, which especially hit holes 3 and 15, include several 100-year-old oak trees and black olive trees. The course is still impacted.

"A lot of palm trees either splintered and died or are dying now," Hubbard says.

Some of the dying trees remain on the course for woodpeckers and raptors because the course has been entered for consideration in the Audubon International Cooperative Sanctuary Program for golf courses, he says. The crew is gradually replanting the lost trees, most of them native to Florida.

"Of course, you can't find 100-foot trees to replace the lost trees," Hubbard says. "If you're young now, by the time you retire, the trees will be back up to where they were."

The missing trees slightly altered the look of the Joe Lee-designed course, which was renovated by Gene Bates Golf Design and reopened in 2003. The course now feels like a links-style layout, more like something one would find in North Carolina, Hubbard says.

Other unique aspects of the course are its unique-looking bunkers and the fact that it's not lined with homes, which seems to be the norm for golf courses in the region.

But like many other courses in the South, The Old Course consists of Bermudagrass. Hubbard and his crew have been working to get it tournament ready, which takes some extra work this time of year. The turf isn't in the best condition because of the cooler weather and increased traffic, so the crew is applying more fertilizer. Additionally, pine straw has been added to native areas to enhance them.

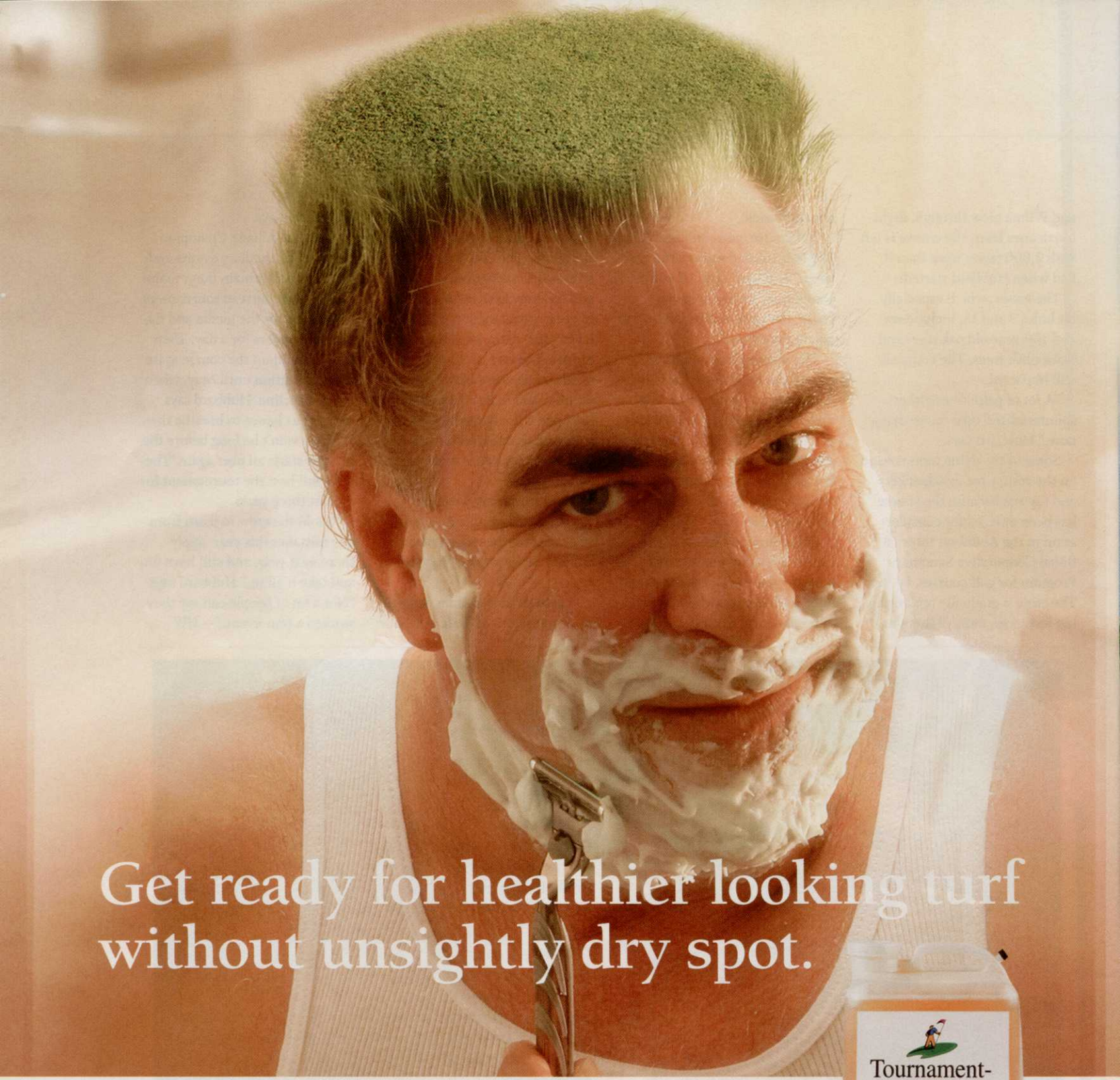
The preliminary weather report looked promising a few weeks before the tournament, but one never knows, Hubbard says.

"Last year at that time, it was 38 degrees with 35-mile-per-hour winds," he says.

After the Allianz Championship and its ancillary events end, the crew will remain busy, maintaining the course at tournament conditions for the media and the club's members for a day. Then they'll maintain the course at its usual condition until May, when rounds decline. Hubbard says he'll get a chance to breathe then.

But it won't be long before the process starts all over again. The club will host the tournament for at least three years.

"I told the crew to learn from any mistakes this year, apply them next year, and still have fun and take it all in," Hubbard says. "Not a lot of people can say they worked a tour event."—*HW*



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Jack Brennan founded Paladin Golf Marketing in Plant City, Fla., to assist golf course owners and managers with successful marketing. He can be reached at jackbrennan@tampabay.rr.com.

CALCULATING YOUR ROUNDS

This is a good time of year to be involved with golf course marketing. Ideally, the marketing effort for a facility begins just after Thanksgiving and continues with a targeted sales process that lasts through at least March. The only difference between Northern golf courses and Southern golf courses is that courses in the South are slammed with business at times during the winter when courses in the North are closed. However, management of all courses should be reorganizing their marketing strategies and implementing their sales tactics at this time.

Whether your course is closed for the winter or you're watching every tee time book, by now, you've evaluated the past year's successes and shortcomings. But what constitutes market success, and what constitutes market failure? Where do you start with your evaluation? I'll give you a hint: It has little to do with budgets, profit plans or making a bonus. Reaching those types of objectives is always satisfying, but you should ask yourself how your course fared with regard to market share? What's your share of the market, and what's your fair share of market rounds?

One of the first things I do when I'm on a new assignment is calculate a market demand analysis. I want to know how many rounds of golf a market (i.e., the population) should be playing, how many golf courses are in the market, and what the average number of rounds being played per an 18-hole equivalent is. Knowing these numbers, you can determine your course's average market share.

But there are numerous subjective adjustments or considerations that must be made to provide a closer view of your course's average share or fair market share. For example, municipal courses and resort courses usually will generate more rounds than market averages, while private clubs will generate slightly fewer rounds than market averages.

To conduct your own market demand analysis, start with the National Golf Foundation's participation rate and average rounds played per golfer for the state you're in. For example, for Florida, the NGF's participation rate is 10 percent. The average annual rounds per Florida golfer was 33.3 for 2005, according to the NGF.

The next step, determining your market area, is more subjective. First, determine where your course draws most of its play from. Two accepted areas for medium-level and above public golf are a 20-mile radius and a 40-minute drive time. Choose the one that fits the majority of players who golf at your course. With that population figure, you can calculate the beginning number of market rounds played. However, some demographic adjustments also must be considered. Determine the first population- or consumer-based number first.

> "But there are numerous subjective adjustments or considerations that must be made to provide a closer view of a course's average share or fair market share."

For example, let's says a course's market has a population of 100,000 within a 40-minute drive. Ten percent of 100,000 equals 10,000 golfers, and 33.3 multiplied by 10,000 golfers equals 333,000 market rounds of golf. If there are nine 18-hole equivalents in a 40-minute drive area, there are 37,000 average rounds played per 18 holes. That's the starting point.

One calculation or adjustment to consider is that NGF's state participation rate and state average rounds calculations are for the

population age 18 and older instead of the total population. So, an adjustment factor of 17 percent to 25 percent is appropriate for the majority of golf markets to be inclusive of the 0 to 17 year olds because they participate less and play less frequently, according to Edgehill Consulting and Pellucid Corp., golf market research specialists. By adjusting the Florida market average by 17 percent, average rounds per 18 holes come out to 32,190 rounds. With a 25-percent adjustment, average rounds come out to 27,750.

Average age and household income are the two demographics that impact rounds played calculations the most. Remember, we're trying to get a snapshot of a market. If the average age for a market is higher than the state's average age, increase the number of average rounds by that percentage. For example, if a market has an average age that's 5 percent higher than the state's, average rounds increase by 5 percent to 33,800. Now, if the average household income also is higher than the state's average household income by, say, 2.5 percent, don't increase the new calculation by that amount. Go back to your original 32,190 market average, multiply by 1.025 for what now creates a range of 32,995 to 33,800 for average market rounds. In general, as golfers age, they play more golf; and as their incomes rise, they play more golf.

Use these types of calculations as an analytical opportunity to see how your course is performing relative to market share as a whole. Are rounds at your course within this range of market averages? Does that mean your share is good, bad or indifferent relative to your course's positioning in the market? What's your realistic fair share of market rounds? These are questions of which you should know the answers. **GCI**

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MODERN DRAINAGE ISN'T SO BAD

This past November, another industry magazine featured an article about modern golf course drainage written by a golf architecture columnist and historian. Its main points were: (1) The good-old days of golf design were perfect; (2) modern architecture sucks; and (3) golfers don't like catch basins in prime play areas.

The first point is open to debate, the second ruffles my feathers, and the third requires deeper thought. I've discussed the basics of how to design drainage (see my October 2004 column) but would like to address why modern golf courses seem to need more drainage than older ones.

The aforementioned columnist believes older courses magically drained themselves, and modern golf course architects just can't figure it out. Fact is, most old courses drain well now because superintendents have installed new drainage throughout the years. The columnist admits old courses have added much drainage throughout the years, blaming it on wholesale redesigns intended to wipe out the original architecture.

Earlier generations might have accepted soggy turf in wet swales, probably because they sensed technology and/or budgets couldn't prevent it. Nostalgia aside, playing wet courses couldn't have been as pleasant as some might imagine viewing old photos. Nowadays, golfers don't accept the idea that a course takes several years to get in great shape. More importantly, owners and bankers know the value of good drainage to a golf course business plan that depends on:

- Making great first impressions on opening day and beyond. This garners awards, buzz and good word-of-mouth publicity.
- Minimizing down time. Getting back in play immediately after most rain events – especially if an outing has been booked – maximizes the balance sheet.

The advent of PVC drain pipe makes installation cheaper than ever, raising its cost/benefit ratio to where it makes no sense not to use it. It's easy to imagine Golden Age architects saying the same thing if PVC drain pipe had been available to them. Drain pipe and easy earthmoving wasn't available, so they used natural drainage patterns more than modern architects. Because we have higher permitting and design requirements now, we must modify natural contours more than we'd like. Challenges we face that would stun Golden Age architects, include:

> "More importantly, owners and bankers know the value of good drainage to a golf course business plan ..."

- Courses with surrounding housing;
- Accommodating golf carts without tire ruts;
- Accommodating sites that are too flat or steep;
- Environmental concerns; and
- Flood-control regulations.

Naturally, we respond differently. Architects used to consider only greens and tees as critical protection areas from drainage. With fairways and roughs maintained at higher levels, we grade most turf areas to assure no off-site water crosses them. And given the cart path the primary circulation route through the course, it's better to pick up off-site drainage outside the cart paths to keep them dry and safe. Increased maintenance levels couldn't be achieved without improved drainage.

Typically, the biggest drainage issue is from adjacent housing. We drain the occasional rain as well as nuisance water from overwatered home lawns. Even on sunny days, there's constant drainage trickling across a course, which would saturate many of those long natural swales formerly used for drainage. Surface drainage concentrates significantly within 300 feet of originating flow, so it's wise to pick up drainage with a catch basin at lesser intervals to prevent rutting from golf carts.

Often, golf courses are part of a regional flood-control plan or have environmental requirements that dictate drainage be directed away from natural creek channels and toward ponds, wetlands, or other holding or filtering areas before being released back to the natural stream system. The goal is to filter storm water and hold it to prevent downstream flooding. These modern regulations were never demanded in the old days, and it's easy to see why our designs are graded more extensively.

Many golfers don't like seeing catch basins on golf courses, and unless necessary, they're placed out of the way. Even 200 12-square-inch basins in 40 fairway acres gives you only a 0.5-percent chance your ball will land on one. I've had only a dozen shots affected by catch basins throughout the years and suspect the actual nuisance is less than perceived visual distraction. A shot is more likely to be affected by one of more than 1,000 sprinkler heads, yet few complain about those.

Seeing more catch basins on a modern golf course doesn't seem like a bad tradeoff, considering how much modern drainage has improved turf quality, the playing experience and environmental protection, while helping out everyone's bottom line by reducing maintenance and course downtime to increase revenues. **GCI**

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STAND UP AND BE COUNTED

An accepted premise within today's society is that one should not criticize unless he or she has a better idea. As one who has been consistently critical of the Golf Course Superintendents Association of America's election process, I accept the responsibility to suggest a better way.

I say this because the present election process, with block chapter voting entirely replacing individual member voting, denies every GCSAA member of his or her opportunity to participate in the association's governing process. (See my column in the January 2007 issue.)

The unavoidable consequence of this is that the membership's natural leaders see this, lose respect for the governing process, and, accordingly, decline board service. Historically, the nominating committee has had to frequently pressure members to consider board service.

Accordingly, the GCSAA's ultimate challenge is to create a political environment that will encourage every member to seek and be proud of service to the association. The only way this is going to happen, however, is for the membership's political power base to stop playing politics and to bring a democratic voting process into play, as generally suggested within the following commentary.

THE NOMINATION PROCESS

For better or worse, the quality of an elected board will closely correlate with the quality of the nominating process that creates it. Accordingly, the keys to an effective nominating program are:

First and foremost, it's necessary to identify independent, knowledgeable groups that the board would appoint to the nominating committee each year. For example, the following sample group would serve as an effective model to emulate: the second removed GCSAA past president, current directors of the USGA Green Section, 15- to 20-year GCSAA members and qualified academics from the university system.

Next, and still foremost, is the important task of identifying who should serve on the nominating committee itself? Because effective board performance requires nothing less than a blue-ribbon panel to make these critical nominations, the nominating committee might consist of selections from the following categories of industry savvy people:

- the fifth removed GCSAA past president;
- 20- to 30-year GCSAA members;
- five year recent past chapter presidents;
- current and five-year recent members of the GCSAA Advisory Council; and
- 10-year recent past GCSAA board members.

BOARD ELIGIBILITY

The most effective way to ensure that board candidates possess leadership experience and qualities would be to allow only current and past chapter presidents to be eligible to serve on the GCSAA board of directors. Two sources of nominations would be accepted: (1) Chapter boards would be allowed to nominate only their own current or past presidents; and (2) any current or past chapter president would be allowed to nominate him or herself – provided he or she obtained the signatures of 50 percent of all chapter members eligible to vote, as attested to by the chapter secretary.

> "Accordingly, the GCSAA's ultimate challenge is to create a political environment that will encourage every member to seek and be proud of service to the association."

All board recommendations would be submitted to the nominating committee in the form of an approximate three-minute electronic video to be prepared by each candidate that would present each candidate's resume, answers to FAQs and campaign initiatives. Chapters would pay up to a fixed amount for the production of their own candidates' videos, while self-nominated candidates would pay up to the same fixed amount to produce their own video productions.

To allow for proper due diligence, all submitted candidate videos would be forwarded electronically to each nominating committee member before the designated committee meeting date in Lawrence, Kan. Once this meeting convenes, the committee would nominate two or three candidates for each of the three board vacancies that occur each year. Final committee nominations would be announced to the general membership via a special purpose GCSAA election Web site that would link to each nominated candidate's video production.

THE VOTING PROCESS

At this point, candidate voting becomes the simple matter of allowing eligible members to gain one-time access to a national computerized election process via their unique member identification numbers. Officer voting becomes even a simpler task, i.e., the president and officers would be elected each year by the nine board members at their first meeting immediately following the general board elections. This in-house officer election process is used by virtually every one of the over 4,600 private golf clubs throughout the country because it allows the best informed to select the right people for the right job at the right time.

The real issue is whether GCSAA members care enough to vote? If present day indifference to voting continues, members will be denying their profession the recognition it requires to lead an industry while settling for a lifestyle that they will later look back on with some regret. **GCI**

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ASK THE RIGHT QUESTIONS

The following are Peter Spring's thoughts after completing an interview for the mechanic position at Hills and Valleys Golf Course:

"Wow! That wasn't what I expected. When George (the golf course superintendent) invited me to the interview, he said to come to the course at 10 a.m. I arrived a few minutes early, but no one was at the clubhouse. By the time I found the maintenance facility, I was late. George was understanding, but I was more nervous. We made small talk about George knowing my father from regional church work. He asked if I belonged to the same church as my father.

"Then George said we should start. Recalling my two previous interviews, I was expecting a formal, structured meeting. Instead, George started: "I made some notes for the interview. Let me see if I can find them." Then the phone rang, and he talked on the phone for a few minutes. Then we talked about the job for about 15 minutes. George asked a couple general questions but never found his notes. It felt more like an unstructured discussion than an interview. As the interview was ending, I had to interject to ask my questions.

"I realized I didn't find out or ask about what I should expect next. I have no idea if or when I'll hear anything or whether I should take the position if it were offered."

Although the above is fiction, I've heard each component from employees interviewing for jobs at golf courses. Spring's thoughts can be used to address three key interviewing issues: (1) The superintendent's preparation for the interview is crucial; (2) thoughtful, structured interview questions are necessary; and (3) be aware of legal issues when interviewing.

I can relate to George's initial problem. When visiting superintendents, I've often spent much time locating maintenance facilities or their offices. Making certain a candidate knows exactly where to be and what to expect is the first step of preparation.

Before proceeding, reflect on the interview. Think about your interview experiences. I suspect they were stressful, you were nervous, the outcome would have a major impact on your career, and you wanted as much clarity as possible in an uncertain process. The candidates you interview are in the same situation. Here are ideas to ensure you're prepared for an interview:

- Recognize this is an important, stressful event and formality is needed.
- Construct a schedule for the interview including time to establish rapport, sell the position and course, ask interview questions, respond to the candidate's questions, tour the maintenance facility and course, and meet other course personnel.
- Make certain candidates understand what to expect – anything they should bring or prepare; interview time (beginning and end), location, schedule and format; and appropriate dress.
- Greet candidates upon arrival and devote your undivided attention during the interview – you only have one chance to make a first impression. Make a great impression. You don't want the candidate you choose to turn you down. Answering the phone call in the scenario above was inappropriate.
- Make certain candidates know what to expect when they leave the interview. What is the next step, and when will it come?

A prepared set of questions to be asked of all candidates is recommended by all interviewing experts and practitioners. The only point of dispute is the advisability of asking follow-up questions to pursue points raised in the answer. I suggest limiting follow-up questions. The best way to reduce the need for follow-up questions is a well-designed set of questions. Consider the following points:

1. An essential starting point is to identify what will enable success in the position. This means identifying competencies needed to succeed. Then write questions for each competency.

2. Many have a tendency to ask questions that begin with, "What would you do if … ?" Experience shows better questions begin with, "Tell me about the last time this happened …." Instead of asking "What would you do if you were going to be late for work?" ask "What did you do the last time you knew you were going to be late for work?" These are behavioral questions.

Equal employment opportunity laws bar any business or organization from making human resource decisions based on race, color, gender, religion, national origin, physical and mental handicap, pregnancy, age or military veteran status. Here are three points to guide you:

1. A general guideline is to ask only about things unquestionably related to the job and the applicant's ability to succeed in it. If the interview questions concern work experience, knowledge and skills required for the position, and attitudes and behaviors required to succeed in the position, illegal questions won't be needed or useful.

2. Avoiding illegal questions is difficult when writing questions about attitudes. The key is to identify the desired attitude rather than attributes that are positively correlated with the attribute.

3. Information about equal opportunity issues should be limited to formal interview questions. During the interview cited above, George asked Peter if he belonged to the same church as his father. This is an illegal question. Interviews require time to relax and build rapport with the applicant, but no part of the interview can include informal talk completely.

The following are questions that are or could be illegal:

- "What organizations, clubs or societies do you belong to?"
- "Can you provide a photograph of yourself?"
- "What arrangements have you made for childcare?
- "Have you ever been arrested?"

Successful interviewing is a simple formula: Preparation plus structured questions minus illegal questions. Remember this whenever you're hiring, and you'll be better off. **GCI**

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Golf course construction summary

(as of 1/28/2007)

Type	Under construction*			Completed*		
	9-hole	18-hole	Total	9-hole	18-hole	Total
New Facilities						
Daily Fee	39	118	157	1	3	4
Municipal	7	12	19	0	0	0
Private	13	63	76	0	1	1
Total	59	193	252	1	4	5
Additions						
Daily fee	83	6	89	1	0	1
Municipal	4	1	5	0	0	0
Private	14	6	20	0	0	0
Total	101	13	114	1	0	1
Grand total	160	206	366	2	4	6

* Figures do not include courses classified as Reconstructions. (45) 9-hole and (79) 18-hole reconstructed courses were under construction and (1) 9-hole and (2) 18-hole reconstructed courses opened.

Source: National Golf Foundation

Experience factors

Ever wonder what the golfers who play at your course care about and what aspects of the golfing experience are more important than others? Well, here are 14 core factors of the National Golf Foundation's Golfer Survey Program (in no particular order). How does your facility rank with your golfers in these areas?

1. Overall value
2. Convenience of course location
3. Tee-time availability
4. Overall course conditions
5. Condition of greens
6. Scenery and aesthetics of course
7. Pace of play
8. Condition of golf cars
9. Amenities (clubhouse, pro shop, locker room)
10. Friendliness/service of staff
11. Food-and-beverage service
12. On-course services (restrooms, drinking water)
13. Overall experience
14. Affordability

QUOTABLES

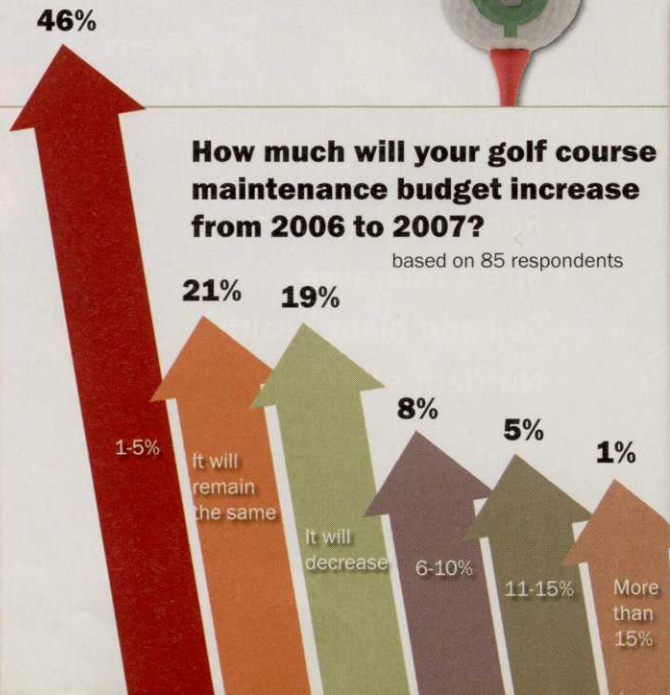
"You don't have to be certified to be successful, but you need to carry yourself with the respect the profession deserves. As superintendents, we don't do that as a whole. We don't carry ourselves like the professionals we are." – **Tom Lavrenz**, *director of golf for the city of Cedar Rapids Golf Department in Iowa*

"The GCSAA is showing the value of Class A to owners. It has promised the membership that the Class A designation sets them apart from their peers. The GCSAA doesn't say that about CGCS." – **Darren Davis**, *director of golf at Olde Florida Golf Club in Naples*

"It's very sad to see the level of care of maintenance facilities out there. Some are professional. Many are messy. It doesn't take much money to show that you are proud of where you work." – **Scott Nair**, *golf course superintendent at Kukio Beach Club in Kona, Hawaii*

How much will your golf course maintenance budget increase from 2006 to 2007?

based on 85 respondents



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BY PAT JONES

the man behind the curtain

Frans Jager explains the benefits of working with small independent distributors

Chances are you've never heard of Frans Jager. You'll probably draw a blank on the name of his organization, too. But odds are you're doing business with them indirectly, and you don't even know it.

Jager runs PrimeraTurf, a cooperative group of more than 40 smaller independent turf distributors throughout the nation. It helps little distributors act like big companies via collective bargaining power.

After a long career in the fertilizer business in Europe and America, Jager took over purchasing for LESCO in 1992. For eight years, he was the go-to guy for the chemical, seed, fertilizer and equipment manufacturers who wanted to do business with the 800-pound gorilla of turf distribution. He was the behind-the-scenes person who helped orchestrate a key part of the entire golf/turf supply chain. But, LESCO's financial and management troubles led him to part ways with the company around the new millennium.

A few years before that, the first professional products distribution cooperative called Prokoz had been created, and more than a dozen larger independent turf distributors joined to try to get the same pricing as the big boys. But many smaller companies had been shut out by Prokoz and were attempting to form a second group of their own. Thus, at the GCSAA show in Dallas in 2001, Jager sat down with a handful of distributor owners and agreed to head up a new group to be called PrimeraTurf. He's been running the co-op ever since.

TELL US ABOUT YOUR ORGANIZATION AND TYPICAL MEMBERS.

PrimeraTurf had been created in 2000 by three independent distributors from Virginia. That time was probably the peak of the belief that the national buying model would drive the independents out of business. And many independents failed at that point already.

The key issue was access to products at a competitive price. Most of the small independents didn't have a contract with the major chemical companies who controlled the market though patents. They had to buy through a dealer (Helena, Terra, etc.). The manufacturers liked it that way because it was simple and they just had a few people to deal with. The independents couldn't stay competitive because they had to buy from the people they sold against (dealers).

It took PrimeraTurf a while to grow into something that had substance. We now have 42 members, most of which are relatively small, family-run distribution companies that have been selling soft goods to golf courses, sports facilities and lawn care operators in their communities for decades. Typically, they have the local expertise, they're dedicated to their customers, they have everything they own tied up in their business, and they're passionate about the market.

The only criterion for joining PrimeraTurf is that we want it to be a co-op of true independents. That means it's independently owned and the owner has to be actively engaged in the business. Our members give the end user a choice of dealing with large national companies or the local guy.

YOU MAKE IT SOUND LIKE WAL-MART VERSUS MAIN STREET U.S.A.

There are similarities, but in our business, Main Street U.S.A. has been kicking Wal-Mart's butt the past few years.

WHY?

Local service and knowledge and long-term relationships between salespeople and customers. This is a relationship-driven market, and independents tend to be better at building and maintaining those relationships. PrimeraTurf's role is to help preserve the local distributors in the golf market by creating a level playing field in terms of pricing.

WHY DO YOUR MEMBERS SEEM TO FOCUS ON GOLF AS OPPOSED TO SOME OTHER PARTS OF THE GREEN INDUSTRY?

Golf is a desirable market because it's the epitome of relationship-driven selling, and that's what the independents are good at. The large lawn care business is extremely competitive and has become a direct business mainly.

WHY DO MOST MEMBERS SPECIALIZE IN SOFT GOODS RATHER THAN IRON?

Almost all of our members sell chemicals, fertilizer and seed but with different emphases. Many of our companies have 'seed' in their names, and that was the basis for their creation. Seed has pretty much stayed out of the hands of the nationals, so it's been the

Photo: D.S. Resch

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anchor of many independents. Fertilizer is a natural adjunct of that. Most of these small companies didn't have good direct access to the chemical side of the business.

IS PRIMERATURF A COLLECTIVE PURCHASING ORGANIZATION IN THE TRUEST SENSE?

We've chosen not to work as a purchasing co-op. We negotiate supply arrangements for our members. The transaction still takes place between the manufacturer and the member, but we've helped to set most of the terms and conditions for our members. It's much like collective bargaining, but the member is the final judge of what he takes advantage of. He can choose to pull a deal with a supplier off the shelf or not.

IS A CO-OP DIFFERENT THAN A MASS-PURCHASING GROUP?

There are a range of different co-ops. Some are general like us, some are true co-ops like Ace Hardware where everything is centralized or there are small businesses like IGA stores that give up their identity. We offer a minimal level of cooperation and coherence. The commonality is that we operate in a small market. Our members collectively represent about $350 million in annual sales. That's probably a shade under 10 percent of the market for the products we're most interested in – fertilizer, chemicals and seed. We might grow some, but it's not realistic for us to believe that we'll be a billion-dollar co-op.

That dictates how we go about the business. Our members don't want to build up an empire with a huge office staff and a lot of overhead. It doesn't make sense given the small size of our market. We'll do as much as we can with a minimal resource commitment. We only have two employees (Jager and his second-in-command, Terry Boehm). As a member, you've maintained your independence except you've chosen to source your products collectively.

SO, HOW DOES THAT BENEFIT THE AVERAGE SUPERINTENDENT?

Competition. It guarantees they have a choice between Wal-Mart and the local store. They can do business with a large corporation that can probably get them anything, or they can do business with guys they've known all their lives and can trust most. It preserves that option.

WHAT ARE THE BIGGEST CONCERNS YOU AND YOUR MEMBERS HAVE ABOUT THE HEALTH OF THE MARKET?

Regulatory issues are probably at the top of the list. We're losing the battle against the people who feel that applying anything to turf is unnecessary. Canada is a great example, but there are pockets in the United States that want to eliminate the freedom to use tested, well-regulated products. RISE is warning the new leadership of the Democratic Party side is going to put a lot of these issues back on the Congressional agenda, but the biggest threat is still at the local level.

WHERE DOES PRIMERATURF STAND ON THE GENERIC CHEMICAL ISSUE?

Our members are voting with their pocketbooks. They understand that the difference between branded and post-patent products in terms of performance can be minimal. But we've embraced the concept of a balanced approached because we believe the brands are an important element to keep value in the marketplace. If this was just a completely generic game, nobody would make money. The end user might benefit to some extent in the short term. The expiration of patents means competition and lower prices. But in the long-term, I can't see a scenario in which the business would stay healthy for our members if that part of their business isn't profitable.

People should maintain a balanced approach and do what's best for the customer's comfort level. Conversely, if the customer

PrimeraTurf members

COMPANY NAME	LOCATION
Advanced Turf Solutions	Fishers, Ind.
Agra Turf	Searcy, Ark.
AG Rx	Oxnard, Calif.
All Pro Horticulture	Farmingdale, N.Y.
BTSI	Frankfort, Ill.
Central Farm & Garden	Wooster, Ohio
Conserv FS	Woodstock, Ill.
Dickens Turf & Landscape	Nashville, Tenn.
Fertizona-Fennemore LLC	Waddell, Ariz.
Gard'N Wise	Wichita, Kan.
Grass Pad	Olathe, Kan.
Green Industries	Italy, Texas
The Greenkeeper Co.	Omaha, Neb.
Green Velvet Sod Farms LTD	Bellbrook, Ohio
The Chas. C Hart Seed Co.	Wethersfield, Conn.
Herod Seed	Richmond, Va.
Horizon	Orange, Calif.
Howard Fertilizer & Chemical Co.	Orlando, Fla.
J Mollema & Son	Grand Rapids, Mich.
Landscape Supply	Roanoke, Va.
Matrix Turf Solutions, LLC	Warners, N.Y.

COMPANY NAME	LOCATION
Maxwell Turf & Supply Co.	Wyandanch, N.Y.
Newsom Seed	Fulton, Md.
Nursery Connection, LLC	Hubbard, Ore.
Outdoors	Maple Heights, Ohio
Penn State Seed Co.	Dallas, Pa.
Pro Chem Sales	Amarillo, Texas
R. F. Morse Turf & Ornamental	West Wareham, Mass.
Seeton Turf Warehouse LLC and Atlantic Golf & Turf	Mount Laurel, N.J.
Sigma Organics	Nashville, Tenn.
Southern Seeds	Middlesex, N.C.
Spring Valley	Jackson, Wis.
S.R.C. Corp. dba Steve Regan Co.	Murray, Utah
SynaTek	Souderton, Pa.
TenBarge Seed and Turfgrass	Haubstadt, Ind.
Tri-Turf	Traverse City, Mich.
Turf & Garden	Chesapeake, Va.
TurfLinks	Hudson, Mass.
Veatch Chemical Co.	St. Louis, Mo.
Walker Supply	Bridgeville, Pa.
Westchester Turf Supply Co.	Lincolndale, N.Y.
ZIMCO Supply Co.	Sioux City, Iowa

has a budget issue and he's better served by it, the generic solution might be better. We're also urging our members to look at the new proprietary chemistry. If you're in the distribution business, the last place you want to be is 100 percent generic. The short-term margins might be good, but a short-term situation isn't viable in the long run.

HOW WOULD THE INDUSTRY CHANGE IF GENERIC PRODUCTS DOMINATED THE MARKET?

First, there's not much new chemistry in the pipeline, so post-patents will dominate the market. And there's probably less of a need for new proprietary products than ever. There are few agronomic issues that haven't already been addressed by existing products. But better environmental characteristics and things like that are still desirable. The basic manufacturers almost have ceased to be manufacturers. They're milking the same basic products they've had for years and almost stopped looking for new chemistry.

Remember, our little market isn't driving new products. All the agricultural research has shifted over to genetic engineering and biotechnology. That's not in our favor. The ag business has shifted. Where they've lost value, they've gained value in genetically modified organisms. I don't see that happening in turf.

There needs to be a shift to providing services as much as products. Call it 'consultative selling' if you like. Also, distributors will look to other areas besides chemicals (foliar fertilizers, supplemental products, etc.) that offer good value and good profits.

It's even a bigger challenge for the national distributors than it is for our members. They rely so heavily on the chemical products. If you're a LESCO or a Helena and your profits on the chemical side of the business are eventually going to be a third of what they are now, it's going to have an even bigger impact. Independents are going to be much more creative finding solutions and staying profitable.

SOME SUPPLIERS OFFER INCENTIVES FOR PURCHASING RANGING FROM DONATIONS TO TURF RESEARCH TO VACATIONS, AND THE GCSAA RECENTLY ISSUED A VALUES STATEMENT THAT SEEMS TO TAKE ISSUE WITH ACCEPTING PERSONAL GIFTS FOR GOLF COURSE PURCHASES. WHAT'S YOUR TAKE?

It could change the landscape dramatically, particularly for the branded companies. Those incentive programs are a huge factor in maintaining their position in the market. That said, for the health of the business at large, they're the wrong thing to do. It's not healthy for a superintendent or customer to be driven toward a product if he's only buying to get a big-screen TV or a trip to Hawaii. If I were the owner, I'd go crazy about that. Yet, it's one of the unspoken reasons behind loyalty to brands.

WHAT ARE THE PROS AND CONS OF AGENCY PRICING PROGRAMS?

Agency pricing doesn't make much sense over time and on a large scale. Call a spade a spade: When older products came to the market on agency pricing, it maintained the price in the market when it otherwise would have collapsed. Agency is getting undermined by all sorts of offerings, such as supplier programs that offer rebates to distributors for meeting sales targets. The net deal is different based on how much they're selling, how competitive the market is, generic pressure, etc. Ultimately, you have to go thru peaks and valleys. If I was an end-user, I'd feel duped by all these schemes. They want solutions at a fair price. Anything that takes away from market competition isn't fair to them.

WHY ARE MOST OF YOUR MEMBERS DOING PRETTY WELL DESPITE GOLF BEING RELATIVELY FLAT FOR THE PAST DECADE?

It's because independents are better at servicing the market. They're doing a great job of gaining market share and competing. We help, because we give them better access to products and fair pricing. Also, they're placing a lot of emphasis on other areas: sports, ornamentals, tree care, etc. They're successful because they look for every opportunity in their market.

WHAT FACTORS ARE ON THE HORIZON THAT COULD HURT THE MARKET?

For the next 10 years, regulation and generic chemistry will be the biggest problems. Strategically, the regulatory and environmental issues are deadlier. It's so hard for us to defend ourselves against activists.

WHY ARE YOU OPTIMISTIC?

The demographics work in the favor of the independents. Our business thrives when customers want extra support. Information technology for our members will change the landscape and allow them to provide services they couldn't before. Wireless communications gives them instant access to data on pricing, availability, etc., as well as the ability to serve customers better in the field. Salespeople will have the ability to know as much about a customer's business as he does.

I preach that our members have to learn to sell solutions rather than products. As long as you think your business is selling product XYZ, you're held hostage by the manufacturers. But if you have the choice to sell solutions and package products as part of them, you have flexibility and can serve them right. All customers care about at the end of the day is that their turf is as healthy as it should be and they can achieve their goals within their budgets, and that doesn't necessarily have anything to do with products. Who cares what the product is as long as the golf course is in tip-top shape and they get help and support from local experts they know and trust?

LAST THOUGHTS?

End-users are well served with a healthy network of independent distributors in our business. They have everything to lose and a lot to gain when their customers succeed. That's not necessarily true for the nationals. Our members aren't going anyplace. If PrimeraTurf is successful making its members successful, that's good for the end user. **GCI**

Frans Jager can be reached at fjager@primeraturf.coop. Readers can also visit the company's Web site at www.primeraturf.com.

by PAT JONES

IT PLAYS IN Peoria

Making integrated facility management more than just lip service

There's no question the traditional American private golf club currently is more vulnerable than a baby bunny in a cage full of hungry pythons.

Though the number of golf courses has increased almost 40 percent during the past two decades, the number of private facilities is actually just about the same – about 4,500. That means for every new club that's opened, another has converted to a semiprivate or daily-fee facility, or simply ceased to exist. The golf boom has been a public phenomenon, and clubs have been the victim of the free market.

Society, too, has changed. The days of dad visiting the club four or five days a week to play golf, hang out and spend money are over. And mom's not playing as much golf or sitting in for bridge games every Tuesday and Thursday. She's either working or running the local PTA. The kids? Well, instead of being "club rats," they're busy playing video games, cramming for the SAT, surfing on MySpace.com or going to lacrosse, dance or soccer practices.

So, how does a traditional private club – historically run "the way we've always done it" with almost separate operations in maintenance, food and beverage, and the pro shop – survive in this hostile environment? Two words: teamwork and creativity.

Clubs throughout America are reinventing themselves because, quite simply, they have to. One traditional private facility – the Country Club of Peoria in Illinois – is breaking the mold, becoming more businesslike and taking its destiny into its own hands. As the old show biz saying goes: If it plays in Peoria, it'll play anywhere.

TYPICAL CLUB, UNIQUE STAFF

The Country Club of Peoria is a classic Midwestern gem. Formed 110 years ago, the club sits near the Illinois River on an unusually hilly spot in an otherwise flat-as-a-pancake part of the nation.

Like many century courses, the club has undergone numerous development phases, expansions and redesigns through the years. The core design of the golf course is credited to F.M. Birks, one of the club's organizers, but the course was rebuilt dramatically in 1997. It's short (6,200+ yards), tight and woody.

And, like many mature clubs in smaller markets, the facility began feeling the pinch of economic pressures, particularly as the fortunes of Caterpillar – the region's dominant employer – rose and fell. At the same time, membership and revenue declined because of the social challenges facing all clubs.

That was the situation facing the management team that came together in 2005: golf course superintendent Andrew Morris, general manager Mark Bado, CCM, and golf professional Scott Brownfield.

"Before I came here, I worked for an ac-

At the Country Club of Peoria in Illinois, golf course superintendent Andrew Morris (right), general manager Mark Bado, CCM, (below left) and golf professional Scott Brownfield have worked well together to increase membership and find new revenue sources. Photos: Terry Farmer

The golf course irrigation system needed to be replaced, and that tied to the club's need to host golf outings to generate more revenue. Photo: Country Club of Peoria

counting firm in Pittsburgh that handled club business," Bado says. "With that background, I learned how important it is to open yourself to the whole operation. I never knew there were walls between departments at some clubs, so it was natural for the three of us to team up."

Morris also has a nontraditional background for a superintendent. It's his second career after serving as an executive chef at SeaWorld in San Diego and working in restaurant management.

"Obviously, my experience helps me have a much better understanding of the food-and-beverage side, but I also got indoctrinated in management cultures that emphasized teamwork," he says.

Brownfield has been at the club almost continuously for about 20 years and, obviously, had seen numerous management and leadership changes.

"But I immediately liked these guys," he says. "It was easy to get excited about doing new things."

THE "TO DO" LIST

The new things that needed to be done included reversing the decline of memberships, finding new revenue sources, replacing an aging and unreliable irrigation system and making the club more family-friendly in the modern sense.

"Clubs can no longer be a one-stop just for the head of the household," Bado says. "We have to cater to the whole family. Twenty-five percent of our members have been here 30 years or more, but another 25 percent have been here three years or less. We have to meet all of those differing expectations and needs. Essentially, we have to be an extension of the home."

The first order of business building the team and accomplishing its multiple goals was setting up better lines of communication within the entire staff.

"We (the managers) meet weekly on a formal basis, but daily on an informal basis," Brownfield says. "We made a conscious attempt to work as a team."

Morris – who will conduct a seminar about the subject of team management at the GCSAA national conference in Anaheim – outlines his staffwide communication program:

- Weekly management team meetings

- Weekly meeting with the PGA pro
- Weekly meeting with the general manager/facility manager
- Daily meeting with the maintenance crew
- Daily communication with the support staff and assistants
- Ongoing communication with green committee and golf membership
- Facility communication board.

"A big part of our success has been letting each other into each others' areas," Morris says. "I have a better understanding what they do, and we've developed a level of trust. If they tell me things are OK, I know things are OK. We don't always agree, but we'll agree to disagree and laugh about it later."

One might question whether that threatens Morris' autonomy over the turf program.

"One thing I hear superintendents say is 'why would you share that information with them,' like somehow they don't want their g.m. or golf pro to know what they do. That's the complete opposite of what we should be doing. I let him know everything. He doesn't want my job. The more he knows about me and my operation, the better off we'll be.

Team character

Golf course superintendent Andrew Morris has looked beyond his own operation to prepare for his presentation about integrated team management at the GCSAA education conference. He identified these key characteristics of a good team:

- **The majority usually consists of fewer than 10 members.**
- **It strives for something greater than team members could achieve individually.**
- **Members are accountable with and to their teammates.**
- **Members have the ability to engage in constructive conflict or agree to disagree.**
- **Members have commitment and trust in each other.**

(Katzenbach and Smith, Harvard Business Review,2004)

By hosting 13 new events, the club raised $750,000 for the community and exposed hundreds of golfers to the course and club. Photo: Country Club of Peoria

That information sharing is a huge part of our success."

HIGH-TECH MARKETING

To address the need to recruit new members, this granddaddy of a club used a new-fangled idea: They produced a membership package that includes a slick DVD that focuses on the people and culture of the club. Surprisingly, it was Morris who wrote the script and helped drive the production.

"Potential members used to get two pieces of paper stapled together," Morris says. "It just wasn't representative of the type of club we are. Now we have a nice package to give to potential members. Most of the time a superintendent would never have been involved, but Mark and Scott were more than willing to listen. I wrote the rough presentation and the dialogue and even presented some of the initial ideas to the board. We got professionals involved to clean it up and put some shine on it."

Bado loved it.

"Andy really got engaged in the process," he says. "He captured things about the club that the rest of us might not have understood as well."

The DVD campaign was a roaring success, and the club attracted 52 new members at the standard initiation fee of $22,000.

But, the new approach didn't stop once the new member signed on the dotted line.

"When people join a club, it's a huge commitment of money and time," Bado says. "Part of our orientation is for members to go around to each department to meet the people who might be serving them for the next 20 or 30 years. They meet everyone. They can put a face to a name and a name to a face."

Brownfield agrees: "It puts a personal touch on the operation," he says. "They feel much more comfortable using the facility. It can be a little intimidating, but it should feel like an extension of the home."

Bado sums it up: "Clubs will go the way of the dinosaur unless they're dynamic," he says. "As a club, we have to change. It's like grocery stores. In the '70s, you just got your milk and meat there. Now, you have banks, ATMs, videos, etc. We have to be a one-stop shop for all of our members' needs. So, we have wi-fi, a business center, etc. We have to embrace change without losing track of what makes clubs an extension of the home."

OPENING THE DOORS

The club had historically avoided hosting

Between new revenue from member recruitment and the outside events, the club could now afford the new irrigation system.

outside events, but times had changed and new nondues revenue was needed. Morris, Brownfield and Bado put their heads together to sell the idea to the membership.

"We needed an irrigation system and really had to market the idea (of more outings) to our members," Bado says. "Instead of sitting on the sidelines and waiting for things to happen, we put some really nice PowerPoint presentations together to educate our members.

"Scott and I got leads from the membership," he adds. "And, with Andy's help, we reached out to event managers and created these outings that didn't exist three years ago. Once we sold them on holding the event here, we guided them through the process: how to set it up, how to get golfers, logistics, members, etc. We attend their committee meetings. We're active participants. We even help with sponsorships, holes-in-one, etc."

The result: 13 new events that raised $750,000 for the community and exposed hundreds of golfers to the course and club.

"It definitely helped our recruiting," Brownfield says. "We got tons of leads out of the process."

But, he adds, successfully building an event business isn't easy.

"Every department has to come together," he says. "We do that as a team very well. When we have events here, everyone's working together because it's an opportunity to show the club off. But, when it's over, the members don't care what you've done the past three days. You can't lose sight of the fact that it's their club."

Between new revenue from member recruitment and the outside events, the club could now afford the new irrigation system. But, they didn't take approval for granted.

"It was a two-year process," Morris says. "There was no way that any one of us individually could have gotten it approved. Scott fielded numerous questions from golfers. Mark did the same. They got the same information about it from all of us. We were all on the same page."

Thanks to the new revenue and the "got your back" team approach to communicating with the membership, the new irrigation system was approved recently and will be installed in 2008.

LESSONS LEARNED

The atmosphere of teamwork at Peoria is obviously a product of effort, but good relationships matter, too.

"We're friends, and we genuinely like each other, but we've also worked on building our relationships," Morris says. "You have to actively develop the type of relationships we have here. If you wait around for this to happen, it won't. There's too much involved. You have to consciously know that you're going to do this."

Bado echoes that.

"Everything we do is common sense," he says. "There's nothing we do here that's brain surgery. We help each other out and pull each other through. We actually attend each others' education sessions. You can't be afraid to change, and you can't be afraid to grow."

So how much of their success can translate to other operations where this type of relationship doesn't yet exist?

"The first thing I would recommend to a club if they were in the situation we were in five years ago is to develop a team relationship," Morris says. "Those three managers have to be on board. Otherwise, it's a fist fight."

Bado also stresses the need for a club's leadership to buy into the team concept.

"You have to educate your board and get advocates," he says. "Everyone has to know the rules. The g.m. concept is great, but you have to have the right people in the right spots."

Brownfield agrees.

"Stretch yourself and reach out to members, employees and the community," he says. "You have to be an active part of the community. You can't sit at your desk."

TEAM CHANGES

So what happens if one of the three moves on? Well, the team has a plan that describes the long-range vision for the club.

"The club itself is dynamic, but so is the golf course," Morris says. "We never want to fall behind. But, if one leaves, the other two will stay behind and keep on track. That said, beyond the people, we have policies and procedures in place that go beyond personality. You can replace a person and recover."

Bado agrees the system in place helps cope with a personnel change.

"The system is right," he says. "We have all the pieces in place. Hopefully, if we changed people, we'd still be going in the right direction."

Brownfield concurs.

"We're making long-term decisions that go beyond our tenure," he says. "We might not be here, but the things we're putting in place will still be happening. We have something special going on right now. There's only two ways to go ... forward or back. We want to go forward." GCI

Getting everyone on the team

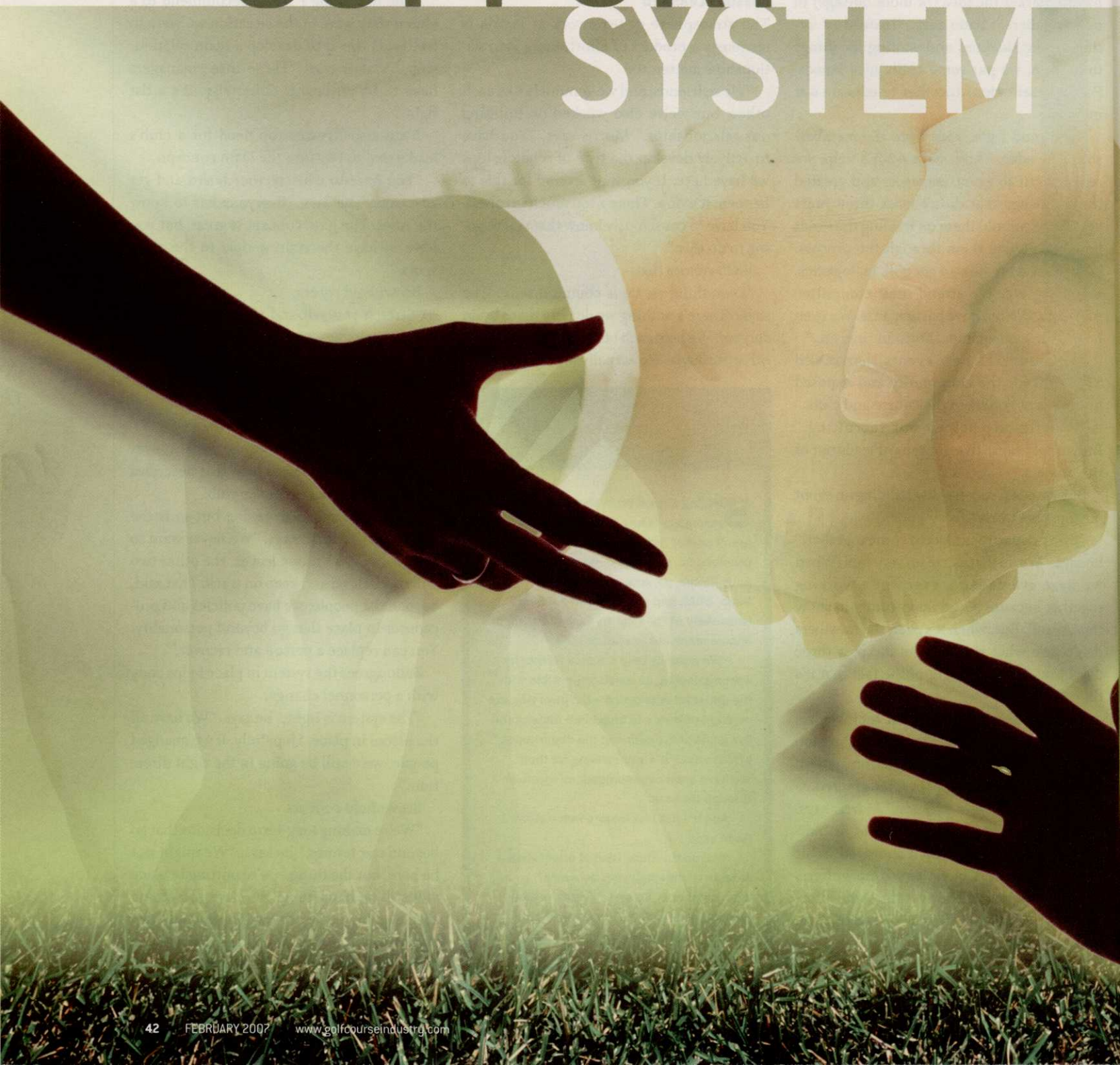
Building a good team structure among managers is key, but if employees aren't part of the plan, then failure is still possible. So, golf course superintendent Andy Morris, general manager Mark Bado, CCM, and golf professional Scott Brownfield of the Country Club of Peoria in Illinois reach out to staff as well.

"We actually take it a step farther by communicating as much as possible with the line level employees – the guys who are edging bunkers – to help them understand the goals of the club and the department," Morris says. "It's empowering for them. We have open communications sessions through the year."

And it's not just maintenance staff, Bado says.

"We do the same kind of orientation sessions with employees as we do with members," he says. "Dishwashers understand about the pro shop and the maintenance facility."

SUPPORT SYSTEM



AGRONOMIC CONSULTANTS CAN BE A RESOURCE FOR SUPERINTENDENTS UNDER THE RIGHT CONDITIONS

BY JOHN WALSH

When superintendents hear the words "agronomic consultant," they react differently. Some think they're too expensive, some fear their purpose and others question their worth. But some know a properly used consultant can offer tremendous benefits.

Terry Buchen, president of Williamsburg, Va.-based Golf Agronomy International, estimates half the golf courses in the United States hire consultants for advice, and they're mostly medium- to upper-level golf facilities because those are the ones that have the resources to do so. Management companies usually consult in-house, he says.

According to Larry Gilhuly, director of the Northwest Region for the U.S. Golf Association's Green Section, the Green Section staff visits only 10 percent of all golf courses in the United States.

Buchen says a good reason to hire a consultant is to maintain the continuity of a maintenance program, which can be hurt by constantly changing green chairmen who, in turn, change a course's direction.

Scott Kroll, golf course superintendent at Sunnybrook Golf Club in Philadelphia, says consultants are a great resource to verify what needs to be done budgetwise.

"It's reinforcement because consultants see a number of clubs in the area," he says. "They see so many courses and tell you what's working and what's not working and help you stay up to date on emerging technology. They can suggest how to utilize your budget more. They reinforce what we do and educate us about what's going on in the area."

Kroll says, like many courses on a program with the USGA, he uses its consultants to discuss agronomic programs and new materials and practices. A USGA agronomist visits Sunnybrook annually.

WHAT THEY OFFER

Buchen says he's brought in as another set of eyes to consult on playing conditioning standards and agronomy.

"I ask, 'Do you want the course to look good, play good or both,'" he says. "Most Americans want everything green. If you go over to the United Kingdom or Ireland, they don't care as much about looks. They just want it to play good. Courses that have conditions that are firm, fast, dry and off-color are few and far between in the United States. Bandon Dunes is an example. It features fescue grass that's maintained like in the U.K. You can putt off the edges of the green and play bump-and-run style of golf. You're not playing the ball in the air all the time."

Buchen checks maintenance operations by reviewing the history of how the course was built and how it has been maintained.

"It's like going to the doctor's office for the first time," he says. "I walk the entire course and learn the entire agronomic history from the superintendent, take pictures and carry a soil probe."

Buchen says clubs call him in for peace of mind or to deal with specific situations, such as agronomic problems, and want to know how to fix them. Most of the time he visits

"It's reinforcement because consultants see a number of clubs in the area. They see so many courses and tell you what's working and what's not working and help you stay up to date on emerging technology." – SCOTT KROLL

The U.S. Golf Association's Green Section visits about 10 percent of all golf courses in the United States annually.

Consulting agronomist Terry Buchen visits between 40 and 50 golf courses annually.

Of the superintendents Terry Buchen has worked with, he estimates only 10 percent have grow-in experience.

courses annually to make sure there's continuity with agronomic programs.

"A lot of times, the superintendent makes a recommendation to the club, and I reinforce what the superintendent wants to do and is doing," he says. "I also help recommend equipment. Most of my recommendations are maintenance-budget related. A lot of what I recommend is to spend more money, but to spend it properly and efficiently."

Buchen says golfers are constantly comparing courses, which is irresponsible because each course's budget is different. However, if one was to compare courses, he says there are five guidelines that can help narrow down the comparison process: (1) the number of workers per hole, (2) the cost per staff per hole, (3) the cost to maintain per hole, (4) the cost to maintain per acre and (5) the cost per round of golf per hole. He says he helps bring a maintenance budget more up to par with other courses that are better conditioned.

"If members are unhappy, it's usually because they played another course that's better conditioned," he says. "All this ties back to budget comparisons for superintendents."

Gilhuly says he has budgets in mind 100 percent of the time.

"We won't recommend things that are beyond one's budget," he says. "But sometimes we do. For example, if the irrigation system should be replaced, we'll recommend an irrigation consultant to start going down that path."

Fairway topdressing is another example. It's a popular practice and allows one to play a golf course year round in the Northwest, Gilhuly says. But because it's a high-ticket item, not everyone can afford to do it.

"We can talk about fairway topdressing and demonstrate topdressing aprons or par 3s with a greens topdresser," he says. "After one year, members will see the difference, and then they can make the decision to buy the equipment needed to topdress the wetter fairways or all fairways."

Buchen says superintendents are always trying to gain more knowledge, and that's where he can help because he has gained a lot of knowledge from the 40 to 50 courses he visits each year and from his previous 26 years as a superintendent.

Gihuly

Buchen says courses don't implement all his recommendations at once but do so throughout time. They schedule and prioritize the recommendations, and he helps with that sometimes.

Buchen and the USGA are examples of third-party, independent consultants. Buchen says there are free consultants, too, who represent products, services and equipment and give free advice but are trying to sway a superintendent to purchase their particular products only.

"I'm not tied to any one supplier, so I recommend as many different products and equipment as possible that do the job," he says.

Golf Maintenance Solutions is a consulting firm that offers many services. It can set up a budget, hire a management staff, develop fertilizer and chemical programs, evaluate equipment, establish a purchasing equipment plan, work with vendors, set up accounts and manage projects on the construction side, as well as set up quality control, cart maintenance and preventive maintenance. Bill Nauroth and Dean Wochaski own the four-year-old company. They used to work for management companies and were superintendents before that.

"We're being used by different management companies and head up the maintenance side of an operation," Nauroth says. "The majority of what we see is a lack of communication. We bridge the gap between owners, superintendents and general managers. We marry their ideas. Sometimes it's what superintendents want, other times it's not. We're opening their eyes to see things a different way, and for the most part, they embrace what we recommend because it moves the golf course forward. We try to get everybody on the same page with the direction of the club."

Nauroth says superintendents want to know what's really causing an agronomic problem so they don't have to throw everything but the kitchen sink at it.

"We tend to come in for one scenario and end up coming back because they see the value in it," he says. "Consultants have to prove their value. We need to work facilities through a situation and then move on."

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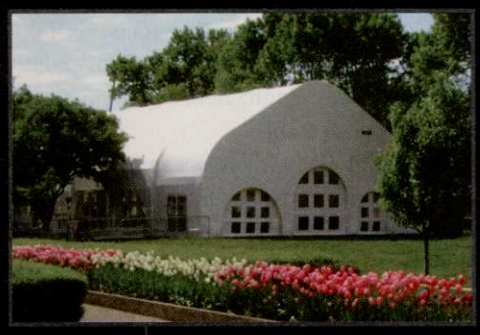

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GROW-INS

Assistance with grow-ins of new construction, renovation and restoration projects is another area in which Buchen offers expertise. He helps write agronomic specs with the superintendent and architect about what needs to be done.

"A grow-in is the opposite of routine maintenance, in which you want to keep the conditions dry and the fertility low, keeping the grass hungry," he says. "With a grow-in you're using tons of water and fertilizer for a short period of time, usually two to three months."

Buchen, who went through 13 grow-ins when he was a superintendent, says many superintendents don't have grow-in experience. Of the superintendents he's worked with, he estimates only 10 percent have had grow-in experience.

"With half the new construction projects, the owners try to bring in a superintendent with grow-in experience, but you also need to look long term," he says. "I usually go back to the course after it's grown in."

Kroll has worked with Buchen during a reconstruction project at the DuPont Country Club in Wilmington, Del., where he worked before Sunnybrook.

"We did a whole project in 367 days," he says. "Using Terry was a huge asset because he helped narrow down materials and amendment mixes. When doing a project that large, you can use someone who has seen numerous projects and can process all that information to let us know what works best."

EXAMPLES

Jason Funderburg, co-golf course superintendent at the private, 18-hole Rich Harvest Links in DeKalb, Ill., says the idea of hiring a consultant was originally brought up by the owner and he and co-golf course superintendent Jeff Vercautren followed through.

"Originally, we set out for backing of what we were doing," Funderburg says. "The previous superintendent didn't keep up with agronomics. When we took over, we needed to spruce things up and needed justification for the increase of spending on chemicals and such.

"The owner has ties with the USGA, so at his request, we brought in consultants to discuss what we were doing," he adds. "Paul Vermeulen from the USGA was very insightful. He gave us a lot of opinions and information from the hundreds of courses in the region. One of the things Paul liked was our overall philosophy, but he said we were too dependent on chemicals. We're high end, so we don't tolerate disease. We preventively spray for everything. He also wanted us to keep topdressing records more frequently and to implement a fairway topdressing program."

Funderburg also says Vermeulen helped reiterate the fact that they needed to implement a tree removal program because several greens were negatively affected by too much shade.

"We talked to the members about cutting down trees until we were blue in the face, so the owners wanted us to bring in an expert,"

Common problems

Throughout the year, consulting agronomists visit many golf courses, talk with many golf course superintendents and discuss many of the difficulties or problems they deal with regularly.

Larry Gilhuly, director of the Northwest Region for the U.S. Golf Association's Green Section, visits different types of courses – 40 percent are private clubs, 30 percent are resorts, 20 percent are municipalities and 10 percent are privately owned public golf courses. Through it all, he sees four main common problems:

1. **The impact of trees**
2. **Bunkers**
3. **Green speed**
4. **Aeration.**

Gilhuly says the most common problem with golf courses is getting members to understand the negative impacts of trees, which are shade and roots.

"People understand it, but they don't want to deal with it," he says

Gilhuly says superintendents just smile when he asks about bunkers, the second biggest issue, because golfers think bunkers should be perfect and aren't consistent.

The third biggest issue, green speed, is a constant. Gilhuly says everyone thinks they have to lower mowing height to get speed. He says rolling is a good way to increase green speed without lowering mowing height, but superintendents shouldn't roll more than three times a week. He says target rolling, in which one rolls 20 to 30 feet around the hole, works and is becoming more popular. Superintendents can roll quadrants of a green, coordinating green speed and hole location.

"You want grass to grow better, so it needs to be higher," Gilhuly says. "The faster the speed, the fewer the hole locations. If we want healthier greens, we need to mow higher. It's a problem all over the country. It's a topic that's talked about at every course. We're trying to educate golfers."

At municipal courses, green speed should be looked at differently because the fees are lower and so are the expectations.

"There's so much more play at munis, and traffic control is a huge issue," Gilhuly says. "Faster green speeds at munis are counterproductive. You can't have green speeds too fast because you need to make money and get more people through the turnstiles."

The fourth biggest issue, aeration, is unpopular with golfers. To lessen the disruption aeration causes golfers, manufacturers are planning to come out with equipment that causes less disruption of play when used, Gilhuly says.

"Golfers get aeration now better than they used to because expectations are so high," he says. GCI

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he says. "Then we began a slow tree removal program that started out on the two worst greens."

When Kroll was at DuPont, a USGA agronomist knew much about plant growth regulators and helped the staff with a program for the tournament course.

"It took tweaking to get better results because there were so many new products on the market," he says. "It's important when choosing a consultant to talk to him and make sure he's a good fit for you and the membership."

Buchen says most of his calls are one-day visits, but sometimes the first visit is a day and a half because he delves into the details of the course's history and the maintenance practices. Unlike the USGA, he doesn't conduct half-day visits. The cost for one of his visits is similar to the USGA, he says.

Nauroth says costs for a visit from his firm can be a la carte and range from $1,000 to $1,200 for an overall evaluation that takes a day to $3,000 to $6,000 for a two- to three-day visit.

Gilhuly, who sees between 100 and 150 courses a year, says most of those are half-day visits, although it offers full-day visits, too. The cost is about $2,500.

Consultants can help superintendents with playing condition standards and the continuity of agronomic programs. Many times they reinforce what superintendents are already doing.

PERCEPTIONS

Despite the benefits of agronomic consultants, some superintendents are wary about them. Others are more confident about such a visit. Funderburg says he and Vercautren have stopped using consultants other than those from the USGA.

"We've gone away from other consultants because they sometimes gossip about what others are doing," he says. "And the USGA is unbiased – they don't push any products. They see more golf courses than the smaller consultants, have more knowledge and backing and work well with universities."

Buchen says most people who hire him are superintendents' bosses. He hears "I want peace of mind" a lot from club officials. He says superintendents can be suspicious and are protective of their turf.

"Superintendents that know what they're doing and are confident don't have a problem with me coming in," he says. "Those who have a problem tend to be more nervous and don't want you there. Superintendents sometimes tend to be very insecure people. They're like a chef who's only as good as his last meal. Some people think I'm there to take their job, but that's the last thing I want to do. I'm there to help them keep their job when there's a

serious problem. If they're nervous, I tell them I'm there to help them and reinforce what they're doing. If something needs to change or be done, I recommend that."

Golf Maintenance Solutions

He says the superintendent business is interesting because their bosses don't know much about growing grass and other agronomic conditions, which is one of the reasons consultants are hired.

"It's a strange relationship," he says "The superintendent is telling the boss what he thinks they should do. So the boss usually listens to the superintendent's recommendations because there are many agronomic decisions the boss isn't qualified to make."

Gilhuly says the superintendent brings USGA agronomists in more than any other person at a club, and in most cases, it's not because of a problem.

"We're a constant source of updated information they can use," he says. "It's a partnership. The Green Section's job is to provide information, not protect superintendents' jobs.

"For superintendents that have never used us, when we have been brought in where there are problems, we're there to give answers," he adds. "We're not there to fire a superintendent. We're coming in to get facts. I've said this many times, 'There's no way one person can come in for four hours and determine if a superintendent is competent."

Nauroth says most of the time a superintendent is wary of his visit, but he lets him know he's there to support and help him.

"We're looking for the best options," he says. "Whatever direction is decided, the superintendent is a big part of it. We don't pull punches. We tell superintendents exactly what we're going to tell the owners."

Funderburg says it's his and Vercautren's responsibility to make the course at Rich Harvest Links the best, and if that means having a consultant come in with recommendations, then that's what they need to do.

"We don't know everything," he says.

However, Funderburg suggests superintendents look to their peers before using an outside firm.

"Talk to the guy down the road, the guys who are actually doing what you're doing on a daily basis," he says. "That's when you'll get the best input. But if you need the backing of a consulting firm, why not use the USGA?" GCI

running a tighter ship

KemperSports works to improve the operations of the golf courses it manages, such as Adams Pointe Golf Club in Blue Springs, Mo., by using technology to understand golfers better. Photo: KemperSports

BY STEVE AND SUZ TRUSTY

Market downturn forces managers to improve products and operate more efficiently

It's no secret the golf industry has faced tough challenges throughout the past decade. The question is how much has been learned operationally from the market downturn, and how those lessons can be applied to impact growth at each facility.

"The downturn has caused everyone to become better operators," says Steve Skinner, president and c.o.o. of Chicago-based KemperSports, a company that offers services for the design, construction and profitable operation of golf courses. "Ten to 15 years ago, a course could just open its doors, and customers would line up. That doesn't happen now. Out of necessity, the industry has become more sophisticated in many ways to attract and keep customers."

Skinner says many owners have sought professional management assistance to institute these practices.

"A great deal of technology goes into understanding customers, identifying the best ones and their needs and wants, and implementing ways of serving them better," he says. "We've developed programs in database management and customer and marketing relations, worked with those programs in various situations, and identified how to adjust and implement them for specific properties. On the expense side, we've instituted practices for greater efficiency, finding better and less costly ways to operate a course."

All of these changes make a positive impact not only on the business of golf, but also on the game of golf as the players perceive it, Skinner says.

"These changes will become permanent additions to management practices that will enable the industry to better meet market demands," he says.

Historically, the golf industry has spent money anticipating revenues would catch up to money spent. But since the market downturn, management practices must adjust to reduce or hold the line on operational costs while maintaining or exceeding previous levels of a product's appeal to customers.

MAINTENANCE EFFICIENCIES

Spencer T. Olin Community Golf Course in Alton, Ill., is an Arnold Palmer-designed public course that opened in 1989 and is operated by Arnold Palmer Golf Management. Located about 30 miles from downtown St. Louis, the course is located in an oversaturated market and competes with courses that are closer to the center of the area's overall population.

Joe Wachter, CGCS, became golf course superintendent of the course in 2003 and has adopted cost-saving management strategies.

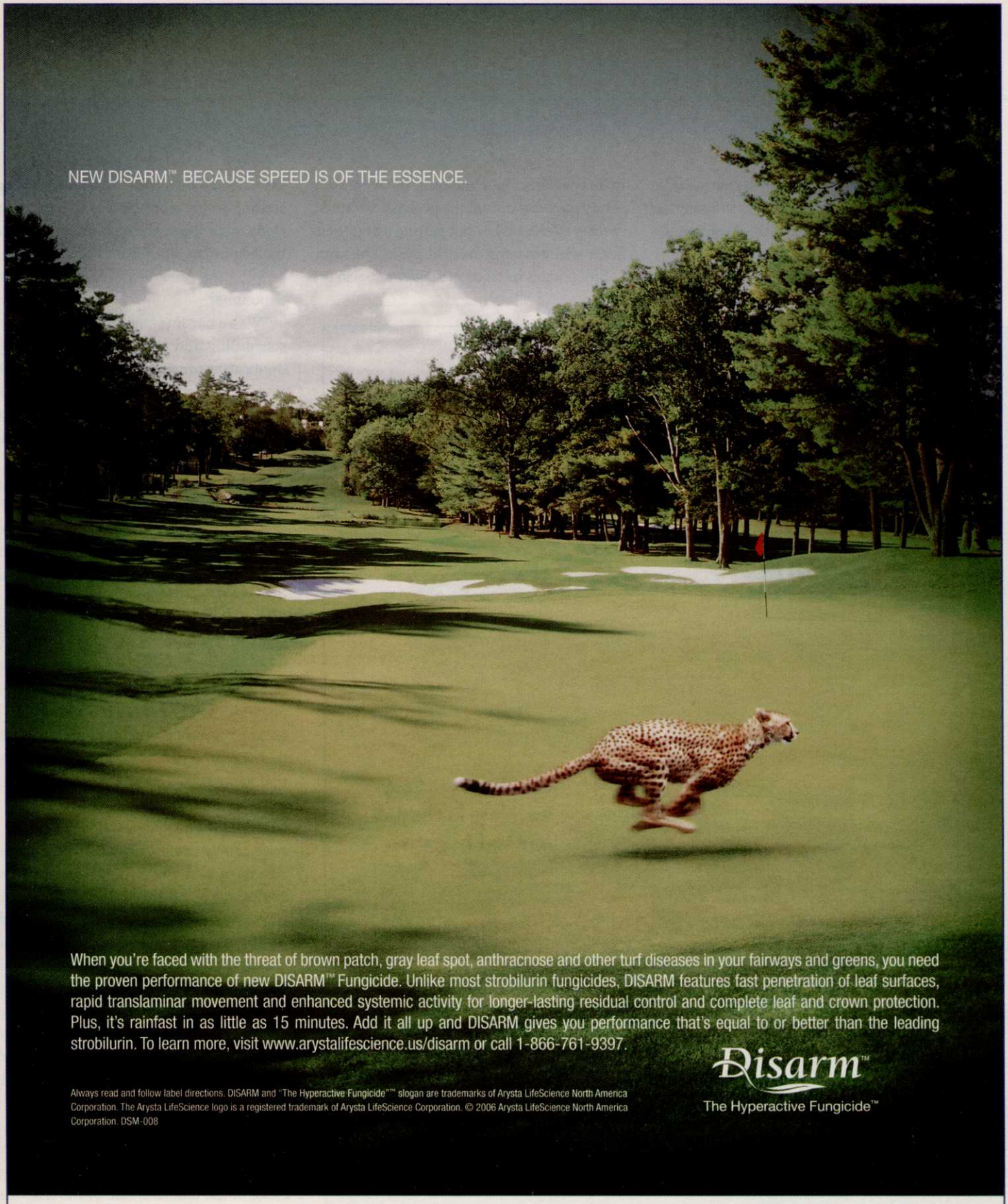
"Our course ranks with the best in the

KemperSports tailors database management and customer and marketing relations programs to meet the needs of each course it manages, including Hiddenbrooke Golf Club in Vallejo, Calif. Photo: KemperSports

area," he says. "Our challenge has been to match the company's operational philosophy of providing a great playing experience for our golfers while reducing course maintenance expenditures. We've implemented reductions of inputs for nonessential areas, converting about 30 acres from once-a-week to once-a-year mowing in areas that add definition to the course without affecting play. That step saved us 16 to 20 hours a week that can be used elsewhere.

"We don't basket our fairway mowers or our tee mowers, and we've fine-tuned our use of growth regulators to reduce mowing," he adds. "We use water from a lake recharged by an on-site well to help reduce water costs. We constantly adjust irrigation to fit weather conditions. We're doing slightly more total greens watering and are using a wetting agent on our greens to improve moisture retention and reduce hand watering of dry spots."

On the equipment side, Wachter and his staff are extending the life of machines. Instead of retiring a mower, he might keep it as



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a backup for two newer mowers that are used daily. In areas nearby where the company has sister facilities, some of the lesser-used equipment is shared among courses.

"We explore new equipment introductions to increase efficiency and recently switched to rotary mowers around the greens surrounds, cutting a little higher but getting a better cut faster without lying over the grass," he says.

Efficiencies in labor management also are key to controlling costs. Wachter has adjusted staffing levels more closely to peak play periods, with fewer crew members working at the beginning and the end of the season and keeping top crew levels from May through September.

"We've become even more efficient when scheduling and assigning tasks, sometimes duplicating or tripling the use of machines to avoid slowdowns for our operators or disruption for our players," he says. "We keep a list of short time-frame assignments to effectively utilize all labor hours."

Historically, superintendents were trained to mow from fence line to fence line, Wachter says. But recent trends have forced superintendents to reduce inputs for some of the lesser-played areas and focus their efforts on the middle of each hole.

"In working through the maintenance adjustments we've made, I've confirmed the importance of connecting with the golfers to get their feedback on how the course is playing," he says. "It's their perception of a great experience on the course that keeps them coming back, and it's our job to make that happen."

A TWO-PRONGED APPROACH

Each course operator must analyze a course's situation and make decisions to remain competitive and profitable. Boulder Creek Golf & Country Club in Santa Cruz, Calif., is an 18-hole executive course nestled among the redwoods and lakes of the Santa Cruz Mountains, 60 miles south of San Francisco and 40 minutes from Silicon Valley. Its opening in 1961 was welcomed by a steady stream of golfers. But throughout the years, newer courses opened closer to population centers. As the downturn negatively affected golf facilities in the area, course managers increased their marketing outreach and added online discounting. Bill Aragona, president and c.e.o. of the club and one of the five owners of it, adopted new strategies to respond to the downturn. Prior to the market slowdown, he devoted a specific budget amount each year to update the entire facility.

"That was the first area we cut, and little

At the Spencer T. Olin Community Golf Course, Joe Wachter, CGCS, is implementing cost-saving management ideas in equipment and labor areas. Photo: Spencer T. Olin Community Golf Course

by little, our facility started to show it," he says. "After analyzing market conditions, we decided to adopt a two-pronged approach. We determined we needed to update our physical plant in order to invite and be ready to handle increased business. So we're putting additional funds into renovating our kitchen, clubhouse and other amenities. We've also hired a dedicated marketing person and are more aggressively marketing our course and facilities through various venues, including an active presence on the Internet.

"Because we believe the golf course must be in top-notch condition, we maintained full funding for our course maintenance program and will continue to do so," he adds. "But we realize we need to sell the sizzle and the steak – hook them first through more aggressive marketing and then deliver even more than anticipated in the playing experience."

RENOVATE TO COMPETE

For many older courses, more aggressive changes are needed to remain competitive. Ron Kitchen, Jr., president and c.e.o. of Crystal River, Fla.-based Barbaron, a golf course building company, says as he noticed a decline of rounds played at individual courses because of oversaturated markets, the company began shifting the scope of its business from new build to renovation.

"The pressure of new courses within a market leads many of the older courses to renovate to become more modern and competitive," Kitchen says. "Renovation not only provides long-term cost savings by addressing maintenance issues, it also upgrades the amenities to appeal to a broad range of golfers."

Whether a golf course is owned and managed by an individual, a group of individuals or a corporation, one thing is certain: It exists as a business to make money. New and different operational efficiencies and effective management strategies have been adopted because of the challenges caused by the market downturn. These efficiencies and strategies have improved the overall product offered to golfers and appear to have become permanent changes within the golf industry. GCI

Steve and Suz Trusty are freelance writers based in Council Bluffs, Iowa. They can be reached at suz@trusty.bz.

Development growth to continue slow pace

With talk of market downturns, stiff competition and operational efficiencies, some might wonder when the next golf course development boom is likely to occur and what factors will cause it?

Well, 1990 can be used as a benchmark year for a relatively balanced supply/demand environment for golf, which allows for reasonable golf course operating profits, says Jim Koppenhaver, president of Buffalo Grove, Ill.-based Pellucid Corp., an information and insight provider to the golf industry.

"From 1990 to the estimated finish of 2006, net supply has risen 35 percent" he says. "During that same period, annual rounds have increased 19 percent, leaving a 16-percent supply-demand gap that needs to be absorbed.

"To return to 1990s equilibrium, either rounds, rates or a combination has to increase by that 16 percent," he adds. "This is reflected in a current average of roughly 33,500 rounds per 18-hole equivalents in 2006, which is down from the benchmark of 38,000 rounds per 18-hole equivalents in 1990. Thus, the average facility has to regain 4,500 rounds a year to get back to health on a rounds-alone basis."

Given that rounds have been relatively flat the past several years, but better than the 2 to 4 percent annual declines of the early 2000s, and the flattening golfer base, Koppenhaver says he doesn't see a substantial increase of rounds soon. But, despite a gloomy looking future for rounds, he says the supply side looks positive because it's flattening.

Joe Beditz, president and c.e.o. of Jupiter, Fla.-based NGF, says new course development has slowed dramatically during the past few years and there will be zero net growth of facilities for 2006. He says this is rational because participation and rounds have been relatively stagnant for about five years.

"New course planning and construction activity indicates that we'll probably average between 100 and 150 new courses a year for the next several years," he says. " And if course closings continue at present levels, we would continue to see zero net growth."

Beditz says new course development during the next five years will be tied primarily to real estate.

"That part of the market has traditionally been fairly stable but, with the current correction happening in the real estate market, the near-term future for real estate-related golf course development has become more uncertain," he says.

Historically, the industry has shown the ability to absorb about 2 to 4 percent new course openings per year through combinations of population growth, organic rounds demand growth and nominal pricing power similar to commonly accepted inflation benchmarks. Using a value of 3 percent per year absorption, the industry will need five or six years from 2006 to claim reasonable levels of prosperity, Koppenhaver says.

However, the missing link in that projection is that there's no clear catalyst on the horizon to drive growth. The most likely scenario is the aging baby boomer population adding 1.5 percent per year in rounds, he says. The downside is that an increase of rounds will be offset by revenues per round as they qualify for senior discounts, unless operators make smart pricing decisions.

"We don't see any silver bullets in growing the golfer base in any meaningful way to increase that component," Koppenhaver says. "However, the other ray of hope is as new supply pressure abates, modest pricing increases could take hold and the frequency and depth of discounting could level off."

Beditz says courses are unlikely to face a lot more competition, and the industry should be positively affected by aging baby boomers. Over a long period of time, boomers will become a much needed additional source of rounds played for golf facilities. NGF estimates there could be as many as 75 to 100 million additional rounds provided by boomers per year as they age.


Beditz

"But in the meantime, competition at the operations level is likely to remain fierce, and gains in rounds played will come from the competition, rather than from overall growth in rounds," Beditz says.

Aside from supply and demand factors, time and cost, as it relates to golf course construction, also will impact growth.

"For golf to adapt to its consumers' needs, renovations will continue to focus on cost-savings through maintenance efficiencies and player appeal through increased amenities and options for faster play," says Ron Kitchen, Jr., president and c.e.o. of Crystal River, Fla.-based Barbaron, a golf course building company.

Within the next two to five years, Kitchen sees construction focusing on shorter courses with playable segments consisting of fewer holes.

"We're helping introduce the concept of the shorter, 12-hole course designed for faster play at a more affordable price point," he says. "Cost and time savings make golf more accessible as a potential family sport as well as more appealing as a social or business-related activity. A six-hole option could provide that, with 12-hole or 18-hole options available if time and budgets allow it."

All of these options in future development will add to the consumers' golfing experience, Kitchen says.

"If they have a great time, and the cost and time commitment fit their lifestyle, they'll come back to play more often," he says. "It's all a matter of adapting our product to their wants and needs. In the end, everyone wins." GCI

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Recently, there's been a lot of discussion about organic matter management in sand-based greens, primarily the U.S. Golf Association-specified green. Research has shown controlling the levels of organic matter in greens will have the greatest effect on the quality, performance and longevity of sand-based greens. Therefore, it's understandable that managing organic matter has risen to the forefront of agronomic management programs for greens.

The first step to control organic matter accumulation is to have a basic understanding of its composition and production. It would be misleading to classify organic matter in greens as only thatch. The organic matter zone within a green can be separated into two distinctive groupings or stages.

First, stage one organic matter can be classified as true thatch, which is composed of the initial dead and dying plant tissue. Stage one organic matter is located just below the turfgrass surface. Generally, it makes up about half an organic matter zone.

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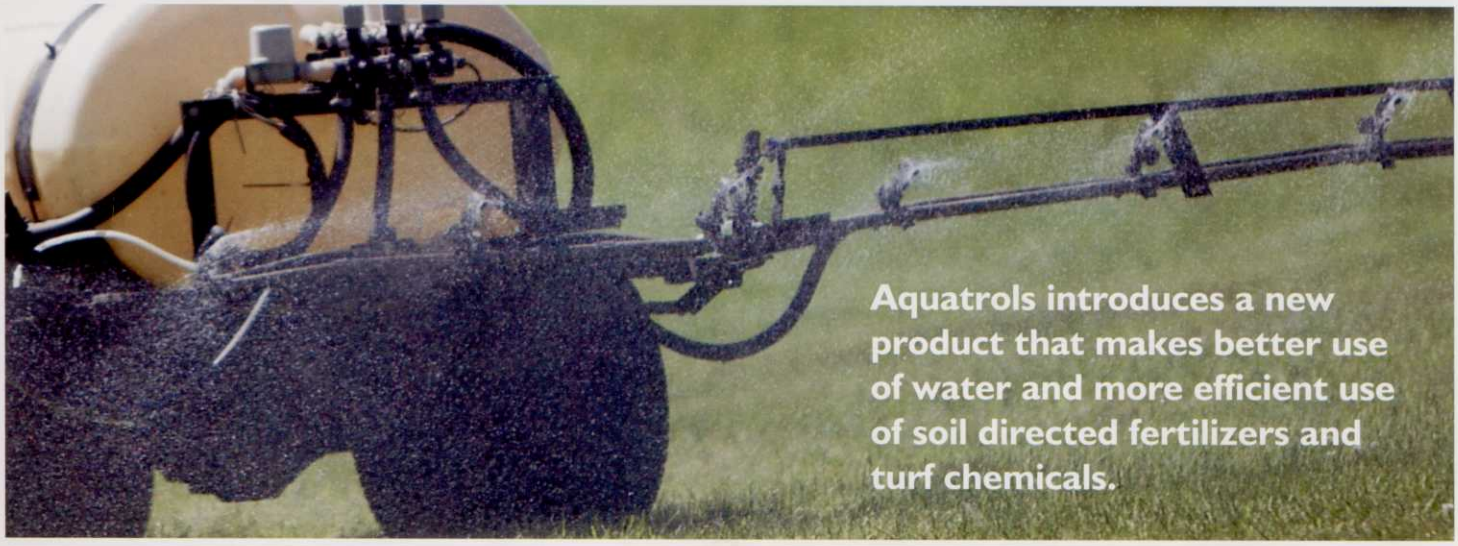

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DISPATCH SPRAYABLE DOES NOT NEED TO BE WATERED-IN FOLLOWING APPLICATION.
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☐ Other	

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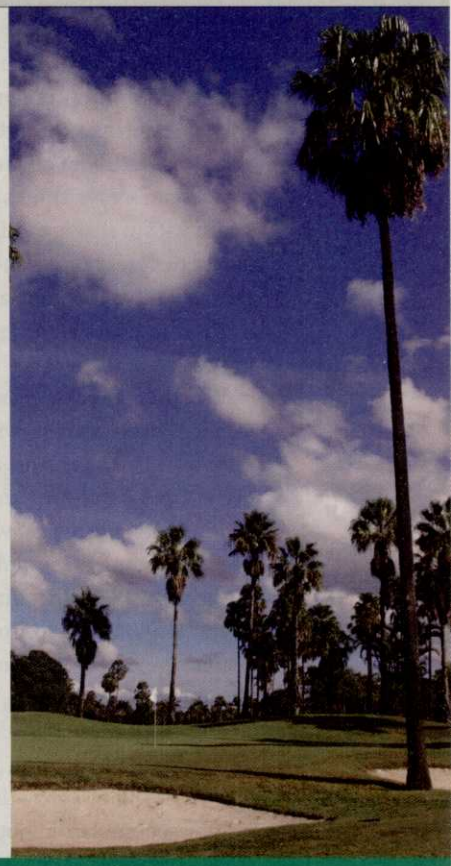

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Sampling all greens on a golf course can determine potential problems with indivdual greens.

that has undergone the entire degradation process. Stage two material is located in the bottom half of an organic matter zone and might be the most important area of this zone. It's composed of much finer textured material, which can cause extensive clogging of pore space within that area of the root zone. Presently, turfgrass researchers are investigating this stage-two layer and are only beginning to understand its dynamics in the performance of greens.

When it comes to organic matter accumulation in a sand-based growing environment, the odds are stacked against a turfgrass manager. When one combines an amazing ability to produce organic matter with a sterile growing medium (sand), accumulation can happen at a rapid rate. Dealing with this sterile, sand-based growing environment also limits the potential speed of organic matter degradation. The faster a plant grows, the quicker organic matter builds up. Therefore, each time turfgrass managers fertilize, it has a profound effect on the plant's growth rate and its organic matter accumulation potential.

As an example, when greens are constructed of an 80/20 root-zone mix, the organic matter content of that initial mix is about 0.7 percent by weight. Researchers have identified that within only a few short years the amount of organic matter skyrockets to a 3- to 4-percent range in the upper surface of a green.

CONTROL

Controlling organic matter accumulation in greens is achieved primarily through two methods: physical removal of the material and dilution of the material. Physical removal involves cultural practices, primarily core aerification and dethatching (liner aeration). Diluting the organic matter is achieved by adding sand via topdressing.

How much aerification is needed to control the buildup of organic matter is something most turf managers have guessed about for many years and really don't have any scientific basis to support their decision. The best information about the degree of aerification needed to control organic matter on sand-based greens comes from Robert Carrow, Ph.D., at the University of Georgia. His work was funded by a research grant from the USGA and is titled "Surface Organic Matter in Bentgrass Greens."

Carrow's research determined that a 4-percent level of organic matter by weight in the upper 2-inch zone is a breaking point for the performance of greens. He cites that a level greater than 4-percent organic matter should send a red flag to golf course superintendents, indicating potential problems could be on the horizon. His work points out, however, that the 4-percent guideline isn't a steadfast rule. Carrow indicates that in cooler climates greens might do fine above 4-percent organic matter. However, it can be especially critical in the southern-most zone where bentgrass can be grown.

This research is significant because it provides superintendents with a number to use

When it comes to organic matter accumulation in a sand-based growing environment, the odds are stacked against a turfgrass manager. When one combines an amazing ability to produce organic matter with a sterile growing medium (sand), accumulation can happen at a rapid rate.

when designing cultural practices. It can tell a superintendent directly if he needs to be aggressive with an aerification program.

Adopting the 4-percent rule to design aerification programs is simple. First, the percentage of organic matter in the upper 2-inch surface of each green needs to be identified. To accomplish this, samples must be tested by a qualified laboratory. This test is determined in the lab by ignition, and the result is organic matter percentage by weight. The results of this test can tell superintendents exactly how much material, if any, to remove through cultural practices to achieve their desired organic matter percentage level. These actual numbers are something superintendents never had in the past.

DESIRED LEVELS

After the organic matter levels have been identified, it's important for superintendents to set a desired level of organic matter they'd like to achieve. Although Carrow's work identified 4 percent as the possible break point, a desired level should be set lower.

For example, using a level of 3.5 percent as a targeted value is probably a good option. The organic matter reduction formula example (see figure 1) can be used to calculate the amount of surface area removal/impacted needed. In the example, a fictitious 4.49 percent organic matter tested result value is used. This tested result (4.49 percent) is subtracted from the desired value (3.5 percent) to calculate the percentage amount above the desired level (0.99 percent). Then, calculating the surface area removal/impacted needed is determined by setting up a fraction. The example shows that to achieve the desired level, 22 percent of the surface area needs to be removed.

It's important to note all greens may or may not need this amount removed. On most golf courses, all greens don't have the same environmental growing conditions, and therefore, most likely have different percentages of organic matter. If a superintendent adopts the 4-percent guideline, it might be important to analyze each green individually. This can help identify individual green problems and might lead superintendents to consider the aerification needs of individual greens, instead of lumping them together as a whole.

AERIFICATION

Once the removal amount is known, it's possible to calculate how much aerification is needed. When the amount of removal is high, it might be desirable to achieve that level using multiple cultural practices. It's also important to take into consideration the health of the greens. Healthy greens can withstand much more impact than weaker greens during a single cultural practice. There's also a limit of maximum removal based on cultural practice equipment.

To calculate how much material should be removed by aerification, two factors are needed. First, to calculate the surface area removal/impacted, calculate the area of the tine-spacings used (see figure 2). For example, if the spacings on a machine are 2 inches by 2 inches, then 4 square inches would be impacted. Or, if 1-inch-by-1-inch spac-

Figure 1

Organic matter reduction formula

Organic matter tested result
- Desired organic matter level
= Amount above level

4.49% OM tested
- 3.5% OM desired
= 0.99% above level

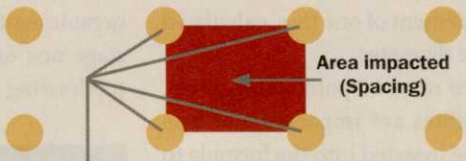
Amount above level ÷ OM tested result
= Amount of surface area removal/impacted (SARI) needed

0.99 ÷ 4.49 = 22% SARI Needed

Figure 2

Calculating surface area removal/impacted

Base the calculations on the area of one tine.



A total of four tines impact the area.
Each tine impacting with one-fourth of its size.

Figure 3

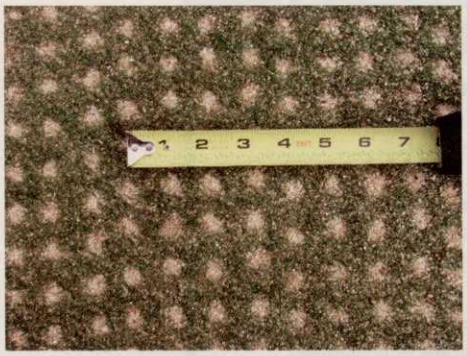
Surface area removal potential formula

ID area of one tine (area of a circle = (3.14) x (radius)^2 ÷ Square inches from spacing used.

Example below uses 1-inch x 1-inch spacings, with an inside diameter tine measuring 0.40 inch

(3.14) x (0.20)^2 = 0.125 square inch ÷ spacings 1 inch x 1 inch = 1 square inch

0.125 square inch ÷ 1 square inch = 12.5% SARP



Close spacings offer the greatest surface removal potential.

ings were used, then one square inch would be impacted.

The second factor is determining the inside diameter of the tine used, or needed to be used, to reach the correct removal potential. With square spacings, four tines impact the area with one-fourth of each tine hitting the area. Therefore, the total area impacted is the area measurement of one tine, calculated using the inside diameter.

In the surface removal potential formula, various area values are impacted and tine size areas can be inserted into the formula to determine surface area removal potential (see figure 3). In the example, a 1-inch spacing is used with a 0.40-inch inside diameter tine measurement. This equates to a 12.5-percent surface area impacted potential. Remembering the previous test example, it would take two aerification events using the example set-up to lower the organic matter 22 percent.

TOPDRESSING

Sand topdressing also is an important part of managing organic matter build-up. Topdressing sand filters into stage one organic matter, with the end result having a diluting effect on the material. The dilution of this organic matter helps keep porosity levels sufficient for proper greens performance.

How much topdressing is needed to help keep the organic matter content below the 4-percent threshold? Some have suggested applying sand at a rate of about 50 cubic feet per 1,000 square feet per year. This said, there are two important factors that should be thrown into the equation before considering 50 cubic feet of sand per thousand as the all-important amount.

First is the length of the growing season. Some parts of the country have a growing season as short as three to four months, and other parts have a 12-month growing season. Should both these areas of the country be on a 50-cubic-feet-per-1,000-square-foot rule?

Secondly, and maybe more importantly to a topdressing program, is the plant growth rate. Remembering the most important fundamental aspect about topdressing, applications should be directly proportional to the plant's growth. The plant's growth directly influences the amount of stage one organic matter produced. Therefore, to dilute stage one organic matter with best results, topdressing volumes and frequencies should be increased as the growth rate increases. The same applies to the plant when growth decreases – topdressing volumes and frequencies should be decreased.

Topdressing has become more of a calendar cultural practice recently, instead of a true agronomic cultural practice.

BOTH ARE KEY

Even though sand-based greens have been around for many years, it seems we're still trying to understand the complexities of managing them, especially regarding organic matter. When it comes to core aerification and topdressing, neither is more important than the other. However, one thing is certain: The net effect of both practices combined will give superintendents the best potential for managing organic matter build-up and maintaining successful greens performance. **GCI**

Kevin J. Ross, CGCS, is director of golf course management at Country Club of the Rockies in Vail, Colo., and president of Ross Golf Agronomy. He can be reached at kjross@vail.net.

Diluting organic matter through sand topdressing is just as important as aerification or dethatching.

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a necessary evil

Although some don't like them, cart paths help generate revenue

Jeff Osterfeld, owner of the Golf Club at Stonelick Hills, prefers longe broad curves in cart paths. Photo: Golf Club at Stonelick Hills

BY T.R. MASSEY

If a strip of concrete on the golf course has changed the game forever, blame Henry Ford.

The invention of the car and America's love affair with vehicles is the genesis of modern cart paths on golf courses. In the mid-1940s, three decades after Ford made a car affordable for most Americans, an enterprising entrepreneur built a small golf cart so golfers with disabilities could move throughout a golf course.

At the time, cart paths didn't exist. A purist would say it's a travesty to pave a small road through a pastoral field designed for a game of walking, and carts aren't needed because carrying a bag is a caddie's job. But golfers saw the golf cart and loved its convenience, and owners and golf professionals saw a way to make more money in addition to green fees.

Generally, the prevailing notion is that younger people ride and older people walk because of the way they were introduced to the game. At one time, golf carts were a luxury only for the rich. Now, carts are as common as drivers, tees and balls, and so are the paved pathways on which they're driven.

The golf industry has evolved into one in which motorized transportation is the rule, says Mike Benkusky, a Chicago-area golf course architect.

"Today, whether good or bad, people expect a cart to be part of a round," he says. "That's starting to become the rule – $50 includes a cart."

CONCRETE OR ASPHALT?

Cart paths are installed as a course is being constructed, or if an older course is being remodeled, they're installed as part of the project. Once the decision is made to have cart paths, a material must be chosen. Asphalt generally is cheaper than concrete, although rising oil costs have caused asphalt costs to increase during the past two years. Concrete generally lasts longer and requires less maintenance than asphalt.

Matt Rownd and his father operate The Cart Path Co. in Atlanta. He works with concrete and says it's better than asphalt.

"Many times you can replace a panel or two [of concrete] in-house," he says. "You could do it with one or two guys. Asphalt requires a special expertise. Also, concrete can be buried [when it's being disposed of], but not asphalt."

Rownd says a proper concrete mix matching a course's freeze/thaw climate and the concrete's use must be considered. More concrete per square inch is necessary if heavier equipment will use the path. Another part of the equation is whether to use fiber mesh in the concrete or steel rebar, which is more expensive. The end use can dictate sturdier reinforcements.

With all concrete cracks – every eight or 10 feet of a cart path – a control joint must be cut in. This means the concrete cracks where you want it to.

"You'll never see it because it's recessed in the concrete about an inch or inch-and-a-half [down from the surface]," Rownd says.

Expansion joints are another must. These allow the concrete to expand and contract depending on the temperature without breaking or cracking. The standard interval is 80 feet.

Another important aspect to remember when installing concrete paths is that concrete attains its designed strength in 28 days after it's poured, so driving on it before then isn't recommended.

"Don't run anything on them until 28 days have passed," Rownd says. "That's when you can count on it and when warranty issues can be backed up."

Concrete can be different colors and have different finishes, from the pitted, coastal look to a broom finish or an exposed aggregate. Asphalt always is black.

Many courses have asphalt cart paths, and if the base is laid well, they work quite well. Clay Dubose, the general manager and golf course superintendent at Tradition Golf Club in Myrtle Beach, S.C., says his asphalt pathways

are preserved because he runs a vibratory root plow alongside them each year, preventing roots from growing under the paths that can damage them.

"It's a fairly small amount of our budget to maintain them, except when you have to replace them," he says. "A couple of years ago, we cut out some old paths, removed the roots and put a new base in. It was about $30,000."

A typical 7,000-yard course will need about 25,000 lineal feet for wall-to-wall paths, Benkusky says. The cost per yard of concrete or asphalt varies throughout the country, but the range is anywhere from $200,000 to more than $1 million. More width (eight to 10 feet is required for two carts to pass without having to drive off the pavement) and curbing add to the cost.

"It's a significant part of a golf course construction fee," Benkusky says. "Irrigation, greens construction and cart paths are the most expensive."

PUT IT HERE

General guidelines exist for cart path location. Cart paths generally are placed down the right side of a fairway, if possible, because most golfers slice, and it's better to have a path on a high side of a hole so golfers can see the location of their balls. Paths are placed on the outside of a dogleg so players don't have to look at the path in their line of sight. Additionally, it's unwise to place a path between a landing area and a hazard, especially water, because bad bounces are unfair and can ruin a round.

"You look and try to run paths to provide access on and off fairways," Benkusky says. "Put paths closer to landing areas. You don't want to put a path across a fairway unless completely necessary."

Benkusky says topography dictates the design and strategy of a hole in many cases, which trickles down to the placement of cart paths, i.e., one can't put a bunker where a path needs to go or vice versa.

Larry Canini, owner of Clover Valley Golf Club (pictured at top) has liability insurance to help protect him from lawsuits involving cart paths. Photo: Clover Valley Golf Club

At TPC Craig Ranch (pictured above), golf course superintendent Mark Johnson requested $50,000 in his budget for cart path repairs. Photo: TPC Craig Ranch

Cart paths usually consist of asphalt (left) or concrete, which is more expensive. Photo: Jeff Brauer

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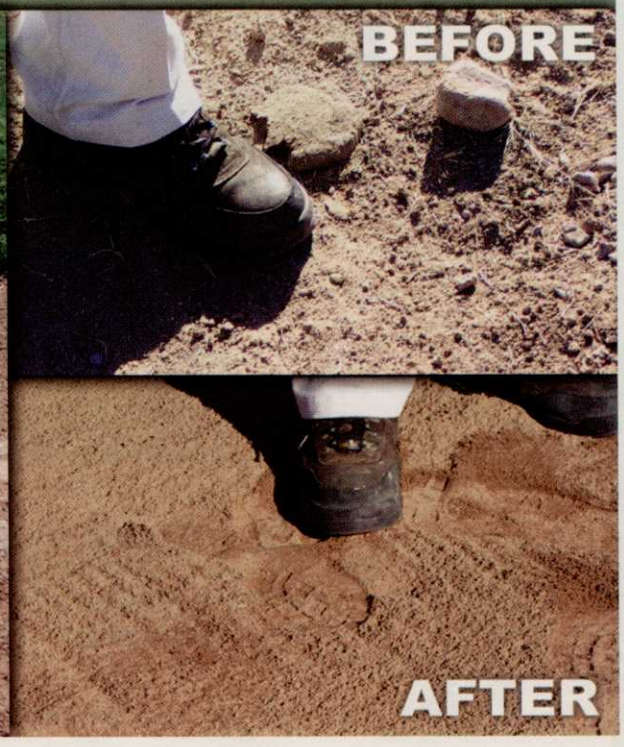

TPC Craig Ranch in McKinney, Texas, has 7.5 miles of cart path. Photo: TPC Craig Ranch

"You try to find the main access points from the cart path," he says. "You don't want a cart path behind the bunker to the green."

Golf course architect P.B. Dye remembers listening to his famous father address a group of golf course superintendents during the mid-1960s.

"His advice was to bring cart paths to the high side of every green and build a lip on them so golfers have to park and get out," he says. "Then, they won't remember they three-putted because all they'll be thinking about is walking up a hill to get back to the cart."

Dye says he operates under the general philosophy of building paths close to the level of the tee and on the outside of the hole.

"You know where the best place for a cart path is?" he says. "The middle of the fairway. No one ever hits it there."

Aside from location, cart paths need enough slope so they don't retain water. Rownd says safety curbs can be used to direct water to keep it from eroding natural features, but that's more expensive.

"You have to direct water to go somewhere," he says. "Especially in Texas, Florida and other places in the South where there aren't many terrain changes. You have to have at least a 2-percent slope to break the surface tension of the water on concrete. You have to direct it, and if you don't have 2 percent, water won't move."

Though it might look appealing, putting

(continued on page 70)

Reducing damage from golf carts

No matter how much golf purists dislike golf cart paths, they're here to stay. Cart paths are the route for owners to collect fees and save a course's flora from damage, especially during wet or cold weather. Mark Johnson, golf course superintendent of TPC Craig Ranch in McKinney, Texas, says he uses rocks around the curves of the course to help prevent the grass from wear.

"The wear around the edges is the biggest headache," Johnson says.

According to the U.S. Golf Association, golf carts damage grass and compact the soil. To reduce the damage, managers should establish cart policies. The USGA recommends:

- Encouraging golfers to spread cart traffic over a wider area and avoid turning and driving over the same areas repeatedly.
- Varying the entry and exit points along the cart paths each day to spread traffic and wear more evenly.
- Keeping all vehicles at least 30 feet from the edges of tees and greens to avoid damaging sensitive turf areas.
- Never allowing carts to be taken across excessively wet areas.
- Encouraging golfers to always share a cart.
- Encouraging golfers to use the 90-degree rule by exiting the path and driving to the first ball, then to the next ball, and then returning to the path.
- Restricting carts to the path on all par-3 holes.
- Proposing a "walkers-only day" one time per week when no golf carts are allowed on the course.
- Considering closing one additional hole to cart traffic on each nine on a weekly rotation. This allows the turf to recover from damage and gives the maintenance staff time for extra aeration and other procedures to stimulate turf recovery. GCI

Cart paths generally are placed on the right side of a fairway - as shown on the Palmer Course at Oglebay in West Virginia - because most golfers slice. Photo: T.R. Massey

(continued from page 68)

curves in cart paths is a poor idea, says Jeff Osterfeld, owner, operator and designer of the Golf Club at Stonelick Hills in Batavia, Ohio.

"They cut off every inside corner, no matter how soft or subtle the curve," says Osterfeld, who's the founder of the Penn Station East Coast Subs chain. "Then you're sodding and seeding all the time. I would do longer, broader curves if I did it again."

LIABILITY

Cart paths aren't without a bit of controversy, though. It seems no one wants to take responsibility for their placement.

"The problem is everyone gets sued over the damn things," Dye says. "In my contract, I say everything I do is approved by the owner."

Some architects will consult about cart path placement but won't include it on the final layout.

"I'll look at how the circulation is going to affect the golf course and look at it to provide easy access so the pace of play keeps up," Benkusky says. "From there, you work with the contractor and owner. We don't like to say, 'This is where you put the path.' An engineer can do that work. It's such a liability. Someone goes off the path and over a hill or into a pond, they're going to say, 'Who put this path there?' I look at it and consult, but don't put them on a plan."

Larry Canini and his business partners designed the Clover Valley Golf Club in Johnstown, Ohio, and hired Lincoln, Neb.-based Landscapes Unlimited to build their public facility. Canini marked the paths, Landscapes cut them in, and Canini's crews installed the gravel base then subcontracted the asphalt installation. But early on he realized that he'd bear final responsibility for the cart path placements.

"Obviously, you have liability insurance," he says.

Michael Geiser, a partner with the Columbus-based law firm The Plymale Partnership, says cart path liability fears make him crazy.

"I've never had anyone call and want to sue because of it," he says. "It's conceivable there would be some liability if a golf course or path was designed in such a manner that it was foreseeable a customer would be injured. But when you think about the circumstances that would be necessary, it's laughable. The only thing I could think of is a cart path on a hill that's so steep it's probable the cart would tip."

Geiser says people take responsibility for themselves when they play golf, whether they know it or not.

"We assume the risk of injury when we play golf," he says. "It's standard law if you're participating in a sport and are injured, you've assumed the risk of injury. You're engaging in an activity that's known to be hazardous."

Geiser says wording of the contract golfers

sign when they take out a cart relieves the course from liability. Only when there's true negligence in design is there a problem.

Golf course builders also require the owner to have the final say when it comes to cart paths. Scott Veazey, president of Tifton, Ga.-based Southeastern Golf, says many jobs he works on are a collaboration between the architect, builder, owner and subcontractors.

"Some architects flag out the path area, and we cut them in," he says. "They'll kind of do it, but they indemnify themselves from the final decision. Every course has a few critical areas. Some decisions have to be made, such as where the cart paths need to go, and that's where the owner is involved."

THE BOTTOM LINE

Considering the good and bad of cart paths, they still mean a lot to the bottom line of a course operation.

"What really affects the bottom line is when a public course has an outing that's been set up in advance, and it rains the day before," Benkusky says. "They can't say, 'No carts today,' because they'd lose the outing. That affects the bottom line."

Cart rentals represent a big item on a course's income ledger each year, with each cart generating several thousand dollars of fees during in-season months. Osterfeld says he put much thought into his cart paths when designing his layout because there's no question carts are a welcome and significant addition to the bottom line.

Mark Johnson, golf course superintendent of the TPC Craig Ranch in McKinney, Texas, says his operational line item for cart path repairs and his requests for capital dollars for cart path repairs is roughly $50,000 a year for 7.5 miles of path. Johnson says it's worth it.

"If you get a rain day and it's walkers, you lose a lot of money," he says. "We are against them, but we manage them because they're always going to be here in this country." GCI

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PDI PUSHES PROFES

PROGRAM HELPS SUPERINTENDENTS; GCSAA PLANS TO PROMOTE CLASS A STATUS

A title is only a word unless there's something to back it up.

With this thought in mind, golf course superintendents throughout the country are in the midst of putting substance behind the term "Class A."

In 1971, the Golf Course Superintendents Association of America began a certification program for its members. However, it acknowledged the program, which bestowed the designation certified golf course superintendent on its recipients, was a rose that didn't smell too sweet.

Scott Woodhead was a superintendent in Montana for 25 years before becoming president of the GCSAA in 2000. Woodhead says all one had to do to become a Class A member was have a job as a superintendent for three years and pay annual dues.

"This was part of the problem superintendents had in terms of people's perception of them," he says.

With that criteria, it's difficult to challenge the notion that superintendents are little more than guys in muddy boots and jeans who mow grass. In contrast, people see PGA of America pros in a golf shop with a Class A designation, and the pros command respect because golfers know they had to meet certain requirements to earn that designation.

So, how will superintendents flip the script?

MUCH IMPROVED

In 2001, at the GCSAA annual meeting in Dallas, the membership passed a resolution to implement a new program called the Professional Development Initiative.

The mission was to improve the knowledge and skills of superintendents by instituting clearly defined competencies. This means members must pass certain standards every five years to be a Class A superintendent.

"Seventy-five percent voted for implementation of membership standards," says Woodhead, who now works for the GCSAA as the senior manager of governance/member standards.

To earn the Class A designation, members must have three years of experience as a superintendent, hold a job in that capacity, earn various degrees of continuing education points (based on prior formal education, such as a four-year agronomy degree) and pass an integrated pest management test.

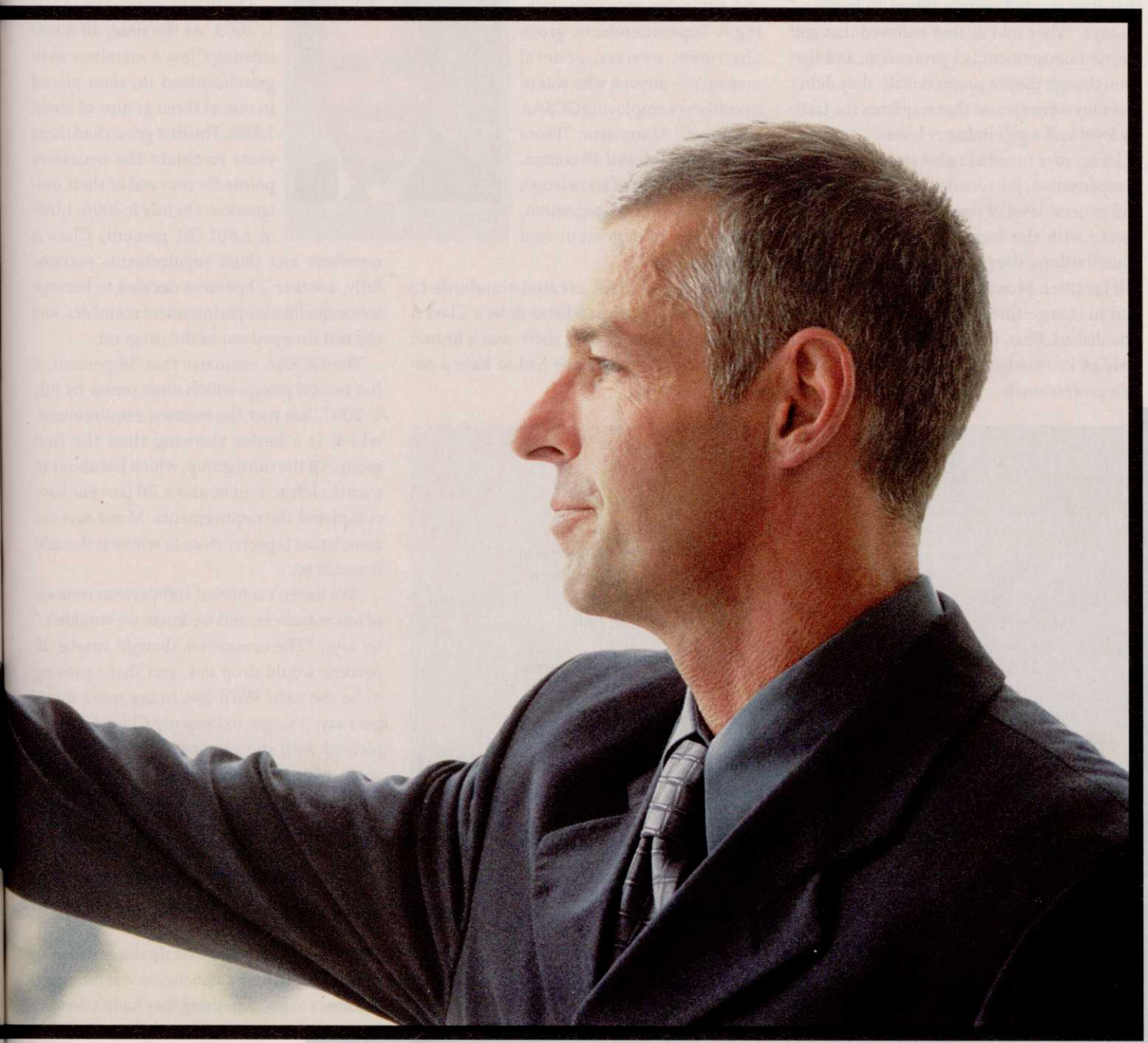
Eighty-two percent of all GCSAA Class A and superintendent members who responded to the survey had a two-year certificate, an associate degree or a higher degree of formal education.

The process of establishing the PDI program, from broaching the subject to implementation, took five years, Woodhead says.

"We know superintendents are staying on top of their game," he says. "We just made a mechanism so we could report back to golfers

SIONALISM

BY T.R. MASSEY



and employers to tell them exactly what their superintendent was doing."

Steve Mona, c.e.o. of the GCSAA, attended his first national meeting in that capacity in 1994. He says delegates from all 104 chapters discussed emerging issues and the direction of the association.

"The members were clear to the board that they wanted certain things to happen," he says. "They told us they believed that golf course management is a profession, and that even though they're professionals, they didn't feel they were viewed that way from the facility level and a golf industry level."

Mona says members also stated that their compensation, job security, job opportunities and general level of respect wasn't commensurate with the formal education and the contributions they make to the success of golf facilities. Mona and the board agreed, but said to change things, two criteria had to be established. First, there must be a recognized body of knowledge that one must master to be a professional.

"You can't just hang out a shingle and say you're a doctor or lawyer," Mona says.

Second, there must be a requirement to continue to claim a professional designation, which means ongoing education. The GCSAA hired the Stanford Research Institute to determine the contents of the body of knowledge.

"For about two years, they did extensive research, talking to superintendents, green chairmen, owners, general managers – anyone who was in a position of employing GCSAA members," Mona says. "From that, they developed 48 competencies, the body of knowledge, such as resource management, personnel management and many others."


Mona

Next, the GCSAA created standards to which members must adhere to be a Class A member. As part of that, there was a heated debate about whether one had to have a degree, Mona says.

"At end of the day, we voted 'no', but we created a sliding scale," he says. "You must achieve a blend in five areas: formal education; continuing education; job experience; service to local chapter, community and the national organization; and a pesticide license or [a passing score on] a test that's equivalent to it."

The PDI program started July 1, 2003. At the time, all 5,400 existing Class A members were grandfathered in, then placed in one of three groups of about 1,800. The first group had three years to obtain the necessary points for renewal of their designation. On July 1, 2006, 1,099 of 1,801 (61 percent) Class A members met those requirements successfully, another 29 percent decided to become lesser-qualified superintendent members, and the rest dropped out of the program.

The GCSAA estimates that 38 percent of the second group, which must renew by July 1, 2007, has met the renewal requirements, which is a better showing than the first group. Of the third group, which has about 18 months left to renew, about 20 percent have completed the requirements. Mona says the association is pretty close to where it thought it would be.

"We haven't achieved 100-percent renewal of our members, and we knew we wouldn't," he says. "The committee thought maybe 20 percent would drop out, and that's proving to be the case. We'd like to see more members say, 'I've got to keep my Class A.' We're pleased with the response, but we'd like to see it higher. Ideally, everyone would do it except those who are leaving the profession or retiring."

Woodhead says the contentious part of the debate came when members voted for the PDI program, but since then, there haven't been many complaints.

"I don't know what exactly the arguments were, other than the association was requiring members to do something they hadn't done in the past," he says. "Just having requirements

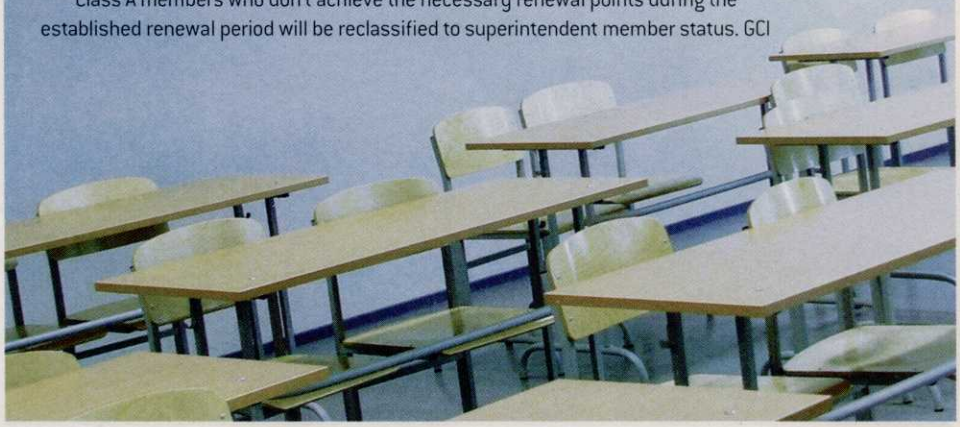
MAINTAINING CLASS A STATUS

After obtaining Class A status, golf course superintendents will be required to renew their status every five years. Within the five-year renewal period, Class A members will be required to obtain a total of five points, which can be derived from a combination of education and service points. A minimum of two points must be education points, which are based on 0.1 point per educational contact hour.

Service points are awarded for association, civic or community service, or other professional development activity.

All Class A members also must provide proof of a current pesticide license or pass the GCSAA Integrated Pest Management exam once within each renewal cycle.

Class A members who don't achieve the necessary renewal points during the established renewal period will be reclassified to superintendent member status. GCI



was the problem for some."

Mona knew some would oppose the program – those who didn't want to be told what to do or didn't believe it would impact their employment.

"That's fine, but for the most part, people are saying they asked for it, and they wanted definitions," he says.

MEMBER FEEDBACK

Keith Pegg, an international member of the GCSAA who's currently working in Japan, doesn't think much of the program.

"The PDI is a joke," he says. "We had certification that was great, and we didn't need PDI."

But Pegg seems to be in the minority.

Richard Staughton is president of the Georgia chapter of the GCSAA and golf course superintendent at Towne Lake Hills Golf Club in Woodstock. Though he hasn't renewed his Class A status, he claims to be a continuing education geek.

"It's always a good thing," he says. "It comes down to continuing education. You have to stay on top of current trends."

Gary Carls, golf course superintendent at Sunnyvale Golf Course in California, is in the third renewal group and thinks it's great to have member standards.

"In some ways, I wish it was even stronger," he says. "But once it gets rolling and the guys get renewed, the standards will get tougher down the road."


Carls

Carls says the profession has changed a lot since he started in Michigan in 1978. Twenty-five years ago, degrees weren't required. One just joined a crew and worked his way up. Nowadays, most of those coming into the business have an agronomy degree.

"When I started, I was out mowing and working with crews," he says. "Now, there's more budgeting, managing and meeting with the board and the shop about how to drive rounds and the business side of it. It's not just about growing grass anymore."

That's why Carls believes the Class A designation has to mean something.

"They're just starting to promote the Class A designation now that the first group has been renewed," he says. "During the past few years, we've talked about its value, and the owners have come back with the idea that they might use this designation as hiring criteria."

Bill Davidson, golf course superintendent at Naples Grande Golf Club in Florida, was in the first renewal group and says it was exceptionally easy.

"If you just go to monthly meetings with your local chapter and take a limited amount of continuing education units to keep up your license, you can get enough points," he says. "The biggest problem is that guys rely on people to do things for them. Guys get points and don't turn them in. You have to manage your own certification. You can't just go to a meeting and hope."

FINANCIAL BENEFITS

There's evidence the program is paying dividends financially. According to a recent GCSAA salary survey of superintendents, annual compensation rose from $44,000 in 1993 to almost $69,000 in 2005. The average salary of those who've earned a Class A designation rose to $80,489 in 2005, an increase from $56,994 in 1995. Class A superintendents' salaries averaged 15 percent greater in 2005 than superintendents without a Class A designation.

Mona says GCSAA research shows the perception and favorable opinions of superintendents are on the rise.

"The two main messages are, one, that having a Class A designation is a key to the economic vitality to the golf course," he says. "Second, superintendents play a crucial role in the golfers' enjoyment of the game. What makes a round enjoyable? The golf course itself, in the end, is the primary differentiator of the quality of the experience. Golf course conditions influence your enjoyment of the game."

Mona says the GCSAA board promised its members to market them if they passed the PDI.

"If we can get these messages communicated, recognition and respect and job security will take care of themselves," he says.

Mona acknowledges the jury is still out on the recognition and awareness campaign.

"We have great research data that shows we've raised the level of awareness of our members," he says. "But the long-term goal is still out there. Ultimately, when an employer hires a superintendent, we want them to say, 'I have to have a Class A GCSAA member because the risk of not having one is too great.' And we want golfers to know who their superintendent is by name. We want them to say the work they do is having the most impact on their enjoyment of golf. It's not a competition between pros and superintendents, but we want our fair share of the recognition."

In that regard, Mona says the association targets employers and avid and influential golfers to send the message about the importance of the Class A designation.

"They understand in general terms what it takes to be a Class A member and what it takes to continue, so they can ascribe value to it," he says. "We are communicating to these people where they live. We're targeting different media outlets they tune into."

The GCSAA has made a substantial investment with the Golf Channel this year via ads and other programming that will begin in March, Mona says.

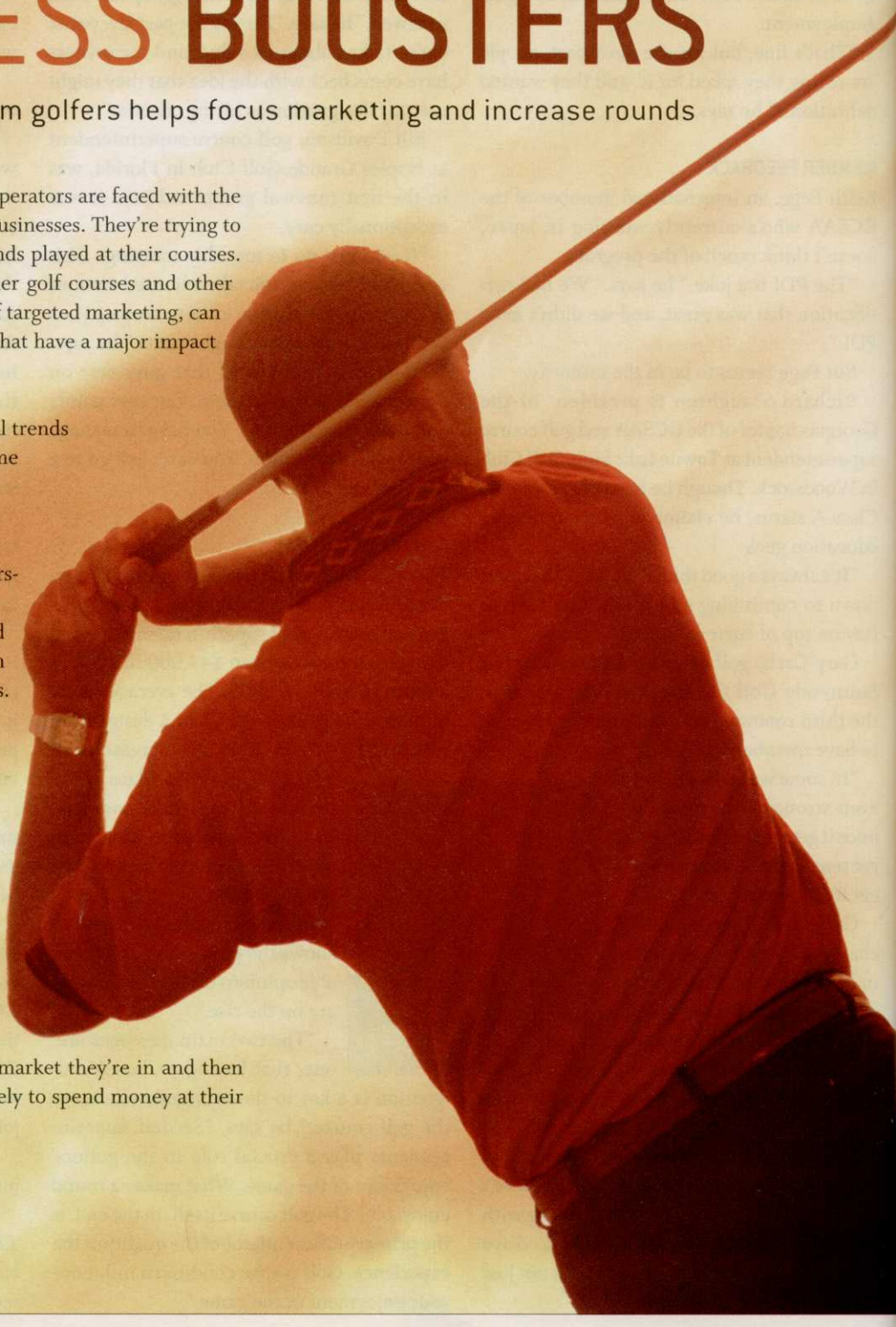
"We're also running particular ads in publications focused on golf course decision makers," he says. "The message is that the Class A GCSAA member brings certain attributes to the facility, and employers should insist on a Class A member. It all loops back to where we started, when we said we want respect, job opportunities and security."

When that happens, a title is more than just a word. **GCI**

T.R. Massey is a freelance writer based in Columbus, Ohio. He can be reached at trm@columbus.rr.com.

BUSINESS BOOSTERS

Acquiring information from golfers helps focus marketing and increase rounds



Presently, many golf course operators are faced with the challenge of growing their businesses. They're trying to increase the number of rounds played at their courses. But competition – with other golf courses and other leisure activities – as well as a lack of targeted marketing, can hinder that growth. Societal factors that have a major impact on the golf business are:

- A changing economy
- Demographic, social and cultural trends
- Availability and use of leisure time
- Technological trends
- Environmental trends
- Political and legislative trends
- Competition from other golf courses and other leisure activities.

Yet, there are opportunities and market segments golf operators can target to help improve their businesses. Those include:

- Youth development
- Family development
- Senior services
- Universal access to and the design of golf courses
- Diverse population groups
- Opportunities to address social trends such as health and wellness, lifelong learning and technology-based recreation.

To better their businesses, owners and managers need to research the market they're in and then market to consumer groups most likely to spend money at their facilities.

BY JOHN WALSH

Attendees at the National Institute of Golf Management held last month at Oglebay Resort in Wheeling, W.Va., received tips about that. The event was sponsored by the National Golf Foundation, Club Car, the Golf Course Superintendents Association of America and Oglebay.

Looking at the macro golf market, NGF expects a net loss of 30 golf courses in 2006 once stats are finalized. The bright side, however, is that loss is alleviating competitive environments, says Ben Fowler, golf facility research and consulting sales manager for NGF. NGF predicts 2007 will be flat – there won't be a negative supply of golf courses – and Florida, Texas and California will experience the most growth.

Regarding rounds, NGF predicts 502.5 million will have been played in 2006. Comparatively, there were 499.6 million played in 2005, 499.7 million in 2004 and 495 million in 2003. Weather, the economy, competition and reduced demand are reasons for the stagnant number of rounds, Fowler says.

To weather the storm, it's critical for operators to have loyal customers who they understand, Fowler says. Knowing this is the first step to increasing the number of rounds. If owners and managers aren't surveying their golfers, they should. According to Fowler, a good base of knowledge should include:

- An understanding of your customers. Get their profiles.
- An understanding of performance measures, your share of rounds in the market, and programs such as The First Tee and Play Golf America.
- An understanding of loyalty. Have a perceived value and a perceived relationship (a good feeling). Measure loyalty by determining if a golfer would recommend your course to a friend or relative.
- An understanding of how your share of the market relates to loyalty.
- A competitive analysis. Know where else your golfers are playing and how many rounds they're playing at each course.

"If you find out where your customers are coming from, then you can market specifically to them in the areas where they live," Fowler says. "You get more bang for your advertising buck."

It's also crucial to know the relationship between satisfaction and importance factors. It's not very beneficial if golfers have a high satisfaction rating of aspects of a facility that aren't very important to them. The goal is for golfers to have high satisfaction ratings of things that are most important to them.

Getting feedback from golfers is key to bettering one's business. Fowler cites two examples. The first is a premium daily-fee facility in Indiana. It needed to renovate its bunkers but the board pushed back. So the golf course superintendent quantified responses from golfers about the bunkers to show why the renovation was needed. The board approved the renovation after hearing the golfers' feedback.

The second is a management company in Washington state that sent out an e-mail blast to the previous day's customers. It was trying to determine why certain customers had a bad experience, remedy that, and convince them to return.

However, acquiring golfer feedback isn't always easy. For example, one NGIM attendee from a municipal golf course says he has been having a hard time getting golfers to respond to his surveys. He's sending surveys to their homes through the mail, but unfortunately, he's had to resort to giving away a free round of golf to incentivize people to respond.

Irene Khattar, manager of communications and public relations at Cape Breton University in Sydney, Nova Scotia, Canada, and a member of the board of regents for the NIGM, says operators need to contact golfers twice a year. She suggests putting a survey in the tee packet so golfers can fill them out while waiting to tee off at the first tee. Effective elements of a golfer survey include:

- Keeping it to one page
- Taking no more than five to seven minutes to complete

National Institute of Golf Management is a week-long educational seminar about golf facility operations taught by various golf industry experts for golf course owners, operators, managers, superintendents and PGA professionals. The NIGM, which has been around for more than 25 years, is held every year in January at Oglebay Resort in Wheeling W.Va. For more information, visit www.ngf.org/nigm.

NATIONAL INSTITUTE OF GOLF MANAGEMENT

Understanding as much about the golfers who play their courses as they can helps golf course operators focus their marketing efforts and spend their marketing dollars more wisely.

- Generating actionable information
- Asking neutral questions
- Not asking double questions
- Asking one open-ended question.

"You need the research first so you can spend your money more wisely and effectively," Khattar says. "If you're going to spend money on research, you should use it at every available opportunity. You need to reallocate marketing dollars because most likely budgets won't increase.

"We're not simply in the golf business," she adds. "We're in the entertainment business. We're competing against a lot of other options such as hockey, movies, soccer, etc. We're not just competing against golf courses."

When trying to solicit information from golfers, incentive programs such as sweepstakes don't work, Khattar says.

"You need to conduct market research on an individual level," she says.

Survey methods include the Internet, mail, paper/pencil and e-mail. Khattar says 300 completed surveys in 30 to 60 days is a good goal to validate a survey. One can track a survey, for example, by having a coupon on the facility's site that golfers have to print out and bring in to receive the reward.

Khattar recommends facility owners who have tight budgets share marketing expenses with others in the area to ease any financial burden.

"Competition isn't always your enemy; it can be your ally," she says. "Sharing ad dollars can benefit all courses. Keep in mind that every lost tee time is lost revenue."

Khattar also cites an owner who was asked what the most scenic part of a golf course is. The owner replied: "a full parking lot."

Owners and managers also need to look at all aspects of their businesses and develop target action plans for each. Some areas to evaluate include:

- Marketing plan
- Operational improvements
- Capital expenditure schedule
- Yield management
- Loyalty programs
- Accountability/ performances bonuses
- Tournaments/outings.

Monitoring, comparing and enhancing an operation are keys to a better business, Khattar says. Owners and managers need external benchmarks and internal goals.

"Hold yourself and your staff accountable," she says. "Set your benchmarks against other regional or national benchmarks. It can be convincing and persuasive."

BUDGETING, FORECASTING

Generating revenue isn't easy, and because of that, the revenue side of the budget is where all the forecasting and planning take place.

"The expense side is so easy a caveman could do it," says John Potts, a consultant from Chillicothe, Ill.

Before the budgeting starts, a facility's framework needs to be firmly established. That framework includes core values, a mission, a vision, key trends and opportunities, core competencies and strategies. Some golf attributes facilities could include as part of their framework are:

- Strengthens the community
- Protects the environment
- Fosters human development
- Supports economic development
- Provides friendly competition
- Promotes health and wellness
- Provides an activity.

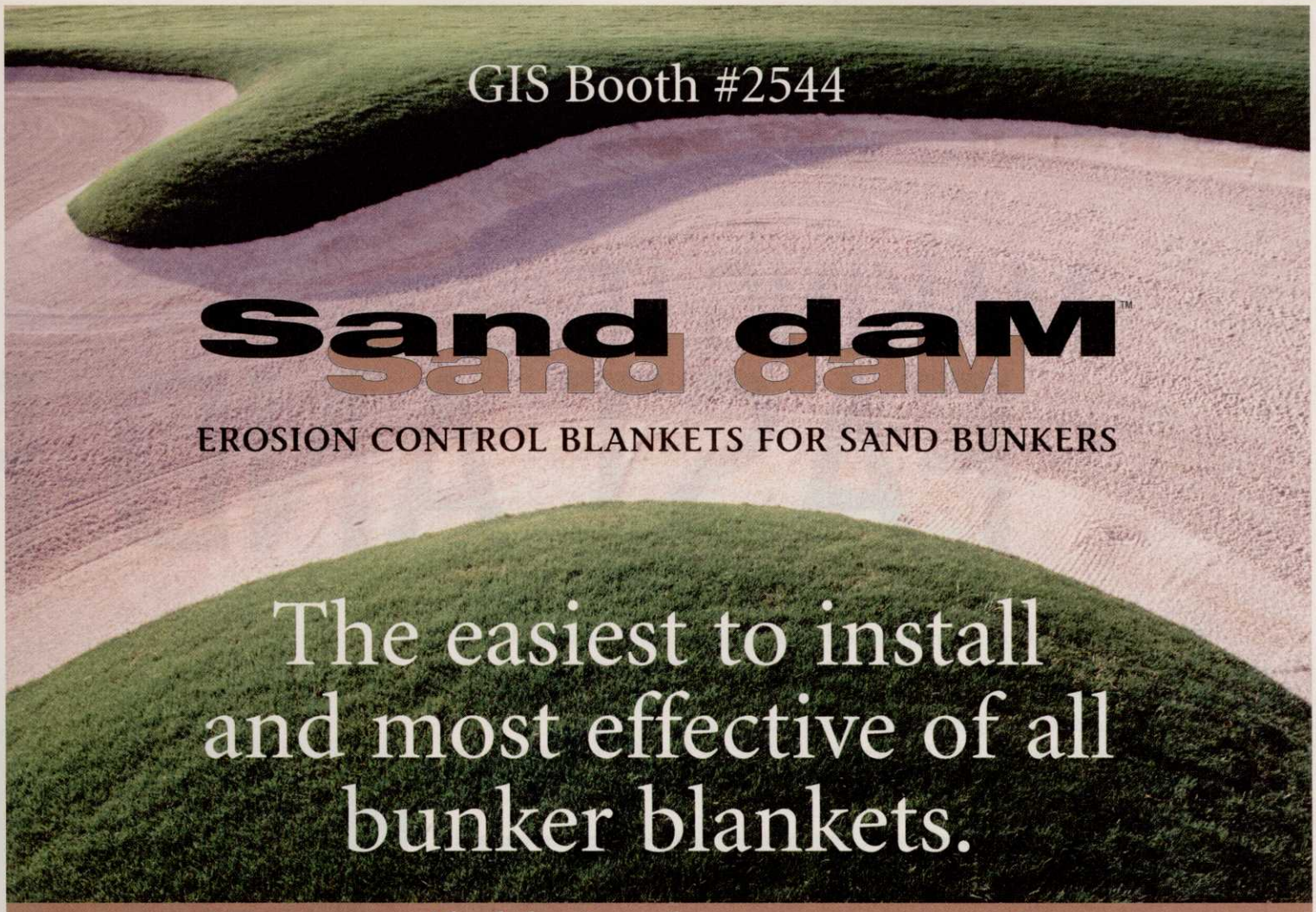
A business plan is needed for a facility to succeed, says Rich Richeson, owner of Richeson Player Development LLC and director of Adams Golf Learning Center in Plano, Texas.

"A business plan is a roadmap to reach a destination and adds focus and clarity for ideas and goals," he says.

Operators need to take the time to write a business plan before budgeting, make it accessible and readable, and reference it throughout the year, Richeson says. And when forecasting, operators should identify key focal areas. For example, he suggests operators call their suppliers and ask what they'll be charged for items the following year. This will help make the budgeting process easier.

"Use the budget numbers to get what you need," he says.

Also, software can be used to help budget, forecast and plan. Software can track what each golfer spent in one year in each area of the golf facility, such as the pro shop, the food-and-beverage area and the golf course itself. **GCI**



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MAKING IT FAST AND F

Ron Bivens, golf course superintendent at the private Country Club of Salisbury in North Carolina, often gets pulled aside by members telling him they were hitting a 150-yard shot on a green during the spring and they're hitting a 170-yard shot after the same drive during the summer and wonder why.

"They don't understand the firmness they had on the fairways changes with the season and grass conditions," Bivens says. "I'm always educating members about what we do with greens and fairways."

Such is part of the life of a golf course superintendent. In short, members want and expect only the best course conditions any time of year. It might be a generalization, but it's safe to say private club members want the conditions of their courses fast and firm, while those at daily-fee facilities prefer less-severe playing conditions. Where greens at a private club might be rolling 11 and above on average, the normal Stimpmeter reading for a daily-fee facility is around nine.

"I don't think there's any question that members at private clubs want their greens firm and fast," Bivens says. "We can get them running 12 and even 13 if we want."

Jeff Shafer, golf course manager at the municipally-owned Las Positas Golf Course in Livermore, Calif., says greens there generally are 9.5, and are 10.5 at various times of the year.

"We think that's a good speed for a municipal course," Shafer says.

At Aberdeen Country Club, a resort course in North Myrtle Beach, S.C., golf course superintendent Dan Connolly tries to keep green speed at 9.5, and everyone seems pleased with that.

"Why would I want to keep them faster for first timers?" he asks. "With the undulation we have on our greens, I would have people four- and five-putting. They would never come back."

USGA INPUT

The U.S. Golf Association issues no guidelines for green speeds but discourages superintendents from going to extremes to make their putting surfaces as fast as marble countertops, says James Snow, national director of the USGA Green Section.

"If you make your greens too fast, you'll discourage mid- and high-handicappers from playing your golf course," he says. "And while the better player likes a tight lie in the fairway and firm ground for more roll on drives, older players, especially ladies, want a little more of a fluffy lie.

BY JOHN TORSIELLO

RM

Superintendents strive to strike a balance between golfers' preferences and healthy turf conditions that are best for the bottom line

At the OGA Golf Course in Woodburn, Ore., golf course superintendent Ryan Wyckoff communicates with golfers to find out how the course is playing. Photo: OGA Golf Course

At Aberdeen Country Club, golf course superintendent Dan Connolly maintains green speed at 9.5, and he says most golfers seem to be happy with that. Photo: Aberdeen Country Club

"And there's always a worry that by keeping the grass too tight you'll stress out the turf and wind up losing parts of the course," Snow adds.

The U.S. Open, which the USGA operates, is notorious for fast and firm playing conditions. But Snow says even a course set up for an Open must have its conditions carefully analyzed and then managed properly to avoid presenting unfair playing conditions.

"I wasn't there, but I believe the greens at Winged Foot (site of the 2006 U.S. Open in Mamaroneck, N.Y.) were no more than 10.5 on the Stimpmeter," he says. "If you went beyond that, some of those greens would be impossible to putt on because of their slope and undulation. Again, I wasn't there, but I have heard greens running a 14. But that was on relatively flat surfaces with little undulation."

GOLFERS' IMPACT

With green speeds, there's always a trade-off, even at private clubs. Skilled players love being tested by firm and fast putting surfaces, while less accomplished players want slower greens that allow them to be more aggressive on putts.

"There's a lot of difference between a two handicap and a 22," Connolly says. "A scratch player wants the greens 11 or higher, and a 77-year-old lady who's barely getting around wants them at 7.5."

Green speed and firmness is always course specific, says Ryan Wyckoff, golf course superintendent at the OGA Golf Course in Woodburn, Ore.

"A superintendent has to take into consideration the caliber of golfer playing his or her course," he says. "Usually, private clubs have very strong players, and their expectations are firmer and faster conditions through the green. Public courses have lesser caliber golfers who would be better served with slower greens and a little higher-cut fairway grass."

Wyckoff, who has worked on grounds crews at several U.S. Opens, believes superintendents need to be proactive and seek input from the customer.

"I always try and communicate with golfers to find out how the course is playing and get their feedback," he says. "And you need to communicate with the guys in the pro shop. A lot of times they'll get more feedback directly from golfers when they check in or pass through on their way out the door."

Bivens says there should always be an education process going on between the superintendent, his staff and the members about the whys of playing conditions.

"We try to educate our members through our newsletter and various committees, telling them why course conditions change from season to season," he says.

THE AGRONOMIC ASPECT

Mother Nature plays a role in course setup and conditions, too. For example, Bermudagrass fairways on courses in the South will roll faster in spring because a thatch layer has yet to build up. During summer, even though the grass might be being cut the same height as in the spring, the fairways will build up thatch, become thicker and offer less bounce and roll. Thus, the reason for a 150-yard shot in April becoming a 170-yard shot in July.

Fast and firm at Berry Hill Country Club in Charleston, W.Va., means golf course superintendent John Cummings and his staff do what they can to maintain conditions so at no time the ball plugs through the greens, Cummings says.

"This is, of course, assuming Mother Nature cooperates," he says.

Cummings says fast and firm conditions can best be achieved through the amount of water the turf receives.

"We don't overwater and irrigate only enough to keep the turf from stressing out to

At Huntingdon Valley Country Club, playing conditions are more important than turfgrass color. Photo: Huntingdon Valley Country Club

Dan Connolly says there are concerns about keeping grass low and dry because it opens the door for pathogenic attacks. Photo: Aberdeen Country Club

the point of death or nonrecovery from the heat and wear and tear of the day's play," he says. "As for greens, it means to mow, roll and topdress depending on the growth rate of the turf to keep the greens smooth, consistent, quick but healthy, with good dense canopies. A properly hit shot should allow the ball to release and advance toward the hole."

Green speed also can be controlled by spot watering, rolling and double cutting, says P.J. Ringenberger, golf course superintendent at Green Valley Ranch Golf Club in Denver.

"You can even use a vibratory roller and spot roll right around a hole placement for additional speed," he says.

To create firm fairways, more superintendents are topdressing with sand, which helps break down organic matter and allows greater air and water circulation to keep the turf firmer, Connolly says.

"A good golfer will always like firmer fairway conditions, so the ball doesn't plug and sits up nicely," Shafer says. "You create that by not watering as much and having fairways with proper drainage so water isn't sitting and softening the turf.

"We have found with our comment cards that golfers enjoy firm, dry and fast conditions, and their scores have reflected that," he adds.

BE CAREFUL

But maintaining fast and firm playing conditions can place a strain on a superintendent's budget and manpower.

"Any superintendent with basic skills can do anything he wants with the firmness and speed of fairways and greens," Connolly says. "We can double and triple cut, roll, topdress, treat the greens with growth retardants and groom every day. Private clubs that have big budgets can do this. Usually municipal and privately owned public courses don't have the type of budgets that allow for such maintenance."

But Connolly says there are concerns about stressing the turf by keeping the grass low and dry. It opens the door for pathogenic attack and can weaken the plant in which it becomes less resistant to stress.

If one wants firm and fast conditions, that person will have to stay on top of things, Ringenberger says. If a course is set up for a tournament and the greens are dry and fast, the turf can take a hit if the weather is really hot. If that's the case, spot watering is needed so the turf doesn't stress out.

Maintaining fast and firm greens also can limit the number of pin placements a green can have.

"If we have the greens rolling 11 or 12 most times of the year, that means we lose in placements, especially on the edges of greens," Bivens says. "But when we drop down to a nine during July and August – when the weather is too hot to keep them running faster – it opens up all sorts of new pin placements on higher levels of the greens and around the edges. This way the members still can have greens that appear to be faster than they really are."

CONDITIONS OVER COLOR

Scott Anderson, superintendent at Huntingdon Valley (Pa.) Country Club, has taken a unique approach to course maintenance. He considers himself a playing conditions manager more than a turf manager.

"We have placed playing conditions above color," he says. "The soil-based greens seem to allow for a lot of resiliency in achieving firm and fast playing conditions, even on extremely hot days. The turf will turn brown at certain times of the year but the playing conditions are always the focus. The grass has been conditioned over time with a survival of the fittest approach. Our organic and minimalist base program keeps costs down."

The reaction from members has been positive, Anderson says.

Knowing a course inside and out is crucial to maintaining consistent playing conditions, Bivens says.

"You have to know each individual green and understand the little things, like how much sunlight it gets, when the sun hits it and its undulation, and treat it accordingly if you want to be consistent," he says. "It's all about having a balance in playing conditions from hole to hole. That's what members want no matter what the speed is." **GCI**

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

Course conditions, functions, marketing and staff are keys to a profitable business

BY BOB SELIGMAN

Here's a recipe for making golf course owners happy:

Take a well-conditioned golf course, preferably with a playability level that will make golfers want to return. Add a clubhouse facility that can handle bottom-line stimulators such as outings, weddings and other appropriate functions. Throw in a food-service operation that provides more than the basics like hot dogs and burgers. Mix in the importance of keeping the facility fresh and inviting, along with having the proper amenities to continually attract new members. Top all that with satisfied golfers who are glad they've come to the facility and not somewhere else.

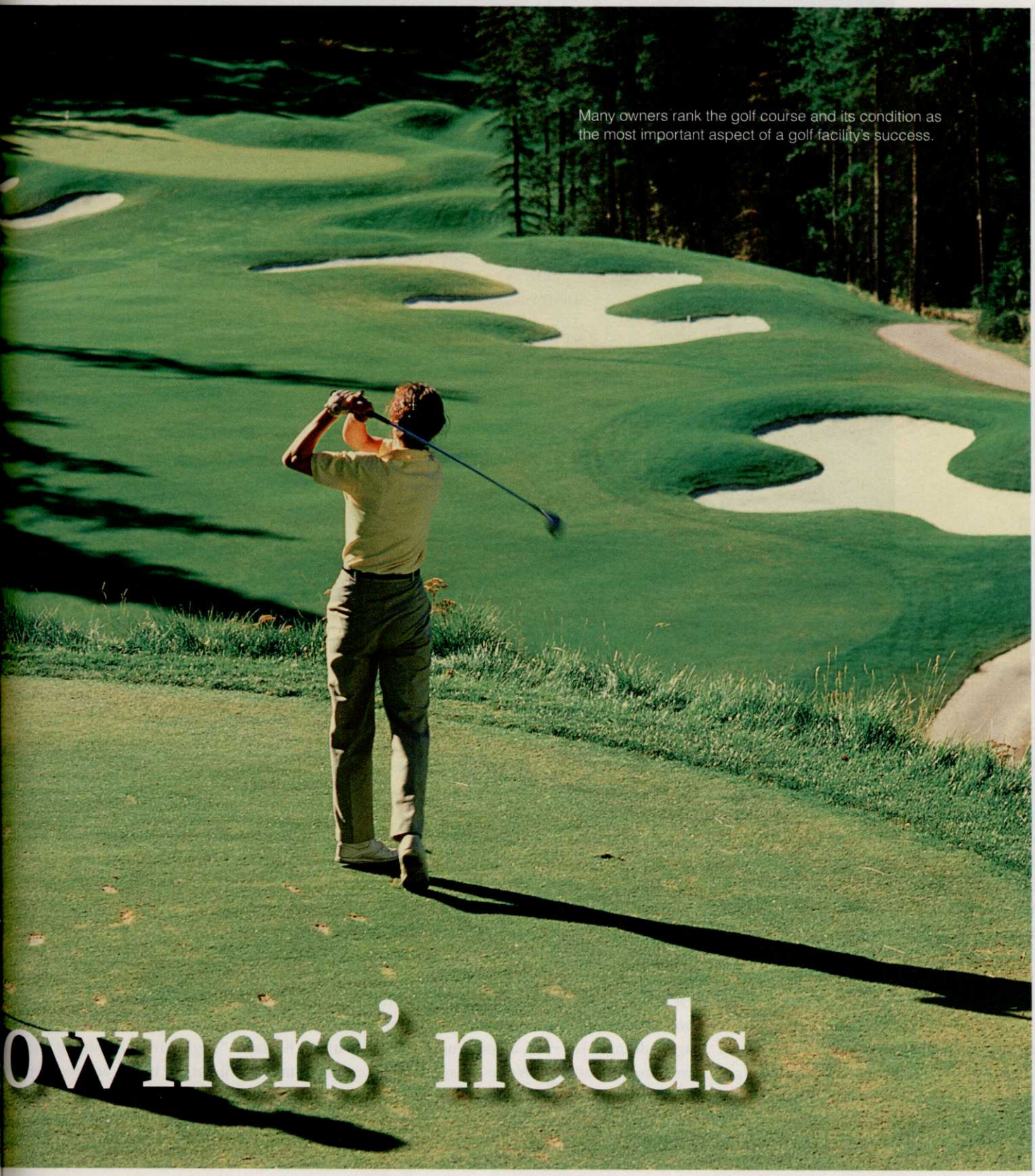
"The most important thing to me is that people enjoy themselves when they come," says Joe Hills, managing member of Blue Mash Golf Course in Laytonsville, Md., and Waverly Woods Golf Club in Marriottsville, Md., two upscale public courses.

Having excellent course conditions goes a long way toward that end. Hills says course conditioning is the No. 1 thing, and it's extremely important to golfers, particularly when attracting new players.

"It's word-of-mouth advertising regarding what kind of shape the course is in," he says. "Customer service is important, but if you had to choose one or the other, I would choose maintenance over anything else."

The most important asset of the private Cape Girardeau (Mo.) Country Club is the golf course, says Don Staples, managing trustee of the club.

"Without that, the rest of the stuff would mean very



Many owners rank the golf course and its condition as the most important aspect of a golf facility's success.

owners' needs

A clubhouse that can properly accommodate various social functions allows a golf facility to generate additional revenue aside from the golf course. Photo: Winchester Country Club

little," he says.

With any golf course, there should be a conditioning level that people look for, says Jim Scott, golf director at Gull Lake View Golf Club in Augusta, Mich. Gull Lake View owns five 18-hole courses at three different facilities within a 12-mile radius in southwest Michigan. Scott says fairways should be cut at a good height, yet greens don't have to read 12 on the Stimpmeter – eight or nine is enough. Courses also have to have fairly smooth putting surfaces, and the rough can't be so tall people can't find their balls.

"You should be able to play without losing two dozen golf balls because the grass is so long," Scott says.

Course renovations also can please course owners, even when they come in the face of adversity. Cape Girardeau is located right next to the Mississippi River. Flooding put the course under water twice in two years during the mid-1990s. After the second episode, Staples knew the club would be in trouble if it didn't do something dramatic, especially because the course was closed for three to five months both times. He put together a drive to change and raise the affected holes.

"It ended up to be the best move we ever made," Staples says. "It modernized the golf course and the greens, fairways and tee boxes. It caused a lot of excitement for several years. Two years after we opened up again, it was the largest membership we've ever had."

Cape Girardeau, like many other clubs, has a good superintendent who helps meet its goals for the facility.

"I see the superintendent, Mike Fitzgerald every day at Blue Mash, and I'll be out on the course at least once a week," Hills says. "It's been a constant thing of improving the golf courses. We're always adding new drainage, adding tree work, improving the turf, working on bunkers. We're always going at it every year."

HOSTING VARIOUS EVENTS

Excellent course conditions set the stage for making golf course owners happy, but adding to the bottom line by hosting outings, weddings and other social functions is another source of business. But in order for the cha-ching to sing, one has to work at it. It's not only having a clubhouse or facility that can properly accommodate various functions, it's making sure the facility is aesthetically pleasing.

Some clubs, such as Cape Girardeau, might completely renovate the clubhouse with new bars, chairs, furniture, carpet and a paint job. Blue Mash's annual initiatives to improve the clubhouse include the recent completion of a new locker room and installing a plasma TV behind the bar.

The corporate outing business also is important for Gull Lake View, Scott says.

"We try very hard to promote those outings," he says. "It gets into a bidding war sometimes. We'll put our bid in, and we'll try to sell our golf course on the fact that we can provide them with better entertainment value for the dollar than the golf courses that might underbid us. We're professionals. We have good equipment, a good building, a good staff.

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With a higher-end food-and-beverage operation, a golf facility has the potential to generate more revenue from outings. Photo: Contraband Bayou Golf Club at L'Auberge

We know how to do it."

But clubs like Blue Mash might also elect to stay within a smaller operating or capital expenditure budget, which is good and bad, especially when trying to attract more outings to the facility.

"We have relatively modest clubhouses compared to other clubhouses in the area, and our food-and-beverage operations are pretty simple," Hills says. "That's just how things have evolved for us. We don't have the expertise to do more of a higher-end type operation. Unless you're really good at it and can have someone that can really focus on it, your bottom line gets hurt. With a better food-and-beverage operation, if it's done right, we can make a lot more money on outings. It requires a certain amount of expertise, which we're bringing in.

"If you have something nice and clean and decent for the daily-fee golfer, they're happy with that, and they focus more on their experience on the golf course," Hills adds. "We lose an outing here and there to clubs that have more ambiance in their clubhouse, but in terms of what happens to the bottom line, what we're doing is pretty good."

Promoting business is important for a golf facility, particularly in difficult economic times. As Scott says, every round of golf in today's market is important to every golf course owner. Particularly in an area like his, which has been affected by the exodus of local manufacturers and the diminishing auto supply and manufacturing business in Michigan. However, Scott says Gull Lake View is holding its own.

"In 2006, we were level with 2005, maybe a touch above it," he says. "The economy is starting to show some signs of recovery. I'm still bullish on the golf market."

Gull Lake View, which promotes itself as a golfing destination and puts together golf packages for out-of-town golfers, works hard marketing itself to major metropolitan areas within a five-hour driving radius, including Detroit, Chicago, Indianapolis and Toledo.

The marketing includes a Web site, www.gulllakeview.com, and exhibiting at golf shows within driving distance of that area.

"We'll do them individually as a destination, and then we do them with a co-op that we're part of in Battle Creek with other golf courses and lodging facilities so we can market for the traveling golfer," Scott says.

RETAINING MEMBERSHIP

Private clubs are also striving for new members while doing what they can to retain members.

"There's a continuing battle every year to keep membership up," says Staples, who has seen his membership drop slightly to 380 members from 425 members. "The lifeblood of a country club is the dues, and if you don't have the dues, you don't have a country club very long."

Normal attrition will happen and isn't always preventable, but clubs are trying to avoid many resignations, says Bill McMahon, chairman of The McMahon Group, a consulting firm based in St. Louis that tracks the private club industry.

"The best way we find for retaining members in clubs is just making sure you're providing everything you're supposed to do at a high-quality level that's good quality for the cost of membership," he says.

Cape Girardeau is taking a proactive approach to increasing membership. The club encourages its members to become involved in a spring membership drive. They benefit from this involvement because the drive helps keep the dues at a more reasonable level than if they were ignored, Hills says. That resulted in 36 new members last year. A consulting firm, Graves Associates of Manhattan, Kan., has helped the membership become more involved in several of the drives.

"If the members don't get involved, we can't advertise and things like that," Staples says. "Other than direct mail to an individual, we can't run ads in papers because of the structure of our club."

Attracting younger members is a key to strengthening a club's membership. Cape Girardeau is enticing people age 25 to 35 with families by offering them full memberships with a low initiation and lower dues structure. When they reach age 35, they pay full-membership prices.

"Probably the thing we need the most is to attract young people," Staples says. "That's where our nemesis is. Our weakest point is not attracting enough young people. The reason is that our pool facility needs to be torn out and a new junior Olympic pool needs to be put in."

A PROVIDER

Club owners say there are other things they want and need from their golf facilities – a PGA Class A golf professional, for example. So is having a professional and courteous staff that knows the value of customer service. A well-stocked pro shop helps attract golfers, especially when outing organizers are looking for quality goods when they hand out gift certificates to participants. A neat cart area is important, too.

Scott sums up what he expects from the golf facilities he owns.

"What we want out of our golf courses is to provide us with a steady income that we can live on," he says. "We've been able to do that. We've been profitable enough to maintain a lifestyle and raise our families and educate them and bring them along in the world. We've provided our employees with stable and fairly good benefits, and we're providing the community with an entertainment opportunity to play our golf courses for recreation and exercise and all the things they play golf for." GCI

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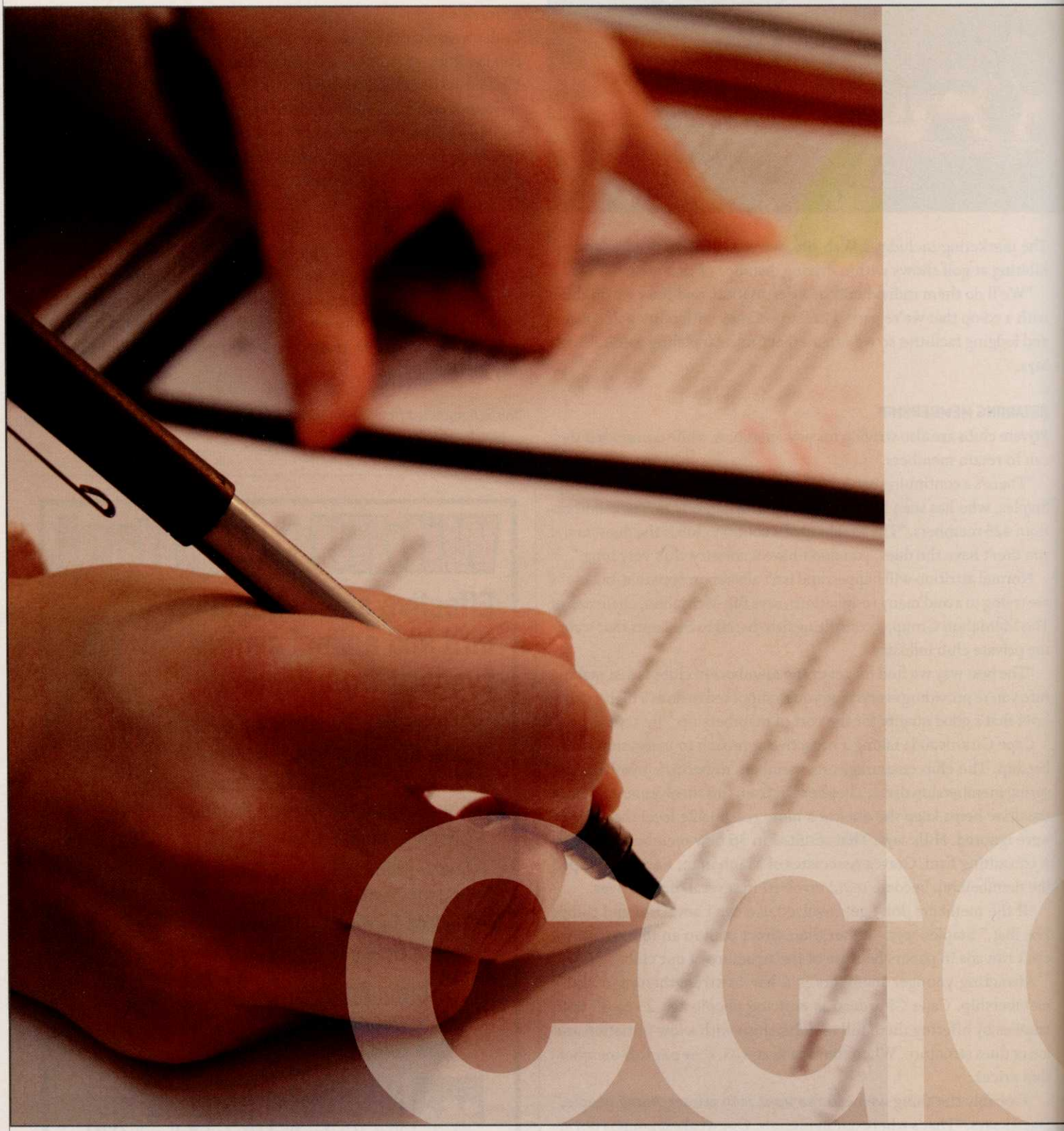


BY JOHN WALSH

A designation worthy of pursuit?

Some superintendents say it's a no-brainer to become certified; others question the value

If you're a certified golf course superintendent, you're in the minority among your peers. Of the 19,889 Golf Course Superintendents Association of America members, 1,895 (10 percent) are certified golf course superintendents, according to the association. Superintendents have mixed feelings about the value of being certified, but the association doesn't. Some members disagree about how much value the association portrays in being certified.

The GCSAA encourages its members to become certified because it's a way to help them substantiate their work and accomplishments through continuing education. The Certified Golf Course Superintendent program is designed to recognize those accomplishments and members' expanding knowledge as they keep up to date with recent developments in the industry.

Some of the benefits of earning the CGCS designation, besides preparing members for the future demands of the superintendent profession, are:

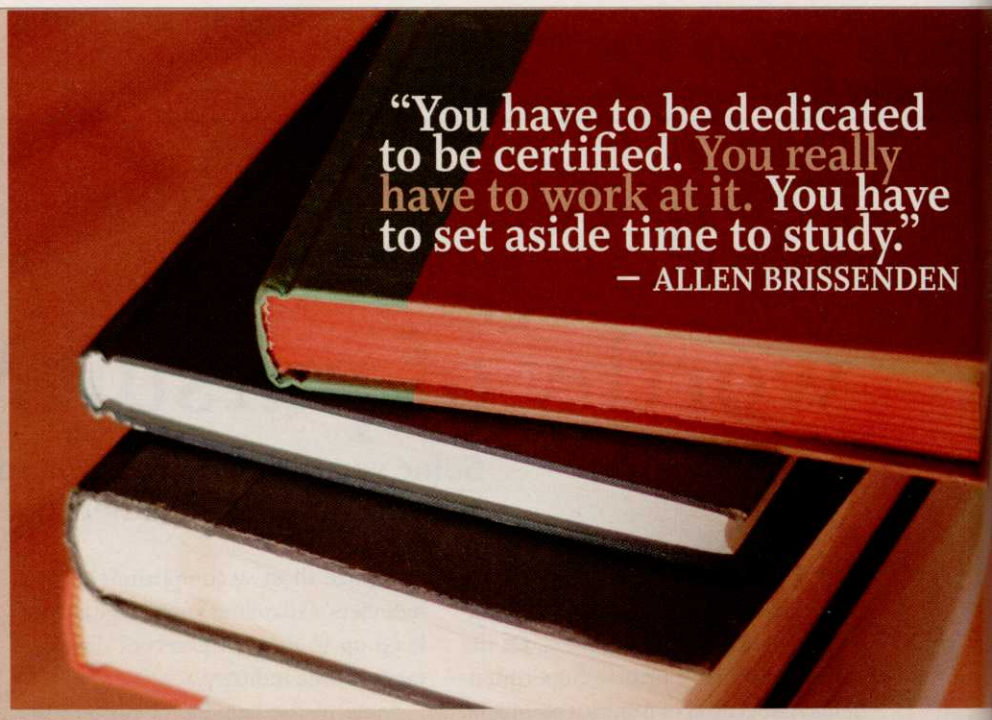
- Better salaries and jobs, providing an edge in the job market with a proven commitment to producing the best playing conditions;
- Recognition and respect by peers and employers;
- Increased knowledge about the industry, association and profession; and
- A sense of accomplishment, from demonstrating proficiency to contributing to the improvement of the profession.

Completing the certification process also can benefit superintendents' employers because it:

- Is an effective, meaningful and objective measure to determine qualifications of potential employment candidates;
- Shows a willingness to not only commit to long-range self-improvement but long-range improvement of the profitability of the golf facility;
- Increases the chances of having consistently superior course conditions;
- Provides knowledge to manage a golf course budget efficiently and still maintain top conditions;
- Shows leadership skills needed to develop a well-trained, well-managed staff resulting in strong team morale and reduced turnover; and
- Allows them to stay up-to-date in the latest golf course management techniques and products through continuing education.

Historically, golf facility leaders have supported their certified superintendents. Eighty-eight percent of employers support continuing education efforts, according to the GCSAA. Certified superintendents consistently have earned higher salaries in recognition of their advanced level of experience knowledge, skills and abilities. In 2003, the average salary of certified superintendents was 32.6 percent higher than that of non-certified superintendents, according to the GCSAA.

Allen Brissenden, CGCS, at the Dunedin Country Club in Tampa, Fla., has been in the industry since 1980, has been a superintendent since 1989 and became certified in 1994. When he was an assistant, he decided he wanted to become certified shortly after he joined



the GCSAA. When he prepared for certification, he says qualifications included:

- Being a golf course superintendent for five years;
- Meeting educational requirements, which meant a certain amount of GCSAA credits – more credits were needed without a degree or with a two-year degree than with a four-year degree;
- The GCSAA verifying your records once you applied;
- Passing a six-hour test that included knowledge of the certification program, pest control safety, financial and organizational management, the Rules of golf and an agronomy section.

"You had 12 months between the time you sent in your application and taking the test," Brissenden says. "During that time, you also had to have two certified superintendents visit your course and send in written documents about three projects you completed on your course. Qualifications now are stricter than they used to be."

Brissenden says it was challenging to prepare for certification.

"You have to be dedicated to be certified," he says. "You really have to work at it. You have to set time aside to study. You can't just blow it off."

While studying, Brissenden says he learned much about organizational and financial management that he uses daily.

"I learned different ways courses are structured financially," he says. "I learned how to structure a crew and be more efficient with time management."

Brissenden says because superintendents work long hours, finding the time to become certified can be difficult. The exam is challenging, too, he says.

"I found that the Rules of golf was the hardest part of the test," he says. "The turfgrass management part was the easiest. But I had to rewrite two of the six sections within the first year that I took the test before I passed and became certified," he says. "There aren't many who pass all six sections the first time."

Certification is renewed every five years, which means one has to keep up with continuing education.

Brissenden says his certification was a large part of getting his current job.

"Before this job, I worked for one owner for 12 years, and after he sold the course, I was out of a job," he says. "There were 100 applicants for the job I have now. Certification really helped."

Brissenden also says certification definitely helps with pay, citing that those who are certified earn 5 to 10 percent more than those who aren't.

Tom Lavrenz, director of golf for the city of Cedar Rapids Golf Department in Iowa, is a GCSAA member who has a slightly different take on salaries. He says salaries and promotions are based on being certified in certain parts of the country, such as the East Coast and at some of the bigger, well-known clubs, but that's not the case in Iowa.

"Experience counts more," he says.

Brissenden says being certified has been a big plus with Dunedin's membership, and he says he receives more respect from board that hired him.

"It puts you out as more of a leader in the industry," he says. "Many certified guys are contacted first when it comes to surveys and things like that."

PERCEIVED VALUE

Yet Brissenden says some superintendents don't feel they need certification because they've been at a club for 20 years.

"But I say to them, 'What if you get fired?'"

Darren Davis, director of golf at Olde Florida Golf Club in Naples, Fla., is an accomplished superintendent who isn't certified. Davis, who was hired at Olde Florida in October of 1992, has been a superintendent for 14 years and a member of the GCSAA for 17 years. Before Olde Florida, he spent time as an assistant at the Loxahatchee Club in Jupiter, Fla., and some time at Augusta National in Georgia and Golden Eagle Country Club in Tallahassee, Fla.

"Although I'm not certified, that doesn't mean I don't see the value in it," he says.

However, Davis says he's an engaged member of the GCSAA nationally and locally, and he's been published six times in Golf Course Management and has been on-air host for the Superintendents Video Magazine.

"I love the profession," he says. "I dedicate double-digit hours to it aside from my job."

Davis has been through the certification program twice, but hasn't taken the test.

"At the time, I had other things I wanted to do, such as be active in the Florida chapter,"

he says. "I personally found the things I do more rewarding than being a CGCS. What I have gained from my involvement in the GCSAA has helped my career.

"My employer has never seen or expressed that value added if I were a CGCS," he adds. "My employer is unaware of the certified program, but it's not the fault of the GCSAA that he doesn't know. If I saw the value in it to my employer, I would do it."

Davis says if he were to leave his job, he most likely would become certified because he wouldn't want not being certified to be a factor in why he didn't get a job.

"It's not a matter of spite, I just never saw the value," he says. "If certification ever became an issue during an interview, I would dispel that. I'll get my foot in the door and sell myself. But if an owner wants me to be certified, I would make that a priority in the first six months [of a new job]. However, when you look at job ads, CGCS isn't required. You don't see that much."

Davis says being certified is a personal choice, and that at one point, eight out of 10 superintendents at the top 10 golf courses in the country weren't certified.

Still, Davis, who's a Class A superintendent, is happy about the GCSAA's promotion of the Class A designation.

"The GCSAA is showing the value of Class A to owners," he says. "It has promised the membership that the Class A designation sets them apart from their peers. The GCSAA doesn't say that about CGCS. Class A is the standard that all superintendents should aspire to be." (See related story about the Professional Development Initiative on page 72.)

Davis says he strives to improve himself daily and currently is working toward a bachelor of arts degree in communication.

PROFESSIONALISM

Lavrenz, a 12-year member of the GCSAA who's been with the city of Cedar Rapids for 29 years, has been a superintendent for 21 years. Being certified has crossed his mind several times during his career, but he says he never had the time to become certified.

"I did serve as a beta tester for the certification test, but I didn't study and missed passing it barely," he says. "I haven't been hindered because I'm not certified, but I won't allow myself to fail.

"Although certification wouldn't have meant a great deal to me, I would advance someone under me quicker if he's certified because that shows me he's willing to take that extra step," he adds.

At this point in his career, Lavrenz, who's a Class A member, has no intention of becoming certified. He has health issues and doesn't know how long he'll be with the city. At age 47 and having worked 30 years for the city, he says he can retire with a nice pension in about eight years.

"The GCSAA doesn't do enough to show members the value of being certified," he says. "If I had 10 years left in my career, I would get certified, but it's not going to do me any good at this point. It's just like the college degree was years ago. It used to be that a four-year degree wasn't needed. Now you need one."

Being certified or not, Lavrenz says superintendents should be all about promoting themselves and being professional.

"Generally, if you're a CGCS, you tend to carry yourself with more professionalism that those who aren't, and that's too bad. You'll never see a CGCS attend a meeting not dressed up. Superintendents are perceived differently than members of the PGA because of that professional image."

On a national level, Lavrenz says some certified superintendents throw their designation around in a negative way, and it disturbs him.

"Not everyone does it," he says. "But just because they have a designated title, that doesn't mean they are automatically better. I've never seen that kind of attitude in Iowa amongst my friends. But at the same time, 99 percent of the superintendents who feel they don't get the respect they deserve, don't walk the walk."

More important than certification is image, Lavrenz says.

"If you're not going to represent our profession professionally, certification doesn't matter," he says. "I have one CGCS working for me and another is in the process of getting certified, and it's great, but you better dress the part and carry yourself appropriately."

Two reasons Lavrenz says more superintendents aren't certified is that it takes a lot of time and the perceived lack of benefit of it.

"Superintendents haven't taken the time to promote themselves even though they are the most important person on the golf course," he says. "They undersell themselves. Certification tends to bring out a sellable quality in a person as it relates to his course. I believe in the process but wouldn't turn someone away because he wasn't certified. Titles are good, but image is everything."

> "Certification doesn't make or break a superintendent, but it's another added bonus to try and take the profession to a higher level."
> — TOM LAVRENZ

Lavrenz says certification has merit but not as much as the way superintendents present themselves to customers.

"Certification doesn't make or break a superintendent, but it's another added bonus to try to take the profession to a higher level," he says. "It's a stepping stone I want to see this profession move toward. You don't have to be certified to be successful, but you need to carry yourself with the respect the profession deserves. As superintendents, we don't do that as a whole. We don't carry ourselves like the professionals we are." GCI

For more information about certification, visit www.gcsaa.org/mc/certification/default.asp.

NEAT AND CLEAN

KEEPING A TIDY AND ORGANIZED MAINTENANCE FACILITY IMPROVES EFFICIENCY

Maintenance facilities often are tucked away on a golf property and, for many, are usually out of site and out of mind. Some facilities are nice and tidy; others are slovenly. Maintenance budgets and a primary focus on golf course conditions impact maintenance building conditions. Yet some (perhaps many) golf course superintendents take pride in keeping a neat and clean office, and feel it reflects them and their maintenance operation.

At the private, 36-hole Palmas Del Mar Country Club, which sits on about 250 acres in Humacua, Puerto Rico, the maintenance facility includes a lunch room, locker room, full-size bath, irrigation department area, mechanic's area, the superintendent's office, the assistant's office and the secretary's office.

Maintenance crew members clean and take care of the shop at least three times a week, says golf course superintendent Osvaldo Cruz. The outside of the shop looks better than the inside, Cruz says.

"We planted gardens and pine trees around the facility," he says. "On the interior, we follow all (Occupational Safety and Health Administration) rules with chemical wash areas. We paint and check everything, and pick up trash – sometimes more often, sometimes less often."

Cruz says there are 21 golf course superintendents on the island of Puerto Rico, and they receive a lot of pressure from owners and golfers to keep their golf courses well conditioned, and many times they forget about the maintenance facility.

Additionally, many superintendents might not have the staff or the money to invest as much as they should in their maintenance facility. Cruz, whose staff consists of between 35 and 40 workers including the assistant superintendent, spends about $2,500 to $3,000 a year maintaining the maintenance facility at Palmas Del Mar.

BY JOHN WALSH

"If you spend time maintaining it regularly, you spend less every month doing so," he says.

BIGGER THAN MOST

At the private 54-hole DuPont Country Club in Wilmington, Del., the maintenance facility is located on the outskirts of one of the courses on the property, which has about 225 maintained acres. The 15-year-old facility, which is a model for others, was built with efficiency in mind, says general superintendent Tristan Engle.

"We're part of DuPont, so it was overengineered," she says. "We can put a fully loaded stake truck in and raise it all the way up on a 5-ton lift. We have a paint booth that's big enough to fit a car. Most facilities don't have a paint area. We have a fertilizer room separate from the chemical building. There's also a well underneath it. It's all encapsulated."

The maintenance building at the DuPont Country Club, which is bigger than most, was built 15 years ago with efficiency in mind. Photo: DuPont Country Club

The maintenance facility also includes 60 lockers, a high school locker room-size shower room and an elevator that goes up to the second floor. It's also big enough to park all the equipment – $4 million worth of inventory – inside. Engle says the staff takes pride in the fact the facility is top-notch.

"We spruce everything up in the winter, including painting some of the equipment," she says. "Each course is assigned certain parts of the building to clean weekly or bi-weekly. Superintendents and assistants are held accountable for cleanliness. Even the outside has to be maintained. We have to maintain it at all times for safety and to keep our image. We have to keep resources like this polished like our own. It boils down to safety."

Engle, who has been at the corporate club for 12 years, says a clean and organized maintenance facility, in a small way, reflects a golf course's condition.

"With the focus on members and guests, we can't afford time looking for equipment and other items we use to maintain the courses," she says. "We need to find equipment right away. Everything is labeled and hung up properly. It's efficient. We have a five- to seven-minute meeting first thing in the morning, and then we're out on the courses. We don't want to get out the door wrong in the morning because then we'll need to shift our focus."

MORE TOGETHER

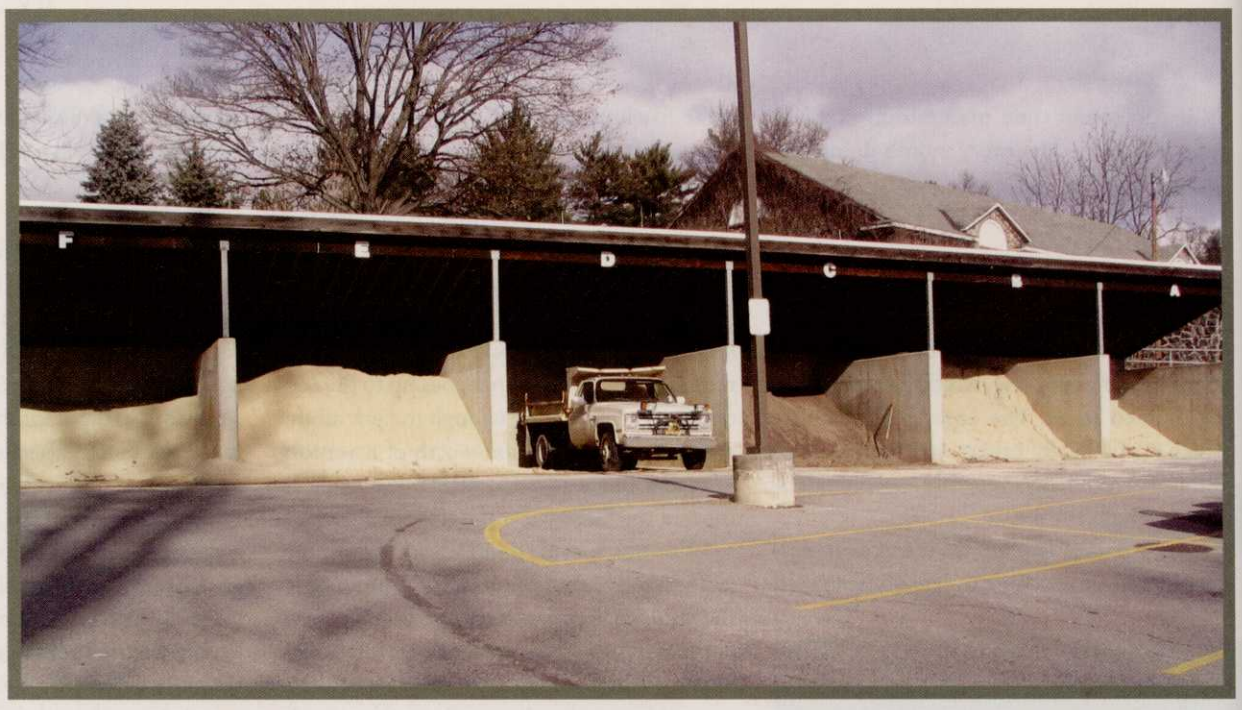
The golf courses at the newly opened 28-hole Kukio Beach Club in Kona, Hawaii, were finished in 2003, and the maintenance building was completed in September 2005. Golf course superintendent Scott Nair's predecessor provided input for the design of the building. Some changes needed to be made, such as adding more Cat 5 cable, tweaking the design of the equipment wash area and additions of air power to multiple locations.

The maintenance facility at Kukio Beach is quite different than most others. About 100 people work out of the maintenance facility, which includes:

- A housekeeping staff that cleans it daily;
- A shop attendant who, among other tasks, cleans the outside of the building, maintains uniform inventory, refills fuel tanks and washes storage areas;
- A 35-person landscape department;
- A lunch room with a kitchen steward; and
- A parking lot for 95 cars.

The maintenance facility footprint is five acres and the actual maintenance building is 12,000 square feet. Nair, who has been at Kukio Beach for two years and has a staff of 45 year-round, says Kukio is changing the concept of the maintenance facility. He says many in the industry look at maintenance as part of the back of the house, and the people who maintain the grounds are separated from other club employees into another facility.

"We have a different approach," he says. "Our building costs are expensive – $1,000 to $1,800 a square foot. Accounting, human resources, landscaping, engineering are all in the maintenance facility. This improves efficiency. When I have an accounting problem, I



Tristan Engle, general superintendent at the DuPont Country Club, says it's up to her and her staff to educate the members about the importance of a safe maintenance facility. Photo: DuPont Country Club

go down the hall. I don't have to make phone calls. This keeps traffic away from the clubhouse and reduces building costs. It keeps all departments close together, and maintenance doesn't have the stigma of being separated. It helps create a more friendly teamwork atmosphere that is vital to the operation."

Nair and his staff keep the maintenance facility clean and organized because they're accountable and are entrusted with an asset, he says.

PHILOSOPHY

Cruz, Engle and Nair all share a similar philosophy in that they put significant importance on a neat and clean maintenance facility. Cruz, who's been at Palmas Del Mar for three years, says a maintenance facility has to be clean and organized like the course it's used to maintain. He says the extent of how nice a maintenance facility depends on the budget. He says superintendents need to have the facility presentable while realizing the golf course is more important, but at the same time realizing the maintenance facility is important, too.

"My motto is show that the maintenance facility is being taken care of," he says. "If you work at a place and the maintenance facility is beautiful, then the staff will want to go out and make the course beautiful. If employees see a beautiful shop, they'll go the extra mile and won't let it run down. You have to have pride. It starts in the shop and is carried out to the course."

Cruz encourages superintendents not to procrastinate when it comes to shop maintenance.

"Have a checklist," he says. "If you see something wrong, don't wait. Get it done within a week. Treat the maintenance facility like a golf course, but not better than the golf course."

Engle, who has a staff of 60 during peak season and 15 in the off season, says organization is important, as well as getting employees the resources they need to do the job efficiently and effectively.

"Assistant superintendents have to be as organized as the laborers," she says. "Each course doesn't have it's own equipment. We share. We don't have the luxury of time to look for things. It all boils down to money. We can't afford to pay someone to look for something."

Engle says it's up to her and her staff to educate the members – there are 2,500 golfing members of DuPont and 13,000 total members – and committees about the importance of a safe maintenance facility.

"Resources are important, and the facility you work out of is a resource that needs to be looked at," she says.

Nair, who has a maintenance budget of more than $3.5 million, says uncleanliness is a sign of a lack of attention to detail.

"It's very sad to see the level of care of maintenance facilities out there," he says. "Some are very professional. Many are messy. It doesn't take much money to show that you are proud of where you work."

Nair says club members and course owners need to know the people they have entrusted respect their work space, and if members come into the maintenance facility, they should see their asset is being taken care of.

"Clutter creates safety hazards and contributes to laziness and bad attitudes," he says. "If everything is maintained well and respected, workers will do the same. Respect starts at the top. If managers don't respect the space, they are doing a disservice to the people who write the checks." **GCI**

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Bill Anderson has overseen many changes at Carmel Country Club, including the renovation of both of its courses. Photo: Carmel Country Club

BY JOHN WALSH

DEEP ROOTS

After 34 years at Carmel Country Club in Charlotte, N.C., **BILL ANDERSON** hasn't found a good reason to leave.

These days, the chances of a golf course superintendent spending his entire career at one facility are about the same as a hole-in-one on a par 4. But at this point in his career, it looks like Bill Anderson might do exactly that. Anderson is the director of greens and grounds at Carmel Country Club in Charlotte, N.C.

In the mid-'60s at age 14, Anderson was caddying a Point O'Woods Country Club in Benton Harbor, Mich. After caddying for several years, he got a job at Point O'Woods working on the maintenance crew for Norm Kramer, who was an up-and-coming future president of the Golf Course Superintendents Association of America. It was then that Anderson became interested in the golf course maintenance business. Anderson says Kramer was a great mentor who taught the crew a lot. Anderson worked on the crew through high school and college. In 1973, after receiving a Bachelor of Science degree in turfgrass science from Michigan State University, Anderson needed a job.

Down in Charlotte, Carmel was looking for an assistant golf course superintendent, so Anderson interviewed and was hired. Two years later, he was promoted to golf course superintendent, and he's been there ever since. Anderson says experience was the key to his quick promotion.

"I had more experience than most guys my age because I had been working at a golf course for so long and had a couple of years to prove myself," he says. "So the people knew me, but I didn't know how long a rope I had. It could have been a 30-day rope."

Anderson says his 34-year career at Carmel is partly happenstance and partly luck. He says Carmel, which is considered one of the top 10 country clubs in the country, and his career grew on a parallel level throughout the years. During those years, Anderson says he never came that close to leaving the club even though there were other opportunities he could have pursued. And being at the same club for so many years hasn't bored Anderson or made him unhappy.

"It might be my nature," he says. "I've had more than my share of projects and big things happen. We've renovated both golf courses once, and we're getting ready to renovate the first one we renovated again. There's lots of stuff to do."

Not only is Anderson content at Carmel, he's also always enjoyed being involved with the Carolinas GCSA and the GCSAA.

"We have a local organization called the North-South Turfgrass Association," he says. "That's where I started. I moved up through the Carolinas GCSA onto the board of directors and eventually became president in 1992. I like being involved and meeting all the people inside and outside the business. It keeps you engaged."

Anderson has seen many changes during his lengthy career. The biggest one that amazes him every day is standards.

"What used to be good standards are now substandard," he says. "The bar has been raised. Some of it is superintendents pushing and pushing, saying, 'I can do more, and I can do it faster.' Some of it is

equipment allowing us to do it."

Another significant change Anderson has seen is the increasing number of big budgets that exist now.

But changes didn't occur solely with golf facilities. Golfers have changed too, especially their expectations.

"It has slowly evolved, and you don't even realize when it's happening," he says. "Their expectations are a little bit more, and someone keeps ramping it up. Now it's to the point where a 10-percent increase in quality costs a 50-percent increase in money. It appears to me that you can't make any big leaps now because of all that attention to detail – all that walk mowing or double mowing, for example."

Maintenance equipment has improved and helps meet those high expectations, and there's more equipment available for superintendents.

"I hope some of us that have been in the business for awhile appreciate the manufacturers and their equipment," he says. "No doubt our jobs are easier. We are asked to do more, but it's certainly easier to get there than it's ever been."

Even though the job is easier, there still are challenges facing Anderson, and managing and meeting member expectations is his biggest. He sits in committee meetings and has discussions with members to control their expectations.

"I try to control that demand," he says. "You have to do it on the front end. For example, springs are difficult, and golf courses aren't going to look as good in the spring. You have to take the time to explain that some days you'll have to run trucks on the course to apply fertilizer."

Like many other country clubs, expectations at Carmel vary because of different cliques and groups. Controlling those expectations is an ongoing fight, Anderson says. Superintendents have to do it every day and week.

"They say dogs have to be fed, so every day you have to feed that dog," he says. "You have to interact with them, talk to them, explain for the 12th time that it's March and it hasn't been 80 degrees. Some people might get frustrated having to do it over and over again, but it's what we get paid to do."

Anderson cites two groups at Carmel who have different expectations. One group is called the inner club in which other area clubs get together with their best golfers and play three or four days in a row, and their expectations include fast greens; tight, dry fairways; and perfectly raked bunkers. Another group is more social. It doesn't golf as competitively as the inner club and isn't as concerned about green speeds.

Some challenges superintendents face are universal. Others are more regional. In the Carolinas, a big challenge for those with bentgrass greens is getting through the summer.

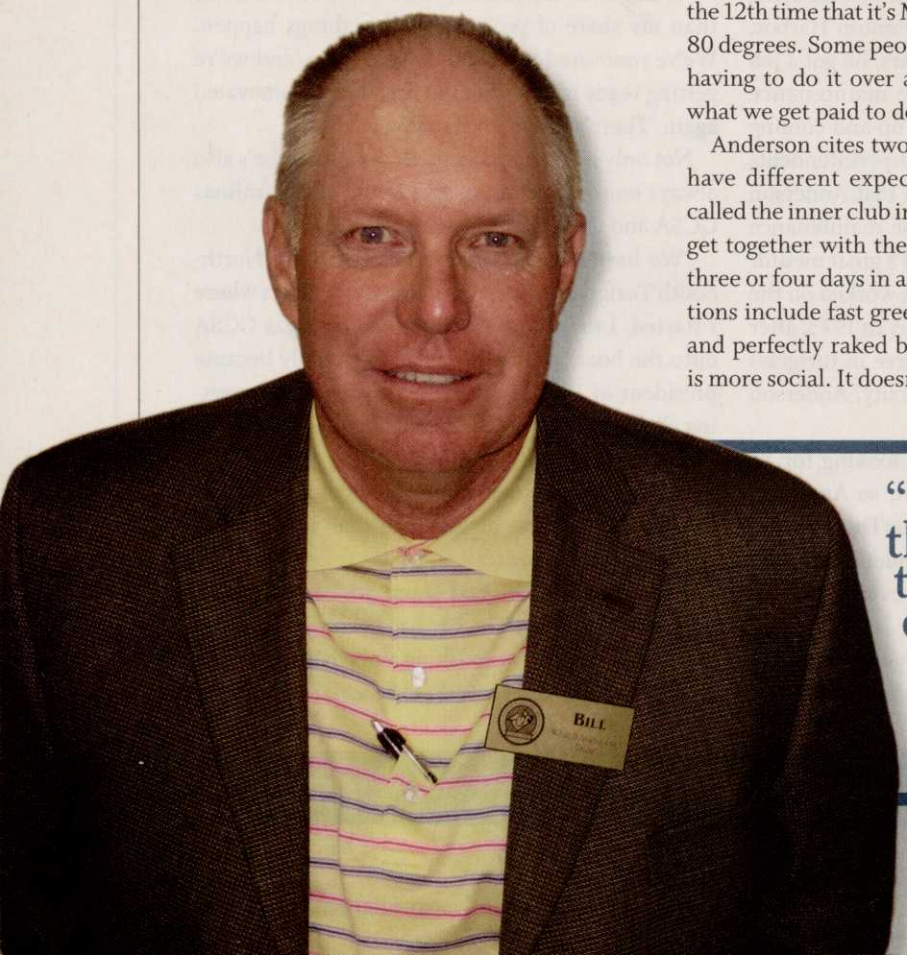
"That's kind of how we're judged," Anderson says.

One trend often discussed in the transition zone is courses replacing bentgrass greens with ultradwarf Bermudagrass greens because the ultradwarfs have improved. Anderson says there's much more bentgrass in North Carolina down to Charlotte, and Myrtle Beach is still probably more bentgrass than Bermudagrass. However, there's more interest in Bermudagrass.

"That question keeps coming up," he says. "I don't know if that's going to be answered right away. The basic concern is if we have a cold winter. We don't want to put all of our eggs into this new basket and then be disappointed. I don't know what the best choice is, but it has certainly been debated at every golf course."

An overriding theme throughout the country is golf course superintendents becoming better stewards of the environment and using fewer inputs on the golf course, whether it be pressure from environmental groups or within the profession itself. Anderson says superintendents, in general, want to be good stewards.

"We try to use as little as we can, but sometimes we don't have a choice," he says. "We try to use pesticides and fertilizers as safely



"I hope some of us that have been in this business for awhile appreciate the manufacturers and their equipment. No doubt our jobs are easier. We are asked to do more, but it's certainly easier to get there than it's ever been."

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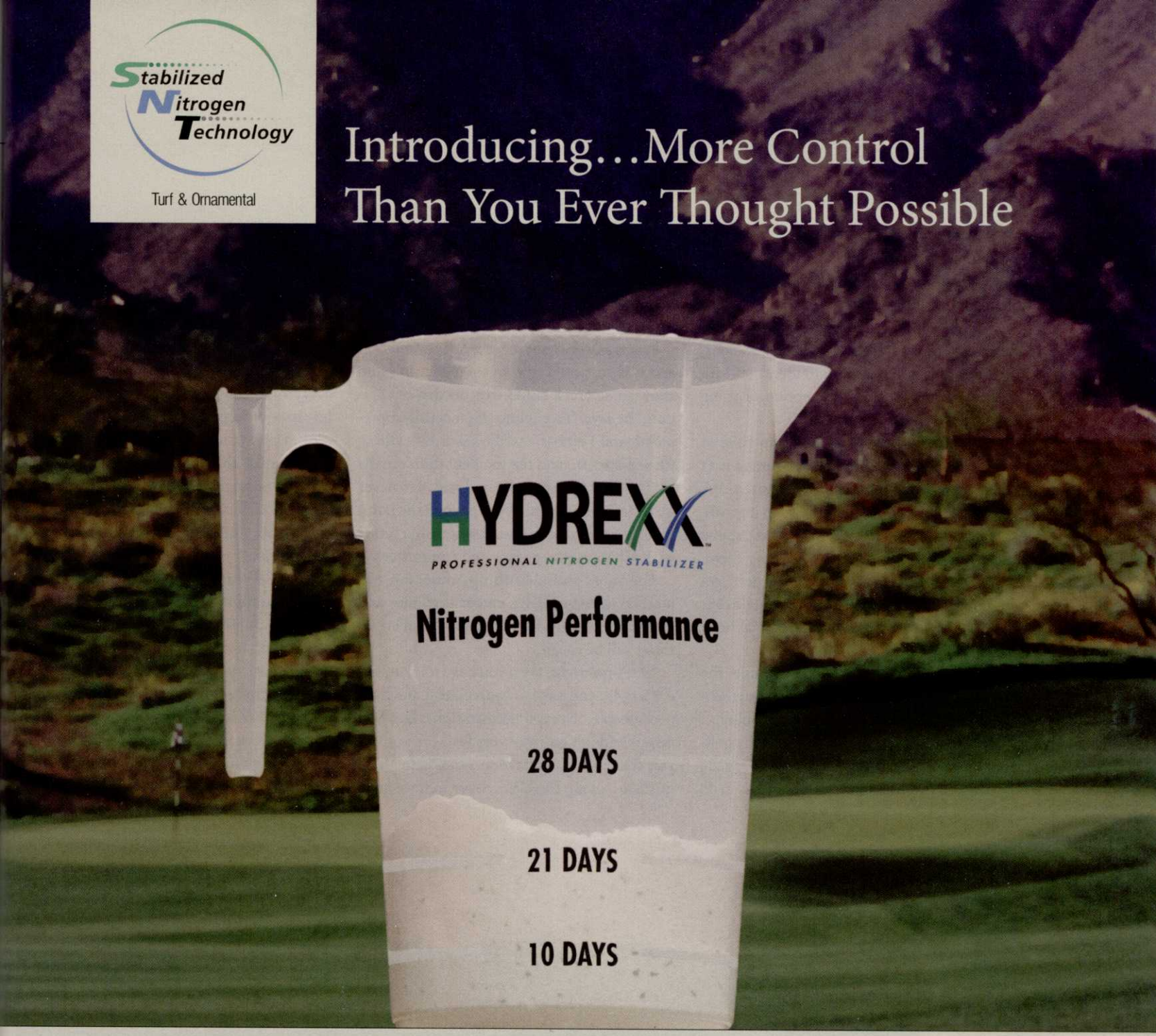

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and as carefully as we can. There's also a lot of money at facilities invested to take care of pesticide residuals, packaging, sprayer cleaning and that whole side."

Despite sound financial and agronomic reasons for not applying too many pesticides, fertilizer and water, superintendents still are faced with the negative perception of using too many of those inputs.

"That's something we're going to have to overcome," he says. "But that perception isn't the reality. Superintendents by nature think if they can save in one area they can improve in another. We're judged on how we spend those dollars, so if we're just wasting them, we don't get the things we want. We don't get anything by wasting these resources. It's in our best interest not to waste them. That has been the case more often than not."

On a broader scale, Anderson thinks the biggest problems facing the golf course management industry is the number of golfers.

"We have a lower number of wealthy golfers," he says. "We have to keep recognizing the ... need for more golfers. Everybody has to do their little part, but it's not easy because customers necessarily aren't spending much."

Throughout a long career, one learns a lot. And one certainly can learn from mistakes. Anderson says one sticks out in his mind.

"I was asked to put together a presentation and was supposed to take some pictures and show some creek banks that needed restoration," he says. "I went into this meeting unprepared, and I embarrassed myself. Everything turned out OK, and the incident didn't really hurt me, but from that day on I said, 'I'm never going to do that again.' I understood the point that I needed to be prepared when interacting with other people, groups and committees."

The most valuable thing Anderson has learned throughout his career is to hire and surround oneself with good people and everything will be easier.

"If it's not right, then you have to fix it, but if it's right, you have to appreciate it and have good people," he says. "Preparation is key. Our mistakes don't go away very fast. It's not like you start over. You have to work with those mistakes a long time. You have to have good turf. There's no one else that can cover for you because they don't know."

Throughout the years, Anderson has worked with many assistants and seen some commonalities among them. He says when they first start, they worry about the agronomic aspect of the job and are concerned they don't know everything they need to know about every fertilizer or fungicide.

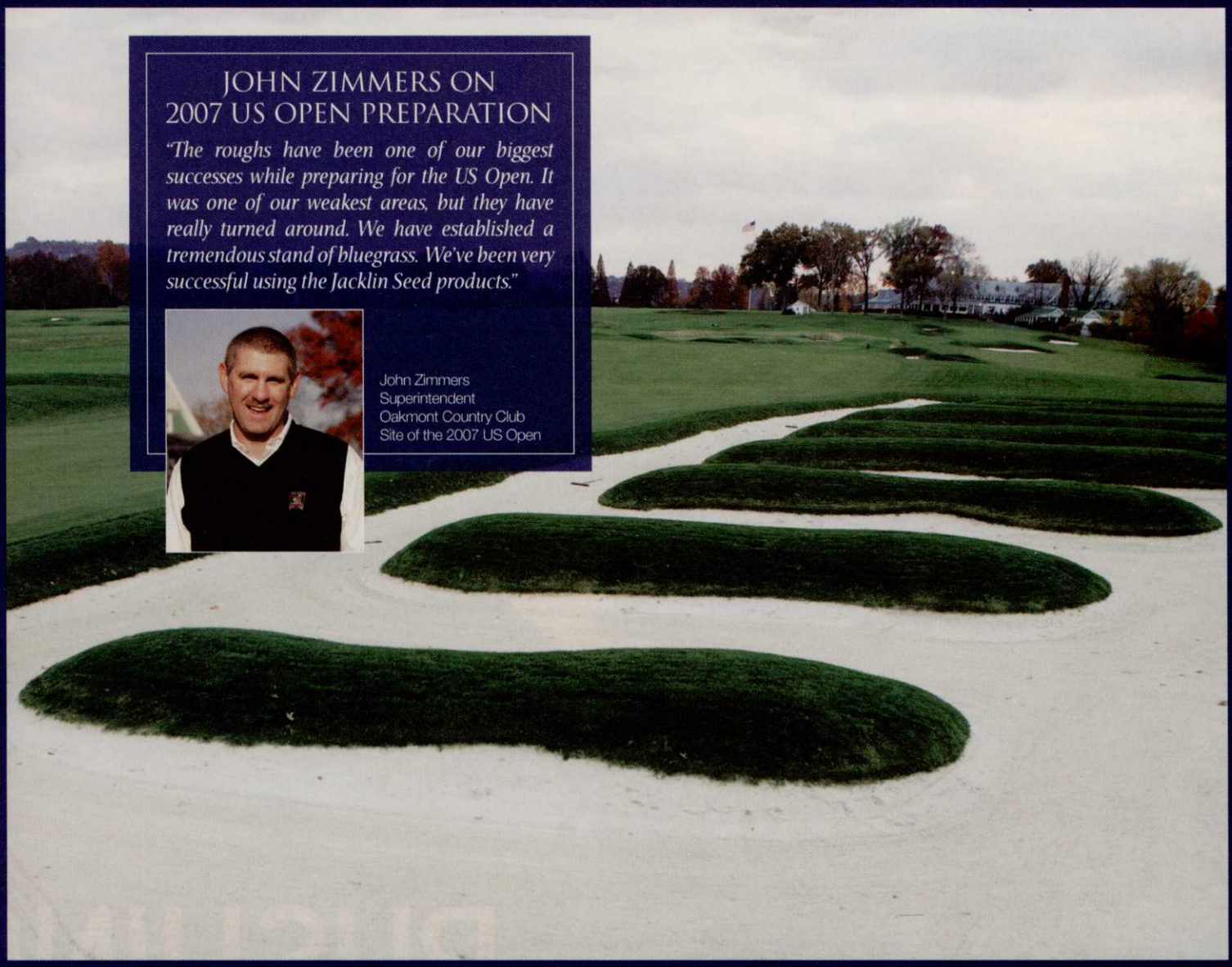
"But after they've been there for a while, they realize that's the easy part," he says. "It's the management of the people, the golfers and the members that take the time to develop the skills that really get them set for the next job."

After 34 years in the business, it's natural for one to think about life after a job and retirement. At 57, Anderson has thought about retirement, but hasn't set any time frame and doesn't anticipate doing so any time soon.

"I anticipate I'll stay right where I'm at," he says. "We have plenty of projects. I enjoy where I work and the people I work with. I'll just keep going because I have a little more time to do some things." **GCI**

Like many country clubs throughout the country, expectations at Carmel vary because of different groups. Managing those is an ongoing battle, Anderson says. Photo: Carmel Country Club

"WE HAVE A RESPONSIBILITY TO USE THE BEST SEED VARIETIES THAT WE CAN."



JOHN ZIMMERS ON 2007 US OPEN PREPARATION

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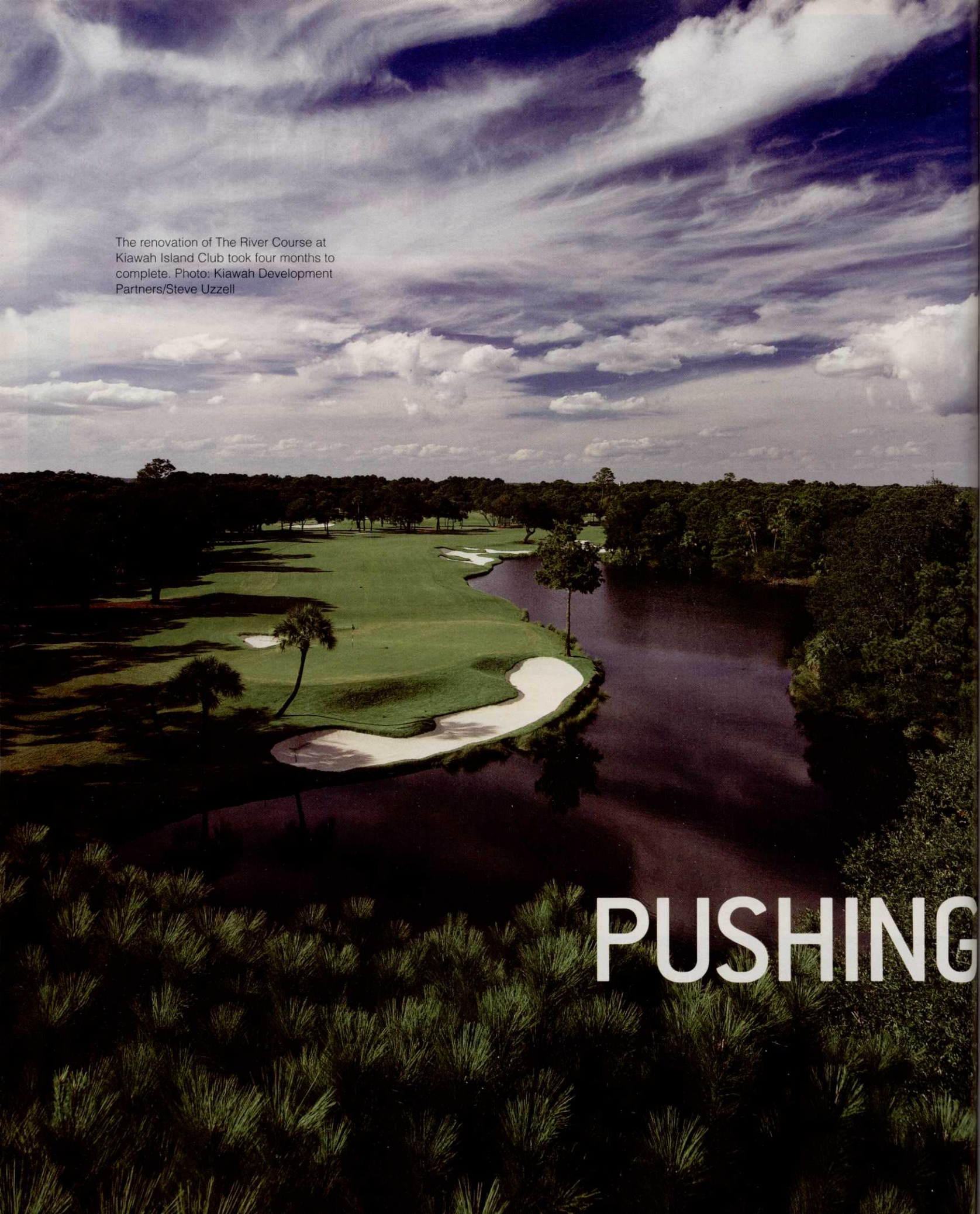

The renovation of The River Course at Kiawah Island Club took four months to complete. Photo: Kiawah Development Partners/Steve Uzzell

PUSHING

BY HAL PHILLIPS

THE ENVELOPE

NEW TURFGRASS USE, SCOPE OF WORK AND TIME FRAME MAKE RENOVATION PROJECT NOTEWORTHY

Like many private clubs in the South Carolina Low Country, The River Course at the Kiawah Island Club in Johns Island slows down considerably during the summer months. Many members head north, and, upon their return, can assume nothing much has taken place at their winter club between, say, the traditional season-ending member-guest tournament and the season-opening member-guest tournament. Out of sight, out of mind.

This was not the case, however, during the summer of 2006 when River Course superintendent Jim Musci undertook a massive renovation project – in the space of four months. In collaboration with contractor Frontier Golf, Fazio Golf Course Designers and Champion Turf, Musci oversaw the regrassing of every tee, fairway, collar and green; the complete rebuilding of two of those greens and the expansion of four others; the addition of a dozen new bunkers; the reconditioning of several waste areas; and, just for good measure, the rebuilding of every existing bunker.

"We closed down the course May 22, after the member-guest [tournament], and we reopened Oct. 1, for the season-opening member-guest [tournament]," says Musci, noting members weren't inconvenienced in any way by the course-altering activity. "We were on a tight time frame, but Frontier delivered – 3.5 acres of greens in 25 days, planting all the fairways in 10 days, then taking on the tees and bunkers."

According to Rich Abbott, president of Frontier Golf Southeast, there was actually a tropical depression during those 25 days and four days were missed.

"We had to push the fumigation back, so it was 21 working days," Abbott says. "But still, certainly the quickest [work] we've ever done. Daylight to dark every day, seven days a week, and we had light towers on site the first week in case we fell behind. We would've worked till midnight if we'd had to, but we were fully prepared.

"We had met several times prior, simply to work on the logistics of the project," he adds. "So we had all our ducks in a row. By noon the first day, we had three greens excavated out."

AGRONOMIC INNOVATION

The River Course project is notable not only for its time frame but for its agronomic innovation, or risk-taking, depending on the point of view. Once the greens work was completed (all 18 were regrassed with Champion ultra-dwarf Bermudagrass), Frontier directed the regrassing of all 18 fairways, every collar and every tee box with Emerald, a new greens-grade dwarf Bermudagrass from Champion Turf that had never been used on fairways and collars before.

The River Course, which is the original layout at Kiawah Island Club, is only 10 years old, but Musci says turf encroachment and mutations – the result of sustained overseeding – had begun to take their toll on definition and playability, especially in the transition and collar areas. What's more, several putting greens had shrunk from their original size, and shade had adversely affected turf health in certain areas.

"The grass had started developing off-types and was getting splotchy," Musci says. "It was time. We had talked with [Champion Turf] about Champion on the greens, but they said, 'Hey, what about this new grass for tees, collars and fairways?"

Musci, who's been in charge at the Tom Fazio-designed course since the day it opened in 1995, had another incentive to undertake major changes: The River Course will play host to the 2009 Mid-Amateur Championship, the first U.S. Golf Association event ever to be held at Kiawah Island.

So far, the Emerald has exceeded expecta-

> "Seeing that grass establish so fast and seeing the height of cut they were maintaining, it was like greens-grade grass in the fairway." - RICH ABBOTT

tions, Musci says.

"The color is fantastic, an emerald green, and the contrast with the 419 in the rough is really nice," he says. "We expected that, and we expected the playability to be an improvement. The members love it. The lower cutting height means better roll, and if you hit it off the fairway, the ball stops dead. It's a grass you can mow from three-eighths inch to one-eighth inch, down to putting quality. It has deeper roots than the ultradwarf, it's not thatching up as bad, it has better recovery from divots, and not as much [tender loving care] is required – topdressing, grooming and such."

Abbott, a veteran of grow-ins in the Southeastern United States, says this past July and August couldn't have provided better climatic conditions for the grow-in.

"It's unbelievable how fast the Emerald grew in," Abbott says, noting that Champion Turf c.e.o. Morris Brown personally oversaw the River Course project. "Champion sprigged it so heavy, it was almost like sodding the fairway. Seeing that grass establish so fast and seeing the height of cut they were maintaining, it was like greens-grade grass in the fairway."

Although Abbott is a proponent of Emerald, he says it's not for every club.

"There are very few people who have the maintenance power and staffing to maintain a grass like that year-round – between one-eighth and one-quarter of an inch, treating it like a green, all the walk-behind mowing required to keep the lower heights of cut on the tees and around the greens," he says. "Jim and his staff can handle it, but those are a lot of cultural practices that most clubs wouldn't be able to do."

GET IT DONE

In conjunction with these major agronomic changes, the designers at Fazio were brought back to make several strategic changes. Senior designer Andy Banfield, lead architect on the River Course project in 1995, explains it's not uncommon for Fazio to renovate courses it originally designs.

"We do it all the time," he says. "That's the nature of the business. The River Course isn't that old, but golf has changed dramatically during the past 10 years. There's the distance factor, for one, but there have been major industry improvements in grass types, maintenance techniques and standards. The competition is getting better. All these things factor into it."

Frontier dedicated a special crew to shadow Banfield and associate designer Bryan Bowers as they tackled the major redesign issues, which were:

- Repositioning the green on No. 1 closer to a lagoon;
- Expanding No. 4 green to create a new, back pin location, which brought an existing bunker more into play;
- Replacing the double greens on No. 5 with a single green complex, increasing the risk/reward values of the drivable par 4;
- Elevating tee boxes on No. 7 to provide a better view of the hole;
- Expanding the green on No. 8 to the right, bringing a pond more into play and replacing a portion of the waste area fronting the green with a formal bunker; and
- Restoring the green on No. 11 to its original size, expanding it back left and center, while replacing the waste area that had wrapped around the front of the green with a single pot bunker.

"On the putting green reconstructions, we cored the greens – literally built the greens up with native material so Andy Banfield could see what they looked like at finished grade – then cored it all out again and rebuilt them," Abbott says. "It's a delight to work with the folks at Fazio and Kiawah. Their priority isn't about price. Their priority is, 'Show me how we're going to get it done.'"

As an example, Abbott cited the cart paths that were renovated on the River Course.

"To execute a project of this magnitude, we used a lot of trucks," he says. "The sand company had two trucking companies on just to keep us in material. In the process of all this trucking, a lot of cart paths were damaged. So we fixed those we damaged plus all the others that had been damaged during the past 10 years."

AT A GLANCE
The River Course at Kiawah Island Club

Location: Johns Island, S.C.
Date construction began: May 22, 2006
Date project finished: Sept. 5, 2006
Date course opened: Oct. 1, 2006
Cost of project: $2.8 million
Course length: 7,119 yards
Golf course acreage: 125 acres (total turfed area: 95 acres)
Grass on greens: Champion ultradwarf Bermudagrass
Grass on tees, fairways and collars: Emerald dwarf Bermudagrass
Grass in rough: 419 Bermudagrass
Architect: Fazio Golf Course Designers
Builder: Frontier Golf
Golf course superintendent: Jim Musci
Owner: Kiawah Development Partners

The distance factor, better competition, and improvements of new grass types, maintenance techniques and standards were a few reasons for the renovation. Photo: Kiawah Development Partners/Steve Uzzell

Golf course superintendent Jim Musci oversaw the regrassing of every tee, fairway collar and green. Photo: Kiawah Development Partners/Steve Uzzell

STRIVE FOR PERFECTION

Additionally, there were dozens of other, smaller projects: a new fairway bunker on No. 13; a waste area on No. 9 that was lowered and recontoured to allow for better visibility, and all of the rebuilt bunkers, the faces of which were regrassed with Empire zoysiagrass.

"I've never worked on something of this scope in this time frame – never," Abbott says. "And I'd do it again tomorrow if I could work with this same group of people and if I had the same preparation time. Without the same level of coordination and this particular group of people in place, it never would have worked."

Abbott says Musci did a superb job.

"My hat's off to him," he says. "He was out there every minute of the entire project and during the grow-in. You never had to look for an answer to a question with Jim or the Fazio guys. They were there at all times striving for perfection."

Musci says it was just about the perfect project.

"We had rain when we needed it, but not too much," he says. "There were no washouts. And even with all the changes we made, Frontier just made every deadline. It was pretty amazing what they did in that small amount of time. You miss one day, and everything else down the line is messed up. But everything was on time." **GCI**

Hal Phillips is a freelance writer based in New Gloucester, Maine. He can be reached at onintwo@maine.rr.com.

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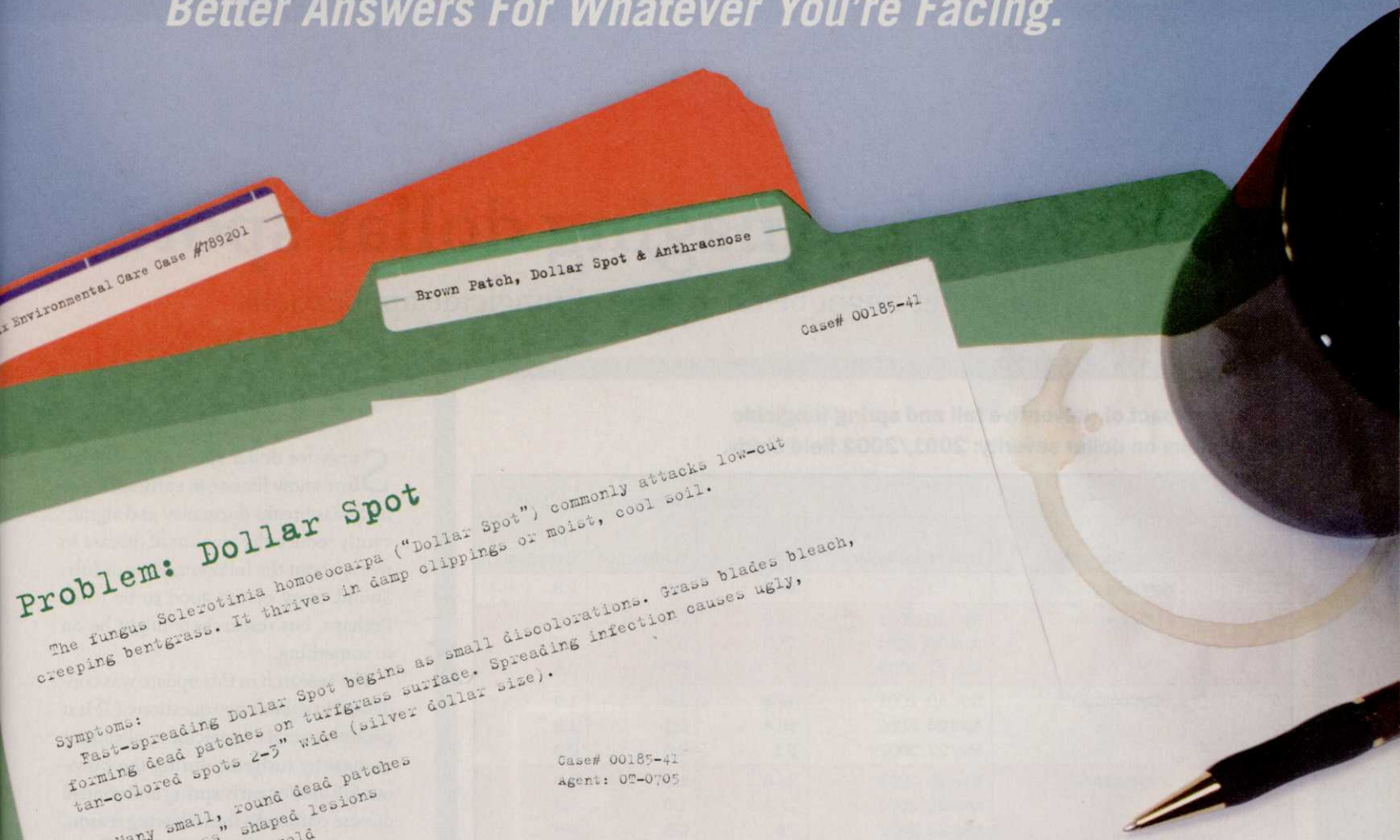

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3. Cobwebby white mold
4. Damaged putting greens

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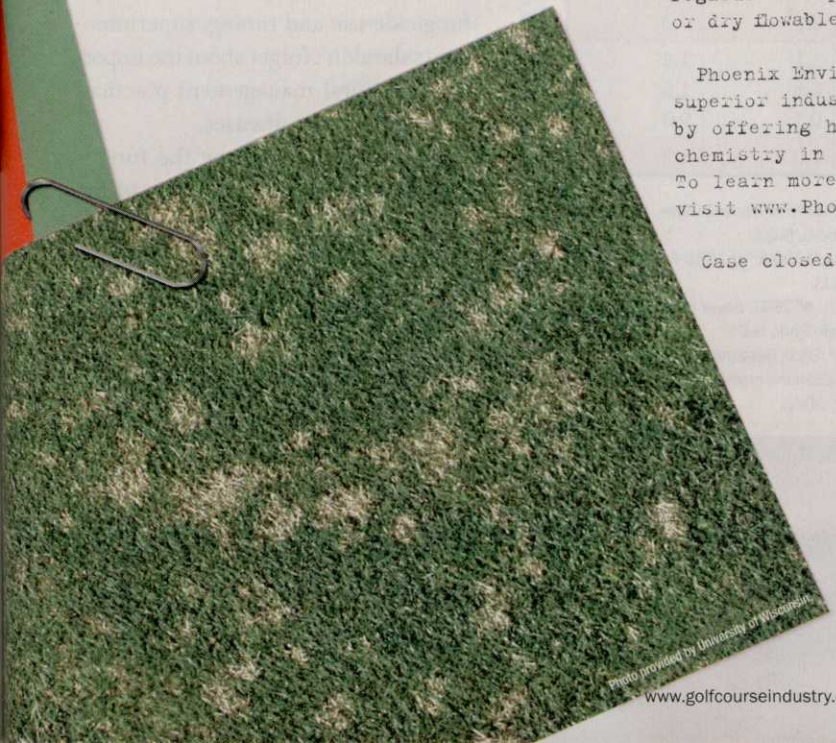

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BY MIKE BOEHM, JOE RIMELSPACH, AMY NIVER, YOUNG-KI JO & TODD HICKS

Tired of managing dollar spot?

The secret might be the timing of fungicide applications

Table 1. Impact of preventive fall and spring fungicide applications on dollar severity: 2001/2002 field study.

			Dollar spot infection centers/plot[a]		
Treatment	Fungicide applied	Date of application	OTF[b]	Wedgewood	Brookside
1	nontreated		46.3	1.6	2.8
2	propiconazole[c]	Nov. 10, 2001	24.3	0.8	1.6
3		April 26, 2002	21.3	0.5	1.9
4		May 22, 2002[i]	3.4	0.0	0.5
5	propiconazole[d]	Nov. 10, 2001	12.8	1.0	1.9
6		April 26, 2002	16.8	1.1	1.3
7		May 22, 2002[i]	6.1	0.6	0.0
8	chlorothalonil[e]	Nov. 10, 2001	53.8	1.0	2.8
9		April 26, 2002	27.5	1.0	2.3
10		May 22, 2002[i]	7.8	0.5	0.5
11	thiophanate-methyl[f]	Nov. 10, 2001	39.3	1.5	3.0
12		April 26, 2002	1.6	1.4	2.5
13		May 22, 2002[i]	0.5	0.6	1.6
14	iprodione[g]	Nov. 11, 2001	12.8	1.1	2.9
15		April 26, 2002	18.0	0.4	2.5
16		May 22, 2002[i]	0.5	0.1	0.0
17	BASF 505[h]	Nov. 11, 2001	16.3	1.1	1.8
18		April 26, 2002	25.0	0.8	1.6
19		May 22, 2002[i]	0.8	0.1	0.0
		$LSD_{(P=0.05)}$ =	9.1	1.0	3.2

a Dollar spot severity was rated on June 24, 2002 by counting the number of dollar spot infection centers (DSIC's) per plot. (4 replicates per treatment per location).
b Wedgewood = Wedgewood Golf & County Club; Brookside = Brookside Golf & Country Club; OTF = OTF Turfgrass Research and Education Facility.
c propiconazole (1.0 oz/1000 ft^2 Banner Maxx, Syngenta Crop Protection, Greensboro, N.C.).
d propiconazole (2.0 oz/1000 ft^2 Banner Maxx).
e chlorothalonil (3.2 oz/1000 ft^2 of Daconil Ultrex, Syngenta Crop Protection, Greensboro, N.C.).
f thiophante-methyl (2.0 oz/1000 ft^2 of 3336 F, Cleary Chemical Co., Dayton, N.J.).
g iprodione (4.0 oz/1000 ft^2 of 26GT, Bayer Environmental Science, Research Triangle Park, N.C.).
h BASF 505 (0.2 oz/1000 ft^2 (BASF, Research Triangle Park, N.C.).
i Preventive fungicide applications made every 14 or 28 days starting on May 22, 2002.

Spray for dollar spot in the fall before snow flies or in early spring as turfgrass breaks dormancy and significantly reduce the amount of disease to worry about the following June or July. Sound crazy or too good to be true? Perhaps, but researchers might be on to something.

The research in this update was conducted to answer two questions: (1) Is it possible to make fungicide applications on healthy turfgrass during the previous fall and/or early spring and control disease outbreaks the following season, and (2) if it's possible to deploy fungicides in this manner, when is the best time to make such applications."

This research is ongoing. Although the focus of this update revolves around fungicide use and timing, superintendents shouldn't forget about the importance cultural management practices have on turfgrass diseases.

Dollar spot, caused by the fungus *Sclerotinia homoeocarpa*, is one of the most economically important diseases of cool-season grasses. It's routinely cited as the most sprayed for turfgrass disease and typically tops the list of golf course diseases most difficult to manage. Although increased nitrogen fertility and cultural practices related to the removal of dew/guttation water

and the maintenance of adequate soil moisture can reduce the severity of dollar spot, fungicides are usually necessary to provide acceptable levels of management on most golf courses.

Concerns about the development of fungicide resistance and the environment, along with recently enacted restrictions on fungicide use, encouraged research into alternative approaches for managing turfgrass diseases.

To find new ways to manage dollar spot effectively while trying to minimize the development of fungicide resistance and extend the shelf life of registered fungicides, attention has turned to exploring the impact of fall and/or early spring preventive fungicide applications made to asymptomatic or healthy turfgrass. This work is an extension of an applied research program focused on the integrated management of turfgrass diseases and on the biology and ecology of *S. homoeocarpa*.

The information in this update represents the hard work of many individuals, including Rick Latin, Ph.D. and Bruce Clarke, Ph.D., two turfgrass pathology colleagues at Purdue and Rutgers Universities, respectively. The work wouldn't have been possible without the generous support of the Ohio Turfgrass Foundation, chemical companies and several forward-thinking superintendents in Ohio – Keith Kresina (The Golf Club in New Albany), Carl Wittenauer (Brookside Golf & Country Club in Columbus), Scott Schraer (Scioto Reserve Golf and Athletic Club in Powell), Joe Noppenberger Jr. (Wedgewood Golf & Country Club in Powell) and Todd Voss (Double Eagle Club in Galena).

Table 2. Impact of preventive fall and spring fungicide applications on dollar severity: 2003/2004 field study.

Application schedule		Disease severity[c]		
Fall[a]	Spring[b]	OTF	Brookside	Purdue
nontreated	not treated	153	39	14
	propiconazole[d]	2	20	1
	not treated	130	32	16
	chlorothalonil[e]	42	6	4
	not treated	146	33	11
	(propiconazole + chlorothalonil)	0	8	1
3 X (propiconazole + chlorothalonil)[f]	not treated	1	11	5
	propiconazole	0	1	1
	not treated	5	12	8
	chlorothalonil	1	3	2
	not treated	2	10	5
	(propiconazole + chlorothalonil)	0	1	1
1 X (propiconazole + chlorothalonil)	not treated	86	54	17
	propiconazole	1	7	2
	not treated	98	38	7
	chlorothalonil	11	17	2
	not treated	91	26	11
	(propiconazole + chlorothalonil)	0	14	1
$LSD_{(P=0.05)}$		32	17	6

a Single fall applications were made on 9/26/2003.
b Single spring applications of each fungicide treatment were made on 5/6/2004.
c Disease severity determined by counting the number of dollar spot infection centers (DSIC's) per plot area.
d Banner MAXX 1.0 fl oz/1000 ft^2
e Daconil Ultrex 3.2 oz/1000 ft^2
f Three combination applications (tank mixed) of both fungicides were made on 9/26, 10/17 and 11/7/2003.

THE EARLY YEARS

The first clue something significant was taking place with fall fungicide applications and dollar spot came about during several years when a residual or season-to-season carryover effect was occasionally observed from fungicide applications made in fungicide efficacy trials. Plots treated with fungicides labeled for dollar spot occasionally looked clean or had reduced disease the following spring and summer. Initial observations were made on plots treated with the demethylase inhibitor fungicides, propiconazole and triademefon. When this work was repeated on a calendar-day basis, results were sporadic.

FALL 2001 TO SUMMER 2002

In fall 2001, Ph.D. student Young-Ki Jo established replicated field plots on fairways at Wedgewood, Brookside, and the OTF Turfgrass Research and Education Facility, also called the OSU Turfgrass Facility.

Treatments in this study included single fall (either Nov. 8, 9 or 16, 2001 depending on the location of the plots) and single spring (April 26, 2002) applications of propiconazole (two rates used – 1.0 ounce of Banner

Helpful hints

Recommendations for making fall and/or early spring fungicides to help manage dollar spot

- **Know what fungicide(s) work against dollar spot on your golf course.**
- **Apply an effective dollar spot fungicide after the second mowing in the early spring. Leave an adequate number of check plots so you can gage the impact of the application.**
- **Consider applying an effective dollar spot fungicide application in mid- to late-fall, about six weeks prior to when mean daily low temperatures range from 20 to 30 degrees F for one week.**

Maxx from Syngenta per 1,000 square feet and 2.0 ounces of Banner Maxx per 1,000 square feet), chlorothalonil (3.2 ounces of Daconil Ultrex from Syngenta per 1,000 square feet), thiophanatemethyl (2.0 ounces of 3336 F from Cleary per 1,000 square feet), iprodione (4.0 ounces of 26GT from Bayer per 1,000 square feet) and an experiment compound (0.2 of an ounce of BASF 505 from BASF per 1,000 square feet).

In addition to these single applications, preventive applications of each fungicide were made every 14 or 28 days according to label recommendations starting May 22, 2002. All fungicide treatments were applied with a hand-held, CO_2-powered boom sprayer using 6503 TeeJet nozzles at a pressure of 40 psi, (water equivalent to 2.0 gallons of water per 1,000 square feet). A nontreated control was also included.

Dollar spot symptoms first were observed in the nontreated control plots at the OSU Turfgrass Facility May 23, 2002. Dollar spot severity was rated every two weeks by counting the number of dollar spot infection centers per plot between May 23 and July 23, 2002. Differences in disease severity among treatments were assessed via analysis of variance using PROC GLM of SAS (SAS 9.1; SAS Institute in Cary, N.C.). Differences among treatment means were determined using Fisher's protected least significance difference at P equals 0.05. Although differences existed at multiple rating dates, only results from the June 24, 2002 rating date are highlighted in the update (Table 1).

Dollar spot severity was significantly greater at the OTF Turfgrass Facility compared to either golf course. In general, the greater the disease severity, the more dramatic the results, visually and statistically. As anticipated, dollar spot was significantly less severe in plots receiving preventive applications of the fungicides on a regular interval (i.e., treatments four, seven, 10, 13, 16 and 19). At the OSU Turfgrass Facility, where the dollar spot is sensitive to all fungicides, all treatments, except the single fall applications of chlorothalonil and thiophanatemethyl, effectively reduced dollar spot the following

Impact on the business

Research might cause change in timing, number of fungicide applications BY JOHN WALSH

It's no secret superintendents are a hard bunch to convince. Keith Kresina, golf course superintendent at The Golf Club in New Albany, Ohio, and Carl Wittenauer, CGCS, at Brookside Golf & Country Club in Columbus, Ohio, are no exceptions.

The two superintendent, among others, are working with Mike Boehm, Ph.D., of the Ohio State University's plant pathology department on dollar spot research. Boehm is trying to pinpoint a certain time in the fall when superintendents should apply fungicides to suppress dollar spot the following season. Although Kresina and Wittenauer haven't changed their fungicide application programs much based on Boehm's research so far, they think he's on to something.

Kresina and Wittenauer hadn't heard of spraying for dollar spot in the fall before working with Boehm.

"I was doing the opposite of what Mike was suggesting," Kresina says. "The thought was there was no reason to put something down until signs of dollar spot appeared, which wasn't until the spring. But by October, it was very difficult to control. The fact that it was lasting that long was crazy. It wasn't making sense. When I talked to Mike, I wasn't sure where he was going, but it seemed logical."

Wittenauer had suspicions.

"I'm a PCNB user for snow mold, and I've always questioned whether there was some benefit to that fall spray in the following spring," he says. "There seemed to be some correlation."

Kresina says superintendents in the Cleveland area spray for snow mold, and if they're using a fungicide that's effective for dollar spot control and they hit a certain window, they probably didn't see dollar spot in the spring. However, they didn't know they were suppressing dollar spot with the fungicide application for snow mold.

FIELD ASSESSMENT

At The Golf Club, Boehm's research is being done on the tee end of a fairway. Kresina leaves one-third of the fairway untreated and two-thirds treated, which he marked.

"When you take a study and put it on a golf course, then it becomes real world," he says. "Mike didn't give me any restrictions except putting down fungicides (in a certain area). It's interesting to see results from not applying fungicides, one application, two applications, three applications and four applications."

Kresina says the most difficult part of the research is pinpointing exactly when the fall applications should be applied.

"I can't spray all through the fall and spring because we'll go broke," he says. "We need to pinpoint two times in the fall for effectiveness in the spring."

But temperatures have impacted the results of the study negatively.

"In the fall of '03, Mike nailed it, but the following years, the weather was different, and the results weren't consistent," Kresina says.

Kresina says there are things in the fall – such as wet weather, which causes muddy turf conditions, and aerification – that can make it difficult to apply fungicides. And adding fungicide applications in the

season. On average, the reduction of dollar spot severity was about 50 percent – better in some cases. Although significant from a scientific standpoint, this level of disease suppression wouldn't likely be considered commercially acceptable to most golf course superintendents. One month later, on July 22, treatments three through seven, 10, 12, 13, 16, 17 and 19 continued to have significantly less dollar spot than the nontreated controls. (Data not shown.)

The results from the study clearly revealed single fall and early spring preventive applications of fungicides significantly reduced dollar spot severity the following season.

FALL 2003 TO SUMMER 2004

In September 2003, Amy Niver, a master's degree student, and Mike Boehm, Ph.D., designed two follow-up studies as a continuation of the study conducted by Young-Ki Jo. Latin joined at this time. There were 18 treatments in the first 2003/2004 study. A detailed list of the treatments used in the experiment is listed in Table 2.

The first six treatments weren't treated with any fungicide in fall 2003. The second six treatments received three applications of a combination or tank mix of chlorothalonil (3.2 ounces of Daconil Ultrex per 1,000 square feet) and propiconazole (1.0 ounce of Banner Maxx per 1,000 square feet) on Sept. 26, Oct. 17 and Nov. 7, 2003, respectively. The last six treatments received a single application of the chlorothalonil/propiconazole combination Sept. 26, 2003.

The thinking behind this approach was to have the turfgrass going into winter with different levels of pathogen activity, not necessarily disease. Specifically, the hypothesized dollar spot fungus would be the least active in the plots sprayed with the three applications of fungicide, active in the nontreated plots and somewhere in between in plots receiving only one application of fungicide. Latin confirmed suspicions by having a mild dollar spot epidemic late in fall 2003 and was able to document (data not shown) that disease pressure was moderate in the nontreated plots and absent in all plots that received any type of fall fungicide application.

On May 6, 2004, a single application of Banner Maxx, Daconil Ultrex or a combination of the two as described above was applied to half the plots. The goal was to overlay the treatments imposed in fall 2003 with an early spring preventive application. Another such application was intended to be made on the other half of the plots later in May, however, central Ohio and much of the Midwest and East was hit with a serve dollar spot epidemic about May 8. Because the intent of the study was to evaluate the impact of preventive fungicide applications on dollar spot, it was decided not to make these late May applications.

Each treatment was replicated four times per location. The experiment was performed simultaneously at three locations – the OSU Turfgrass Facility, Brookside and the Purdue University Turfgrass Research and Education Center in West Lafayette, Ind. (Data not shown.)

The results of this study supported early findings in that fall and spring applications of fungicides significantly reduced disease

spring is difficult because one has to fight the wind and rain, which can prevent fungicides from being applied to the target effectively.

"The way you deliver the fungicide to turf is important," he says. "I'm now using more water – 2 gallons per thousand square feet – and a tapered, flat fan nozzle. Using more water seems to be effective. Guys were cutting back on the amount of water used to stay ahead of play."

Kresina says applying fungicides in the fall might be easier than in the spring because springtime is when many superintendents are finishing winter projects and applying herbicides and insecticides.

Among the plots at Brookside, some were clear of dollar spot through June with the fall applications. For Wittenauer, the fall fungicide application for dollar spot would add another application or two to his program. He says his average fairway application is between $3,500 to $5,000.

"Mike had good results with two and three applications," he says. "He has real impressive plots – clean into July compared to the check plots that were covered with dollar spot. However, the idea is to eliminate some sprays in the spring, but that depends on the facility, budget and management."

Wittenauer, who runs a strict preventive program, hasn't changed it yet because of Boehm's research.

"I'm always a proponent of getting after it early before you see it," he says. "Get ahead of it early in the spring if you can't make the application in the fall."

Wittenauer says the spray season is longer than it used to be. Ten to 15 years ago, he wouldn't spray before May 15. Now he's starting to spray at the end of April, and the dollar spot season has extended to mid- or late October, spraying every two weeks. He says he's spraying earlier in the spring, but not in the fall because of his budget.

"Mike still has a lot of timing questions that need to be answered," he says. "I'm looking for more definitive research. But in the meantime, I'll still go through mid-October with fungicide applications for dollar spot, but I'm not fighting it as much in summer from a curative standpoint."

Kresina suggests superintendent conduct research on their own.

"If you really want to see this work, you need to have some areas where you don't spray fungicides," he says. "Leave an area unsprayed and tell membership you're making sure fungicides work, that's why we have dead grass."

FUTURE OPPORTUNITIES

But the magical question remains: Is it worth it to spray and spend the extra money?

"I don't know if I'm looking to save money, but I'm looking for a better use of the product and a better fairway," Kresina says. "I don't know if the results of the study will reduce the need for applications in the spring, but hopefully Mike nails this down, and we treat dollar spot like crabgrass," he adds.

"I don't see a huge difference in spraying in the fall as opposed to spraying early in the spring," Wittenauer says. "Right now, there are too many variables to convince me of the extra spray in the fall. As superintendents, we're looking to save money and be environmentally conscious, and still meet members expectations. This is a new area of dollar spot control, and time will tell. If we can apply fungicides in the fall and not see dollar spot until June or July, everyone will do it." GCI

the following season (Table 2). Three fall applications of chlorothalonil and propiconazole were extremely effective at reducing dollar spot to commercially acceptable levels the following spring. At the OSU Turfgrass Facility, where disease pressure was high, even a single fall application of this fungicide combination significantly reduced disease by about 40 percent. The impact of single fall fungicide applications at Brookside and Purdue were less striking given the overall lower disease pressure at these locations (Table 2). Not surprisingly, the single May 6, 2004 fungicide applications, applied immediately prior to the outbreak of dollar spot, were effective at reducing this disease.

In addition to the study just described, a second replicated field study was conducted in Columbus at two locations – OSU Turfgrass Facility and Brookside. In this study, single applications of propiconazole (1.0 ounce per 1,000 square feet), chlorothalonil (3.2 ounces per 1,000 square feet) and a tank mix of the two fungicides (same rates) were made to asymptomatic turfgrass every two weeks throughout fall 2003 and spring 2004. Disease was rated the following season as described above. This study was located adjacent to the other 2003/2004 study. The same preparations of fungicides, spray equipment and applicator was used, allowing the results of the two studies to be compared to one another.

Biweekly fungicide applications were made in fall 2003 starting Sept. 26 and ending Nov. 21, 2003. Unfortunately, applicator error resulted in an overspray of the chlorothalonil and propiconazole combination treatment plots Oct. 10 and 24, resulting in a double application of fungicides on the plots. Biweekly applications resumed during the spring of 2004 on April 9 and concluded May 20. All applications were made to asymptomatic turfgrass as described previously. A nontreated control was included as a means to assess the efficacy of all fungicide timing treatments.

Table 3. Impact of the timing of spring and fall fungicide applications on dollar spot severity – 2003/2004. Treatment boxes significantly reduced dollar spot severity in May and June 2004.

Fall 2003 applications	
Tmt	Description
1.	Nontreated
2.	Banner Maxx - 26 Sept. 2003
3.	Daconil Ultrex - 26 Sept. 2003
4.	Banner Maxx/Daconil Ultrex - 26 Sept. 2003
5.	Nontreated
6.	Daconil Ultrex10 Oct. 2003
7.	Banner Maxx - 10 Oct. 2003
8.	Banner Maxx/Daconil Ultrex - 10 & 24 Oct. 2003
9.	Daconil Ultrex - 24 Oct. 2003
10.	Banner Maxx - 24 Oct. 2003
11.	Banner Maxx/Daconil Ultrex - 7 Nov. 2003
12.	Daconil Ultrex - 7 Nov. 2003
13.	Banner Maxx - 7 Nov. 2003
14.	Nontreated
15.	Daconil Ultrex - 21 Nov. 2003
16.	Banner Maxx - 21 Nov. 2003
17.	Banner Maxx/Daconil Ultrex - 21 Nov. 2003

Spring 2004 applications	
Tmt	Description
18.	Daconil Ultrex - 9 April 2004
19.	Banner Maxx - 9 April 2004
20.	Banner Maxx/Daconil Ultrex - 9 April 2004
21	Daconil Ultrex - 22 April 2004
22.	Banner Maxx - 22 April 2004
23.	Banner Maxx/Daconil Ultrex - 22 April 2004
24	Banner Maxx - 20 May 2004
25.	Daconil Ultrex - 20 May 2004
26.	Banner Maxx/Daconil Ultrex - 20 May 2004
27.	Daconil Ultrex - 20 May 2004
28.	Banner Maxx - 20 May 2004
29.	Banner Maxx/Daconil - 20 May 2004
30.	Nontreated
31.	Nontreated
32.	Banner Maxx/Daconil Ultrex - 6 May 2004
33.	Daconil Ultrex - 6 May 2004
34.	Banner Maxx - 6 May 2004

Dollar spot severity was assessed throughout May and June 2004 and the data analyzed as described previously.

The results of this study are shown in Table 3. The statistical coding was removed to simplify the figure. Boxes were placed around those fungicides and application dates that significantly reduced dollar spot severity. In general, the results of this study support the findings of the other studies highlighted in this update – i.e., fall and spring fungicide applications made to asymptomatic turfgrass can significantly reduce dollar spot severity the following season.

What's new and interesting about the results of this study, however, is that for the first time, important insights are gained as to when such applications should be made. In regards to the timing of fall applications, there was a clear window of timings – mid-October 2003 – that correlated to reduced dollar spot severity in May – June 2004. Applications made on Sept. 26 weren't effective. Similarly, applications made in November weren't effective. The data for the spring is equally interesting because it shows even applications as early as April 9, 2004 were effective at bringing about a reduction in dollar spot later in the same season.

Considering prevailing mean daily high and low temperatures for Sept. 1 through Nov. 31, 2003 (data not shown), the two effective fungicide applications were made in

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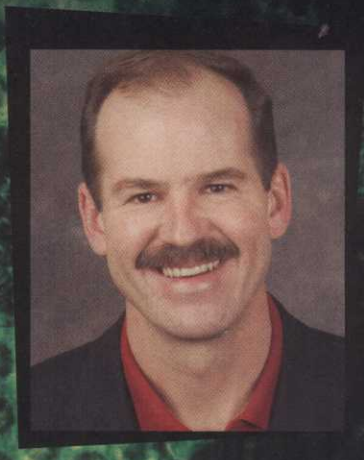

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mid-October. The point is to highlight the weather trends surrounding these two effective mid-October fungicide applications. As discussed above and shown in Table 3, applications made before or after this window were ineffective at suppressing dollar spot the following season.

Why this is the case is the focus of several ongoing studies. One explanation is that the dollar spot pathogen might be especially sensitive to fungicides at this time of the year. Lower pathogen populations going into the winter mean lower populations going into the spring and a longer time required for the pathogen to reach damage or disease-causing levels. If this is true, this could explain why the Sept. 26 and November applications weren't effective.

For example, even though it's known when dollar spot symptoms tend to show up and disappear, turfgrass pathologists don't have a good idea as to what, if anything, the dollar spot pathogen is doing in turfgrass or thatch when not causing disease. It's not known when the pathogen goes dormant or when it wakes up. It could be possible the September applications were ineffective because the pathogen, although temporarily inhibited by the fungicides, had the opportunity for its populations to rebound before winter.

Along this same line of thinking, the November applications might not have been effective because the pathogen had already hardened off or went dormant for the winter at the time the fungicides were applied, thus having no impact on the population dynamics of *S. homoeocarpa*. Since the tools needed to monitor populations of *S. homoeocarpa* in turfgrass aren't available, everything shared about why fall applications do or don't work is conjecture. Alternative possibilities exist. The study was repeated at multiple locations last season.

PCNB'S INFLUENCE

Additionally, a Penn State pentachloronitrobenzene study reveals insights about the timing of fall fungicide applications. The aforementioned findings were shared with Peter Landschoot, Ph.D., from Penn State University. He thought about a study he and his colleagues published in 2001 that related to the nontarget effects of PCNB on putting greens. The study was initiated in 1996 and ran four consecutive seasons.

What's new and interesting about the results of this study, however, is that for the first time, important insights are gained about when such applications should be made.

The main goal of the study was to determine the influence of two PCNB formulations applied at different rates and intervals on foliar discoloration, nontarget diseases (to include dollar spot) and *Poa annua* encroachment. Specifically, they compared the impact of single and multiple late fall, winter and early spring applications of PCNB, as well as a single late fall application of iprodione/chlorothalonil combination treatment and a nontreated control. All liquid applications were made using a 2-gallons-per-1,000-square-feet spray volume. They didn't have significant dollar spot pressure in 1997 or 1999, so they couldn't collect dollar spot data in these years. However, they were able to collect such data in 1998 and 2000.

They found the single fall application of iprodione and chlorothalonil in their study had a significant impact on dollar spot severity in 2000 but not in 1998. Their data from fall 1999/spring 2000 in this study echoed OSU's findings regarding the efficacy of fall applications. However, like OSU's early work that yielded sporadic results, PSU's observations from fall 1997/spring 1998 didn't. The weather was the reason for the sporadic results.

Mean daily high and low temperatures were recorded from Nov. 1 through Dec. 31 for fall 1997 and 1999 for Landschoot's study. The dates of the fall iprodione and chlorothalonil applications were made Nov. 21 1997 and Nov. 23 1999, respectively. Although there were only two calendar days separating the dates of the applications in 1997 and 1999, significant differences in the mean daily low temperatures were present at the times when these applications were made – cold in 1997 and warmer in 1999. Do weather patterns going into the winter influence the impact of fungicides on dollar spot? Does the dollar spot pathogen harden off for the winter, thereby becoming insensitive to fungicides? The jury is still out on these questions, but the observations and results collected to date might help lead to the answers – and many more questions.

CONCLUDING THOUGHTS

Several of the 2003/2004 studies were repeated in 2004/2005 and yielded similar results. Additional studies also were conducted using additional fungicides – at university research facilities and on golf courses. Most of these studies were repeated in 2005/2006 given the weather patterns. Only time will tell regarding the research's impact on the ability to manage dollar spot and perhaps other diseases. GCI

The authors work in the department of plant pathology at The Ohio State University in Columbus.

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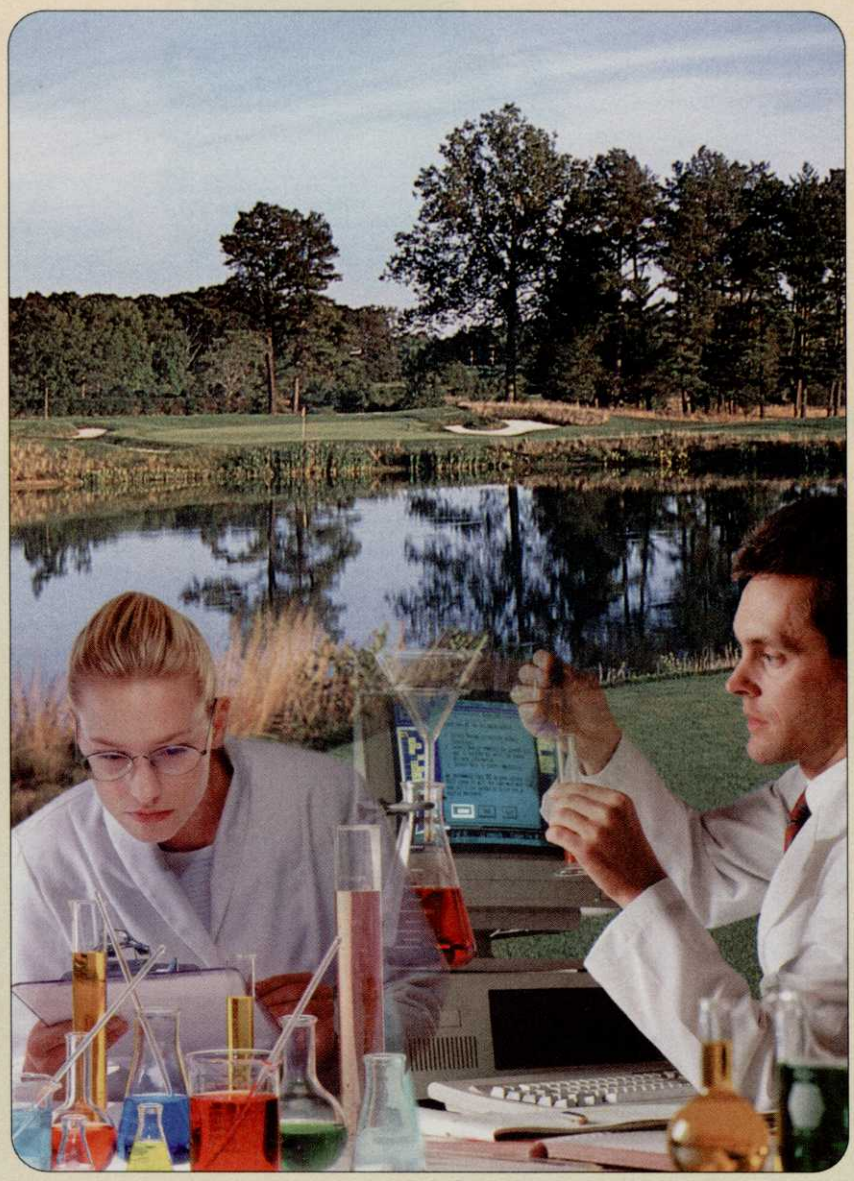

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Research

Because water availability is becoming one of the most serious problems affecting the population, more golf courses are using reclaimed water to irrigate turf. Photo: Toro

BY ANNA BOTTA AND RAFAEL PIÑOL, PH.D.

Minimizing damaging effects

Amino acid-based products positively influence low-quality golf course irrigation water

Water availability is one of the most serious problems affecting the world population, especially in arid and semiarid regions where long droughts can jeopardize development. Because of this increasing concern, water management for irrigation has evolved to optimize this resource for agriculture. For more and more golf courses, this evolution has led to the use of reclaimed water.

However, if the advantages of using recycled water are clear from a conservation perspective, the suitability of the water for irrigation purposes can be a nightmare for golf course superintendents. The extra chemical components and heavy metals in the water can damage the turfgrass, requiring more management of the water, soil and plant. (Y.L. Qian 2005)

Water quality depends on the type and concentration of substances in it. In most cases, reclaimed water contains a high dissolved salt content that potentially can be toxic to turfgrasses (R. Emmons 2000). These salts are generally chlorides of sodium and magnesium, sulphates and bicarbonates of calcium and magnesium, sodium carbonate, nitrates, ammonium, etc.

Basically, the buildup of salinity in the root zone can affect the turf performance in four critical manners (R.R. Duncan 2000):

- High salt concentrations generate low soil water potentials, leading to a drought stress that reduces the ability of plants to absorb water and nutrients. In this condition, turfgrass exhibits typical symptoms of drought stress (growth inhibition, photosynthesis reduction, desiccation) while the soil still appears moist.
- There are ions that cause specific ion toxicity. They include Na+, Cl-, $CO_3$2-, HCO_3-, pH (H+ and OH- ions) and heavy metals.
- The presence of a high amount of some substances in proportion to others can induce nutrient imbalances inside the plant.
- High sodium concentrations might alter the structure of soils because of the so-called sodium permeability hazard.

Symptoms of turfgrass affected by high salt concentrations include:

- growth reduction by inhibiting physiological processes such as nutrient uptake and assimilation;
- loss of color due to degradation of pigments like chlorophylls (e.g., yellowing, browning or purpling);
- wilting caused by the loss of water availability;
- leaf curling, and;
- leaf firing or desiccation (M. Huck 2000).

One of the classic methods that superintendents use to minimize salinity stress is to excessively irrigate to leach the salts. Also, it's important to strictly control the nutrients that the course receives through fertilization and not compound the problem. For this reason, constant soil and water analyses must be conducted in order to have updated information about turf conditions.

MITIGATING SALT DAMAGE

Yet, turfgrass salt damage can be mitigated by amino acids, which are the precursors of proteins and, either solely or conjointly, play a role in numerous biological processes. Some of their functions include the stimulation of root development, stomata opening and cell membrane permeability.

By using reclaimed water, which has high salt content, the buildup of salinity in the root zone can effect turf performance. Photo: Rain Bird

Amino acids also are precursors of hormones, nucleic acids and other important organic compounds such as chlorophylls. They play a role in osmoregulation, and some of them have complexing capacity with metal nutrients. Additionally, they have a function in the protection of cellular macromolecules and as scavengers of free radicals because of the antioxidant activity of some (M.M.F. Mansour 2000).

Because of their diverse functions, the additional application of amino acids is a complement for plants to save energy for their production and acts as a biostimulant of physiological processes.

The application of amino acids might be particularly helpful under stressful situations, when maximizing energy conservation, reduc-

The advantages of using reclaimed water are clear from a conservation standpoint but can be a nightmare for golf course superintendents. Photo: Toro

ing water loss and using reserves to maintain vital functions as part of the defense mechanism of plants. This becomes true especially in the case of salt stress (V.K. Ray 2002).

For preventing drought stress caused by the high salt content, plant resistance to salinity strongly depends on its osmotic regulation capacity at a cellular level. This regulation is mediated by the accumulation of amino acids and other compatible solutes, which helps to retain water inside the cell and prevents the dehydration of the entire plant (C. Di Martino 2003).

On the other hand, the complex capacity of amino acids can help the soil to retain nutrients (particularly mobile ions such as potassium, magnesium, nitrate, iron and manganese), otherwise lost by frequent leaching (H.D. Aschmead 1986). This complex capacity also is useful with the undesirable presence of any heavy metal in a high amount. Amino acids can buffer their flux by chelating them, which can prevent the heavy metal toxic effect (S.S. Sharma 2006).

However, one of the most harmful effects caused by salinity is probably due to the high concentration of sodium. Excess sodium is likely to cause damage in the soil structure and inside the plant. In the case of soil damage, sodium can displace potassium and calcium from soil exchange sites. Calcium ions are the building blocks that enhance the structural integrity of the clay fraction in the soil profile, hence its loss causes clay dispersion and, consequently, poor soil aeration (R.R. Duncan, 2000). That's why it's necessary to have an application of a calcium source in soils affected by salinity.

Additionally, once inside the plant, a high proportion of sodium can displace calcium in the cell walls and membranes of root tissues and cause root deterioration. In these situations, cells' contents often start to leak; above all, a potassium leakage occurs (M. Huck 2000). Considering potassium's high mobility and its propensity of loss, a regular potassium application might also be needed to maintain a nutritional balance in the turf plant (R.R. Duncan, 2000).

Because of the special requirements of salinity-affected turf, the application of potassium or calcium along with amino acids also can be beneficial thanks to the aforementioned properties of amino acids. In fact, numerous field trials have shown that the application of amino acids enhances the uptake and mobility of macronutrients, probably because of the stimulation of membrane permeability and root development under salinity conditions.

However, perhaps the most appreciable aspect of the effects of an amino acid-based product application refers to the visible part of the turf plant. One of the greatest concerns of golf managers is probably green color loss of the turfgrass. Environmental stresses such as salinity, drought, cold, heat and so on can cause a physiological imbalance inside the plant, which leads to an oxidative stress.

In these cases, organic cellular structures start being destroyed as a result of potent "reactive oxygen species" that induce the degradation of chlorophylls (yellowing), for example, and the reduction of photosynthesis. In these cases, the plant resorts to amino acid reserves in order to synthesize new proteins and metabolites that will alleviate the oxidative damage and recover the photosynthetic machinery (A. Kumar 2005).

ADD TO FERTILIZATION

In conclusion, on top of the already well-known practices that golf course superintendents implement to minimize the impact of salinity and nutrient imbalances caused by irrigating with recycled water, amino acid-based products can be excellent tools to help turf withstand the stress caused by this practice. Amino acid reserves will allow the plant to overcome stress and provide energy for growth or survival under modified conditions.

However, because of the difficulty in recovering from salinity damage once turf begins to deteriorate, it will always be best to approach the problem before damage is visible. That's why the application of an amino acid-based product is recommended in a fertilization program as a supplement for turf maintenance and as well as a precautionary measure in case of any incoming stress circumstance. GCI

The authors are members of the research and development team at Bioiberica, a Barcelona, Spain-based research company specializing in biochemical molecules and active ingredients for various industries.

Superintendents can use rotors specifically designed for use with nonpotable water. Photo: Rain Bird

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Making the most of water shortages

Water availability is a growing threat to all golf courses throughout the country. It seems that every time people pick up a newspaper or turn on the TV news, they read or hear about water bans, shortages or unavailability that challenges the way superintendents maintain golf courses.

Although evapotranspiration-based controllers commonly are cited as one of the best water savings tools, they're not the only solution for water and cost savings.

Despite the availability of reclaimed water, the suitability can be called into question because of the potential for extra chemical inputs such as heavy metals. As such, the turf professional might be required to spend more time managing the irrigation process itself as well as the soil and the turf.

Reclaimed water, or the use of lightly treated recycled water, is an option. This method takes rain water and water used in households or commercial facilities and recycles it for reuse in turfgrass irrigation. It reduces discharge of wastewater into streams and oceans and is less costly and uses less energy than potable water.

These variables can be overcome by using soil inputs that not only help offset salts and other substances stemming from reclaimed water, but might also assist in the growth and vitality of turf.

The use of effluent water and other low-quality water will continue to grow as fewer courses are allowed to use potable sources. This article focuses on how superintendents can use amino acid products to make the best of a difficult situation and still produce quality course conditions.

BUSINESS APPLICATION

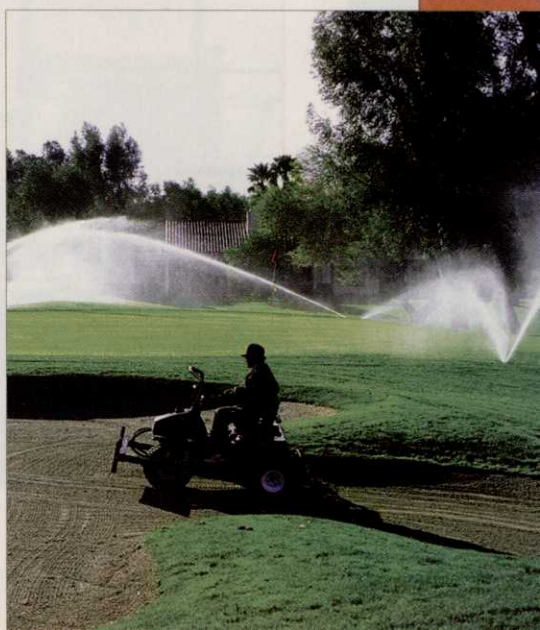
There's a need to grow healthier turf with poor-quality water, yet creating better playing conditions with lower-cost and fewer inputs. Amino acid products appear to help buffer the negative impacts of the damaging components of this type of water.

FIELD ASSESSMENT

The application of amino acids might be particularly helpful under stress situations by aiding in energy conservation, reducing water loss and helping the turf to maintain vitality. Contact John Walsh, editor (jwalsh@gie.net) with your experiences.

FUTURE OPPORTUNITY

Effluent water and less-than-desirable water will be the primary irrigation source for many courses in the future. Amino acid-based producs can be excellent tools to help turf withstand the stress caused by reclaimed water use. This technology is one option for dealing with the issue. GCI



BY JOHN WALSH

Decisions, decisions

Relationships, service drive superintendent's choice to lease mower fleet

Cutting units are the core of every golf course maintenance operation. And because they're so integral, there are several important factors to consider before making the decision to purchase or lease them. Eric Shomaker, director of golf course operations at the private, 18-hole Mountaintop Golf Club in Cashiers, N.C., explains his philosophy about leasing mowers.

Opened in July of 2006, Mountaintop is only open part of the year – May 1 through about mid-November. The course features cool-season turfgrass wall-to-wall because it's high on the southern tip of the Appalachian Mountains. The lowest elevation of the course is 3,750 feet above sea level. Yet Shomaker says there are golf courses with Bermudagrass fairways just 30 to 40 minutes away.

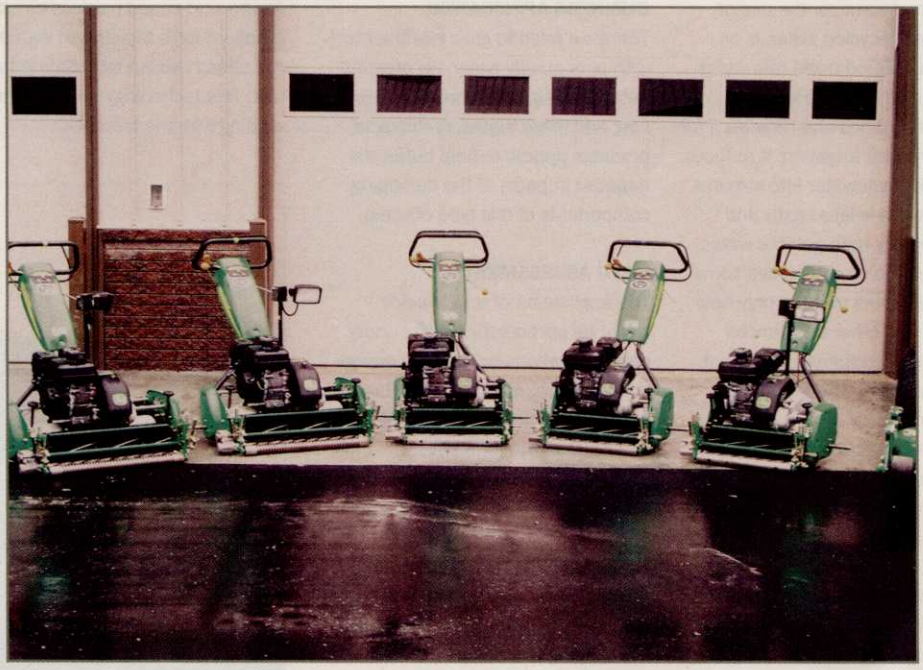
When it comes to mowers, Shomaker says the company he works for has national account relationships with Toro and John Deere. He says 80 percent of his mower fleet is John Deere and 20 percent is Toro. The fleet consists of:

- 10 John Deere 18-inch walking greens mowers (180B series);
- One Toro Greensmaster Flex 21 greensmower. "I use it from time to time, but I'm not sold on the piece," he says;
- 12 John Deere 26-inch walking mowers for tees and approaches (260 series). He says there's 2.5 to 3 acres to mow in those areas;
- Three John Deere fairway mowers with five cutting heads (3235 series);
- One John Deere rotary unit with five cutting heads for the rough;
- Two Toro Sidewinders with three cutting units and a rotary deck for small areas in the rough; and
- One big Toro rotary mower with five cutting units for the rough (4500 series).

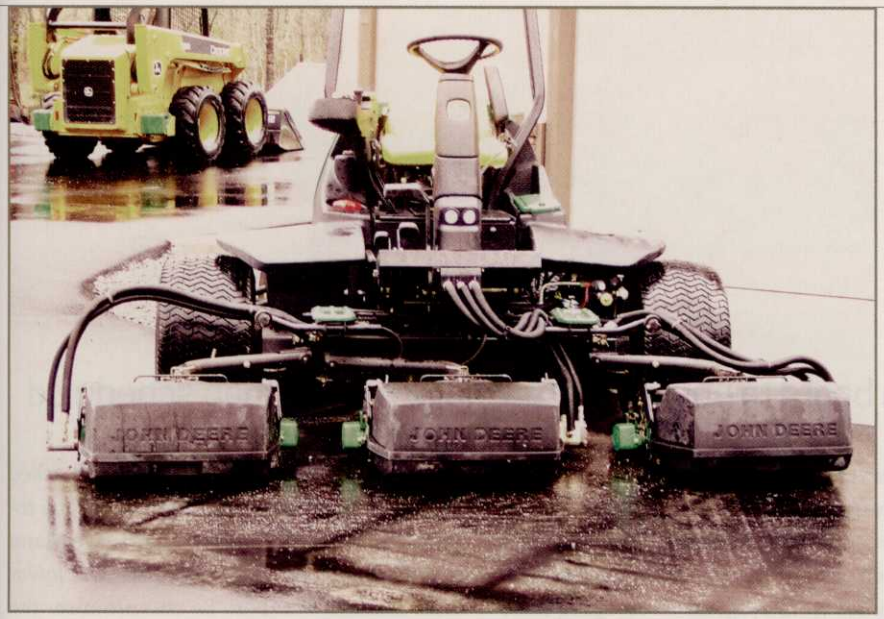
"I wasn't convinced of the John Deere [rotary] units enough to convert, so I went with Toro 4500," he says. "As far as the Sidewinders, John Deere didn't have anything to compete. But I've been pleased with the John Deere rough mower. It's as good as Toro."

Before making any purchasing decisions, Shomaker, who has a maintenance budget of more than $1.5 million, opened the playing field for John Deere and Toro. Making the decision was up to Shomaker, and then he presented his decision to the owner. He says being a new course didn't influence what brand he purchased.

"However, I had a great deal of support from John Deere on the grow-in of the course," he says. "I didn't want to buy a lot of new grow-in equipment. I just needed a few pieces here and there – a greensmower,



All mowers in Eric Shomaker's fleet are part of a four-year lease. Photo: Mountaintop Club



Because Mountaintop's staff doesn't put many hours on the mowers, Eric Shomaker receives good residual rates on them. Photo: Mountaintop Golf Club

a fairway mower and utility vehicles. I purchased tractors and things I knew were going to last."

During the grow-in, Shomaker, who has a staff of 16 full-time workers and 19 seasonal workers, was able to obtain used John Deere equipment that came off lease from other facilities. But, he says, they still had to be quality pieces of equipment that produced a quality cut.

"Toro did some of this on a smaller scale," he says.

At the time of the grow-in, Jacobsen was going through a transition in which the local distributor was going out of business, so there was an uneasiness about the service aspect of purchasing mowers from the company, Shomaker says.

"The lack of representation from Jake was so poor, people couldn't get parts for four or five months," he says. "No commitment could be made to Jacobsen at that time. However, Jacobsen is getting things worked out."

LEASE NOT PURCHASE

All mowers in Shomaker's fleet are on a four-year lease. He says he prefers leasing more than purchasing because he can turn equipment in every four years.

"New equipment is always coming out," he says. "Looking four years out, I want something better."

Another reason why Shomaker, who's been at Mountaintop since April of 2004, prefers leasing mowers instead of buying them is because there's not as much out-of-pocket cash the owners need to put forth up front. Shomaker says anything with a life of more than seven years, such as sod cutters, tractors, blowers, skid steers, is purchased, and equipment such as mowers and utility vehicles is leased. The total cost to lease all the mowers is between $160,000 and $180,000 a year.

"We don't put a whole lot of hours on the equipment, so I get good residual rates," Shomaker says about turning in the equipment after the lease ends.

Maintenance is another aspect that factors into purchasing and operating a mower fleet. The cost to maintain and repair all Shomaker's equipment, including the utility vehicles, is $23,000 a year.

Service is also an important factor when leasing or purchasing mowers.

"Service is way up there for me," Shomaker says. "Service has never been a problem."

Interestingly, Shomaker has come across a situation in which he liked a certain brand of mower better than another brand, but the service wasn't as good as the other brand.

All the mowers Shomaker uses are gas powered. The rough and fairway mowers are diesel. Even though manufacturers are working to improve electric fairway and greensmowers, Shomaker is skeptical of electric fairway mowers because Mountaintop's site is hilly and he worries about the longevity of the batteries.

"I'm not going to experiment with a purchased one, but if someone would give me one to use over time to evaluate, I would do that," he says. "Electric is just as good as gas as far as cutting quality. The electric reels themselves reduce the chance for hydraulic leaks, but the mowers are gas driven. I worry about power. Besides, the noise reduction on gas and diesel has improved."

Shomaker's purchasing decision-making process also includes input from the crew members who operate the mowers, keeping an open mind and considering relationships.

"I'm not locked in to one manufacturer," he says. After this lease is up, it's an open playing field; yet I've established relationships with people, and it's hard to walk away from those relationships after a four-year lease. Maybe there will be a few pieces that change, but I will be loyal to people I have relationships with."

In the end, Shomaker realizes it's not his equipment, it's the members.

"I need to manage the budget to meet the members' needs," he says. **GCI**

The cost to maintain and repair all Shomaker's equipment, including utility vehicles, is $23,000 a year.

The total cost to lease all the mowers is between $160,000 and $180,000 a year.

Shomaker has 30 mowers in his fleet, which include John Deere and Toro brands.

BY JOHN WALSH

Mind as well

Superintendent convinces club board to buy mower package sooner than scheduled

Sometimes golf course superintendents get what they want sooner than they expect. Jeff Mann did.

Mann, golf course superintendent at the 18-hole Ulen Country Club in Lebanon, Ind., has been at Ulen for about seven months. Previously, he was an assistant golf course superintendent at Harbour Trees Golf Club in Noblesville, Ind.

The superintendent at Ulen before Mann signed a mower package in 2002, and the club verbally committed to a new mower package in 2007. However, Mann says he and the staff we were having problems with the mowers, which would be costly to fix. For example, there were some computer modules on the fairway units that needed repaired. Also, the blade reels on the fairway units needed to be replaced. Mann converted his fairways in September from ryegrass to creeping bentgrass and needed to increase the number of blades per reel on the fairway units.

"I took the board through it and said if we buy (in September 2006), it would be cheaper because the prices will go up in 2007," he says. "And, because I was going to be getting new fairway units and verticutters with the new package, it made sense to get the new package (in September) rather than buy new reels (in September) and new mowers this year."

The purchasing decision-making process went something like this: The board asked Mann what he wanted, and Mann put together a wish list. Then the board gave Mann a dollar figure for the mowers that was lower than Mann's number. To compromise, the board asked Mann which mowers were not critical.

"We eventually came to an agreement," Mann says.

The board granted Mann permission to purchase two fewer pieces of equipment than he wanted.

Mann says the operators and his assistant also provided input before making the decision to purchase the mowers. Because the operators get to demo the equipment, they provide important feedback. And because Mann's assistant has been around for a while, Mann says he's seen a lot of equipment in his day, so he values his opinion.

Mann's mower fleet consists of:

- Four walking greensmowers (Toro);
- Three walking tee mowers (Toro);
- Two fairway units (Toro);
- Four triplex greensmowers (Toro);
- One trim mower (John Deere);
- One Sidewinder, a three deck rotary mower (Toro);
- Two ZTR rotary mowers (Toro); and
- One Lastec, a seven-deck pull-behind mower.

Because the fairways at Ulen Country Club were converted from ryegrass to bentgrass, Jeff Mann needed to increase the number of blades per reel on fairway units. Photo: Jeff Mann

Jeff Mann prefers to lease more of the cutting units he and his staff use rather than purchase them; but the board at the Ulen Country Club preferred to purchase mowing equipment all at once. Photo: Jeff Mann

The older units in the fleet are the two ZTRs, the three triplex mowers, the trim mower and the Lastec.

Purchasing cutting units is Mann's and the club's philosophy, yet Mann says he would prefer to lease more mowers.

"The board said it wanted to get new equipment all at once," he says. "But I don't like to run fairway units more than five years because you start seeing problems, especially on hydrostatic mowers. The board didn't discuss leasing with me. But it will be interesting to see what ownership sells because some of the mowers are getting to the end of the line. If you lease, it takes the selling aspect out of it."

Mann says the board knows it will be getting hit with the cost for new fairways units in five years.

"The members understand the importance of maintaining a newer fleet," he says.

The longevity of walking greensmowers is different than fairway units. Mann replaces the reels after three or four years, but the greensmowers as a whole will last seven to eight years.

Mann, whose maintenance budget is $582,000, says he would prefer to lease fairway mowers and trim mowers instead of purchasing them. However, he says it's possible the club will lease more equipment in the future based on his reasoning.

"If I get into a leasing program, we know we're rolling into new equipment," he says.

RELATIONSHIPS

Aside from the decision to purchase mowers instead of lease them, Mann says he decided to buy from Toro because he had a lot more experience with Toro than with Jacobsen and John Deere.

"Jacobsen hasn't been able to establish a good relationship in this area," he says. "We've had a hard time getting parts."

Before Mann arrived at Ulen, which has 300 members, he says the club was using John Deere equipment.

"The other companies didn't impress me as much as Toro," he says. "Toro's service is excellent. It came down to price. Toro gave me the best deal, and the financial stability of the club enabled me to get the package I got. However, I went into the decision-making process with an open mind. Next time I need to purchase or lease equipment, I'll look at any company in this area. Customer service, the ability to get parts, and what I'm going to get after the sale are more important than price." **GCI**

Jeff Mann says greensmowers as a whole will last seven or eight years, however, he replaces the reels after three or four years. Photo: Jeff Mann

Mete-R-Matic self-propelled spreader/topdresser

- Light footprint is helpful for new or renovated turf
- Chevron belt allows for accurate material distribution
- Controls are mounted on the handlebar
- Includes forward and reverse operation
- Powered by a 5.5-hp Honda engine
- Features an 11.5-cubic-foot hopper capacity
- Spreading width is 31.5 inches.

Turfco
golfcourseindustry.com/readerservice #210

Firebird Pro insecticide

- Light-stable synthetic pyrethroid offers knockdown of pests, including thrips and aphids
- Can be used on as many as 100 different crops
- Available in one-gallon containers
- Can be tank-mixed with numerous other insecticides and fungicides

Phoenix Environmental Care
golfcourseindustry.com/readerservice #213

E-Walk greensmower

- All-electric walking mower features enhancements
- Redesigned electronic-control unit simplifies functional options
- Settings can be adjusted on the fly by choosing menu options on an LCD screen
- D-handle design has been added
- Motors that power the reels and drive the traction system have been redesigned to be more durable

Jacobsen
golfcourseindustry.com/readerservice #211

Magnum Scrub Pro range ball washer

- Features a dimple brush design of scattered trim bristles
- Cleans 15,000 balls per hour
- Scrubs each ball to remove dirt and other debris
- Made of a polyethylene material encased in a tubular steel, powder-coated frame
- Brushes are reversible for longer use
- Includes a 0.25-inch-hp drive motor
- Available in 115- and 230-volt models

Standard Golf Co.
golfcourseindustry.com/readerservice #207

Reelmaster 5010 series fairway mower

- Includes CrossTrax all-wheel-drive traction
- Dual point adjustment cutting units allow for quick adjustment

- Line of accessories includes groomers, broomers and rear roller brushes
- Lightweight design focuses on operator comfort, durability and performance
- Powered by a Kubota diesel engine

Toro
golfcourseindustry.com/readerservice #221

SP-75 walk-behind spreader

- Features a single-slot port design, making the unit capable of freely spreading large bulk materials and bag salt
- Ideal for addressing sidewalks, driveways and other tight applications
- Hopper has a maximum capacity of 1.8 cubic feet (about 100 pounds of material)
- Stainless-steel deflector encases the spinner and ensures the spread material is delivered in a controlled, predictable pattern
- Includes large, 13-inch diameter pneumatic tires

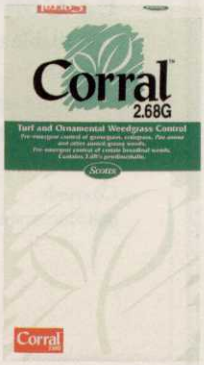
SnowEx
golfcourseindustry.com/readerservice # 228

Angle broom attachment

- Attachment is hydraulically driven
- Can be used to sweep a clean path on driveways, sidewalks and parking lots or quick snow removal without damaging pavement surfaces
- Available in widths of 48, 68 and 84 inches
- Operators can angle the attachment hydraulically using a fingertip control on three of four models
- Features replaceable wafer bristles and storage stands to eliminate bristle distortion when not in use

Bobcat
golfcourseindustry.com/readerservice #229

Corral granular herbicide



- Preemergent herbicide provides effective control of goosegrass, crabgrass and *Poa annua*, in addition to other annual grassy weeds
- Also provides effective control of certain broadleaf weeds
- Features the flexibility of being used with OH2 and Rout

Scotts Co.
golfcourseindustry.com/readerservice #223

Electric broadcast spreader

- Fits riding and walk-behind mowers, as well as utility vehicles
- Features a molded hopper base with stainless-steel gate controls, fan and vibrating agitator
- Large polyethylene hopper holds 120 pounds of product
- Electronic speed control adjusts fan speed for accurate spread widths from 5 to 24 feet
- Model 503 has a foot-operated gate for mid-mount ZTRs
- Model 504 has a push-pull cable for walk-behinds and utility vehicles

JRCO
golfcourseindustry.com/readerservice #224

BugBarrier tree band

- Stops gypsy moth caterpillars, spring and fall cankerworm, winter moths and forest tent caterpillars from crawling into trees
- Kits include a dense, flexible fiber barrier and adhesive film barrier
- Fiber is wrapped around a tree trunk to fill bark crevices
- Easy to install and remove
- Contains no pesticides
- USDA tested

Envirometrics
golfcourseindustry.com/readerservice #205

Strato-Charged edger

- Powered by a 25.4-cc, two-cycle engine that meets emission compliance
- Strato-Charged engines have few moving parts, require no valve maintenance, use less fuel and are emissions rated at 300 hours
- Straight-shaft edger has an aluminum die-cast shield with an anticlog system
- Includes an extra-large steel protector designed to protect the shield and gear box

RedMax
golfcourseindustry.com/readerservice #212

Verti-Quake rotary decompactor

- New models, which include the 2516 and 3822 series, decompact soil using rotating steel blades
- As blades cut through the soil, they create a wave action that shatters compacted areas and opens up the subsoil
- Can work at depths as deep as 15 inches with little or no surface disruption
- Available with the same direct drive system and individual shear bolts that are on the smaller models

Redexim Charterhouse
golfcourseindustry.com/readerservice #218

EZ-Coil reels

- Available in a proprietary blue CPC powder-coat finish
- Feature updated logos and labels
- Have as much as 80 percent slower retraction speed than standard spring reels

Coxreels
golfcourseindustry.com/readerservice #219

SABI data collection system

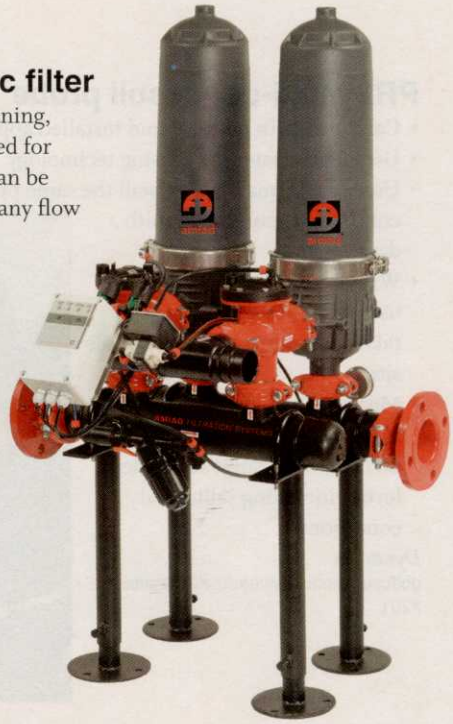
- Customizable, wireless, GPS-enabled hand-held system allows users to collect, observe, measure, map, share and report fairway field data
- All data imported by subscribers is stored on the company's secure server network
- All types of data can be stored on the system
- No desktop software needed
- Sold on a subscription basis

Serveon
golfcourseindustry.com/readerservice #204

Automatic disc filter

- Automatic, self-cleaning, plastic disc filter used for irrigation systems can be configured to meet any flow requirement
- Can handle various water qualities
- Designed for efficiency

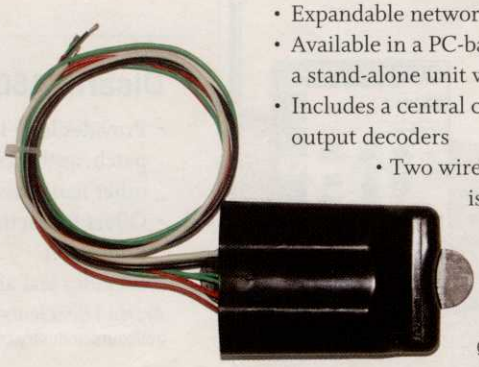
Amiad
golfcourseindustry.com/readerservice # 203



Teracure nematicide

- All-natural nematicide combines technologies of Dragonfire-CPP nematacide and Rutopia products into a single product
- Allows for control of root-evading nematodes
- Relieves plant stress and repairs damaged roots

NaEx Corp./Poulenger USA
golfcourseindustry.com/readerservice #214



Decoder control system

- Expandable network of buried decoders
- Available in a PC-based system with a 3,200 station capacity and a stand-alone unit with a 200-station capacity
- Includes a central control unit and any number of input and output decoders
- Two wire decoders are buried underground, so there is no need for additional wiring and controller boxes
- Operates with the latest version of Toro's SitePro central control system software

Toro Golf
golfcourseindustry.com/readerservice #226

PR2 multi-depth soil probe

- Can be used in portable and installed applications
- Uses newly patented sensing technology
- User can permanently install the same probe for continuous monitoring with a data logger
- With a hand-held readout unit, user can use a single probe to take instant readings at multiple sites
- Measures soil moisture content in a range of soil types and across a wide range of nutrient levels, including saline soil conditions

Dynamax
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GreenArmor turf establishment and erosion control medium

- Green-engineering is an alternative to hard armor, such as rock rip-rap and concrete
- Combines the Enkamat turf reinforcement mat (thermally infused nylon filaments) with Flexterra flexible growth medium
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- Encourages fast turf establishment and long-term root reinforcement
- Holds 15 times its weight in water

Profile Products
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Industrial Choice high output inverted marking paint

- Produces bold, easy-to-see markings on a variety of surfaces
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Disarm 480 SC fungicide

- Provides long-lasting, broad-spectrum control of brown patch, anthracnose, gray leaf spot, summer patch and other major diseases on greens and fairways
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Dimension 2EW herbicide

- Provides early preemergent control of crabgrass and preemergent control of other grassy and broadleaf weeds
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- Includes a padded front handle and throttle lock
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Tanaka
golfcourseindustry.com/readerservice #208

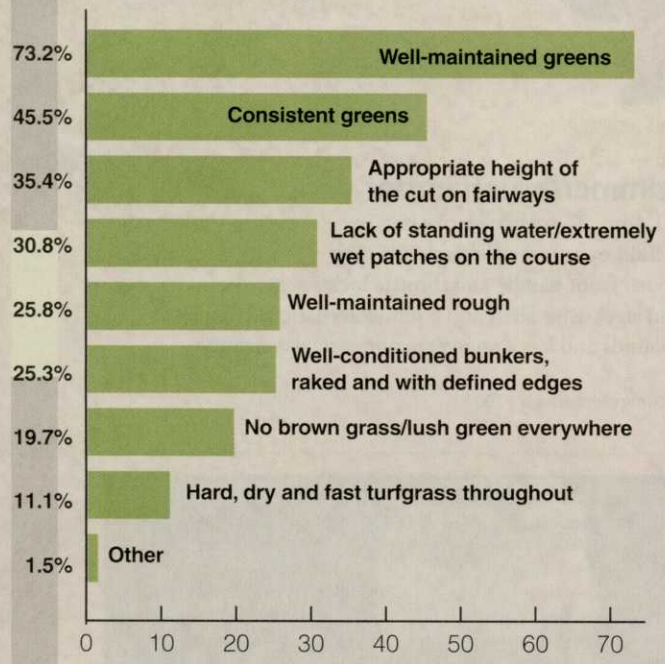
WHAT ARE THOSE CRAZY GOLFERS THINKING?

At times, the relationship between golf course superintendents and golfers can be frustrating to say the least. Golfer complaints about bunker consistency and green speed are on one side, not replacing divots and a lack of understanding about course maintenance/operations are on the other. Slow play can be considered a gripe of both sides.

Below are charts containing information that shed light on what golfers think about golf courses and the golfing experience. Superintendents, especially at public golf facilities, can use this type of information to better understanding golfers at their facilities. Ultimately, this can improve a facility's bottom line.

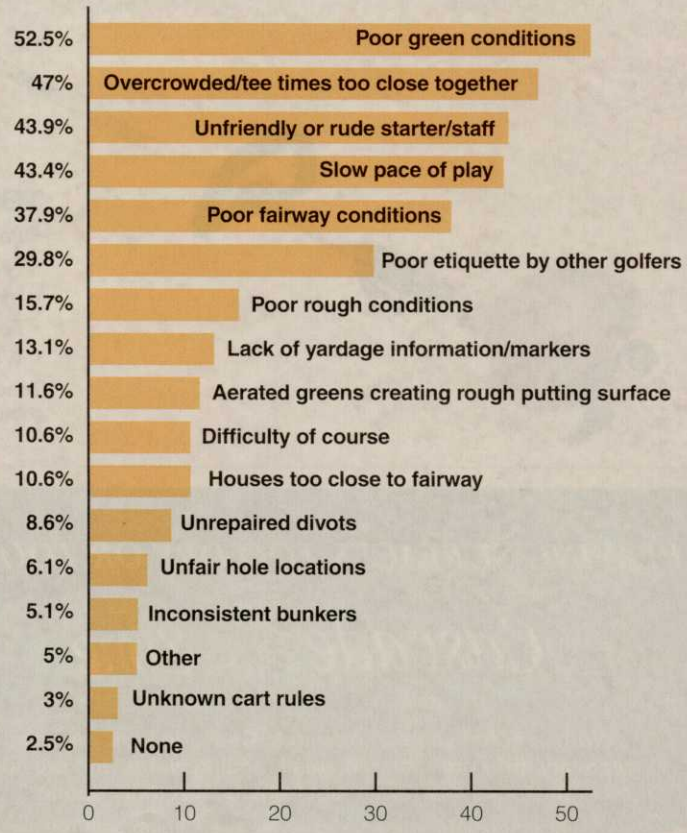
A random sample of 200 golfers throughout the country were surveyed by InsightExpress, a market research company. Golfers surveyed play at least five rounds a year.

What do you look for in a well-conditioned golf course?



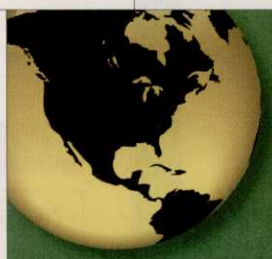
Total responses: 198 (multiple responses allowed)

What characteristics of a golf experience make you less likely to return to a particular course?



Total responses: 198 (multiple responses allowed)

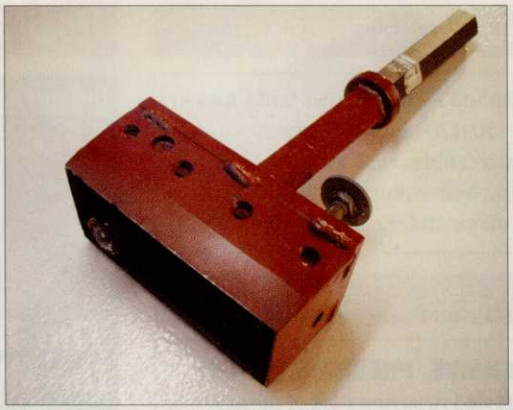
Terry Buchen, CGCS, MG, is president of Golf Agronomy International. He's a 38-year and AA life member of the GCSAA. He can be reached at terrybuchen@earthlink.net.



Travels With Terry

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

A divot fix



The TPC Boston in Norton, Mass., is a popular venue that generates a lot of play and hosts the annual Deutsche Bank Championships on the PGA Tour. Golf course superintendent Tom Brodeur thought of a way to build two different fairway divot repair tools. Chris Hunt, equipment service manager, and Ron Terfry, assistant equipment service manager and inventor of the tools, assisted.

The TPC Boston's fairways are built on a heavy clay, rocky soil. There are numerous low spots golf balls funnel into, resulting in many concentrated fairway divots that must be repaired before the nationally televised event.

The first step is to use the divot outlining tool (top picture), which is 4.5 feet tall and has three-quarter-inch-diameter, hollow steel T handles welded in place. On the bottom of the divot outlining tool is a plugging tool made of used John Deere 180 bedknives the size of a dollar bill. The plugging tool is pounded into the soil an inch and a half deep.

The silver-colored slide hammer, which has a cut-off moil point bit, slides up and down inside the 1.5-inch-diameter, hollow steel shaft (weighing 50 pounds total) to pound the rectangular shaped bedknives into the clay soil. The bedknives are welded flush into place onto a block of notched steel. There are two half-inch-diameter holes drilled on either end of the block for three-eighths-inch-diameter bolts. One-inch diameter washers are welded on both ends of the bolts that slide back and forth to extract the divot.

The divot-outlining tool is used to outline divots on fairways and at the fairway turf nursery to prepare for removal of old divots and new turf with the divot-grabber tool (bottom picture).

The divot grabber tool has two handles made of 1.5-inch-by-one-quarter-inch square tubing that's 5-feet long and welded together. It weighs 15 pounds. The divot grabber tool is operated much like a post-hole digger in which the handles are moved outward to extract the divot after it's outlined with the divot outline tool. The handles have a guide bar made of 1-inch-by-1-inch square tubing so the bedknifes are kept in a parallel position before they move inwards to extract the divot. The divot grabber tool also uses used John Deere 180 bedknives that are welded in place.

Mount it

At The Estancia Club in Scottsdale, Ariz., Michael Mongiello, CGCS, director of agronomy, and Brian Porcelli, operations manager, figured out a good way to transport a Spray Hawk walk-behind sprayer around the course by mounting it onto a Toro Multi Pro sprayer.

Mounting the walk-behind sprayer on the front of the Multi Pro sprayer worked best using two 2-inch-by-2-inch pieces of square tubing 6 inches long and welding them to the front steel bumper. The tubing was primed and painted black to match the original bumper color. Holes were drilled for three-eighths-inch-diameter bolts 3-inches long. The tubing was bolted in place and a 2-inch-diameter flat washer was welded on top of the bolt on each piece of square tubing, which holds the inside of the Spray Hawk axles onto the front bumper and keeps the walk-behind sprayer from moving in any direction. A one-quarter-inch-by-30-inch-long chain with quick disconnect clips also were used to keep the walk-behind sprayer in place while transporting it around the course.

The materials cost about $25, and the labor took about an hour and a half. **GCI**

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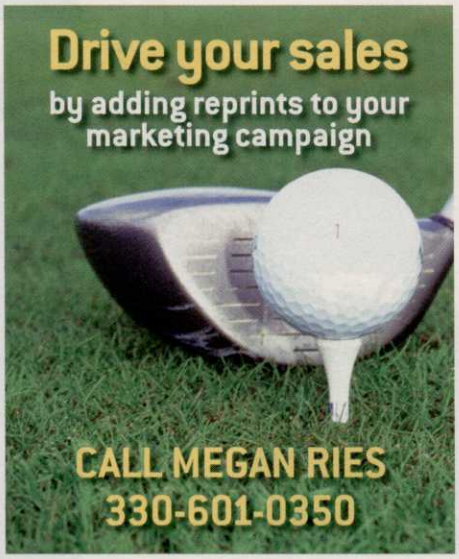

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(LETTERS *continued from page 8*)

ary to the general manager. If you read the cover story, hopefully you'll understand this. The intent was to get input from various members of management teams at several golf facilities about the importance of practice facilities.

To capture this visually, we wanted to photograph the director of agronomy and the general manger of the Estancia Club on the cover with a practice facility as the backdrop. The director of agronomy wasn't placed in the background because of his profession or title. It was an artistic decision made by the photographer to show depth to create an interesting cover. Cover art shouldn't be mistaken for editorial opinion, and you shouldn't read too much into it.

Other questions arise about this topic: Why are superintendents so sensitive about small things like this? If the roles were reversed, would general managers, who are among our readers, write the same letters?

The g.m./superintendent relationship signifies the importance of management teams making decisions. GCI's objective is to provide a wide range of information that will help golf facilities, as a whole, succeed. The superintendent may be the main target audience, but assistant superintendents all the way up to owners also are part of that operational success. We'll continue to report on and analyze that.

GCI's role in the market is to cover the entire golf business. Take a look at this month's cover (which was done well before we started getting these letters) to see how the magazine thinks the future of the business is shaping up. Teamwork is the key, and sometimes one member of the team is out in front of the others.

Thanks for your comments, and keep reading.

John Walsh
Editor

AD INDEX

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.

CURMUDGEONLY THOUGHTS

Frankly, I'm pissed off right now. There seems to be a lull in the industry at the moment … and editorial columnists despise lulls. Here's what I mean:

• None of the idiot/millionaire PGA Tour pros has said anything incredibly stupid about Stimpmeter readings lately.

• The GCSAA's PDI launch last summer turned out to be more of a whimper than a bang.

• The big show site in Anaheim might not be the most dynamic place to visit, but it's just not as much fun to heap abuse on as Atlanta or Dallas.

• Despite dire predictions, the golf economy continues to not crash and burn.

• I'm bored to death with the whole "new club and ball technology is killing golf" debate.

• Hell, the Democrats didn't even make banning turf pesticides one their legislative priorities in their first 100 hours of running Congress.

• Worst of all, Johnny Miller turned out to be a genuinely likable guy when I interviewed him several months ago. He loves fishing, for God's sake! We actually compared notes about the joys of chasing Northern Pike in the Great White North. Oh, the humanity!

It's pretty depressing being the industry's designated curmudgeon right now. So I'll take things into my own hands and fling some feces at the fan by posing five tough questions:

1. The GCSAA claims to represent the interests of our industry in Washington, D.C. It has several full-time staffers dedicated to government relations, and it pays a large annual sum to a hired lobbying firm to get things done inside the Beltway. Yet, there are basically zero dollars of federal funding for turfgrass research designated for our university programs. Golf is supposedly a $62 billion business in the United States, and we hear various enormous numbers about the economic impact of turf, but we get nothing back for all the tax revenues we generate and the contributions we make to society. Why?

2. The PGA Tour has bet the farm – and the visibility of our industry – on the Golf Channel. I make my living in this business, and I couldn't find the Golf Channel on my cable system if my life depended on it. Remember when the Senior Tour used to be on regular network TV a lot? As I recall, that was before the Tour sold television rights for the renamed Champions Tour to Nick at Nite, or was it QVC? When's the last time you accidentally stumbled across a Champions Tour event on TV? That's what we have to look forward to with this new Golf Channel deal. It's like a federal witness relocation program for televised golf tournaments. The Tour's new motto should be: "These Guys Are Hidden." What are Tim Finchem and his overpaid geniuses smoking down in Florida?

> "The days of pros, superintendents and club managers working in their own little kingdoms without cooperation or coordination have come to an end if the facility is to survive."

3. I'm fed up with hearing about the slump in the golf market. When will facilities start taking responsibility for their own business success? Every time I give a speech at a golf conference, I ask for a show of hands about how many attendees have formal, written marketing plans. About nine hands out of a hundred usually are raised. Ask the same question at any other meeting of small businesspeople and damned near every hand will go up. If you're an owner who's just waiting around for the market to rebound on its own and hoping that it will somehow trickle down to you, it's time to sell your property to a condo developer. Why do so many facilities let the business manage them instead of managing the business?

4. I've also had it with the Rodney Dangerfield "I get no respect" routine I hear too often from some superintendents. If you're sitting around waiting for someone in Lawrence, Kan., to magically make golfers recognize that you're a professional, you better find a comfy chair because you'll be sitting for a long time. Not that the GCSAA isn't trying. (It keeps talking about vague plans for a big public relations campaign on the Golf Channel. Oops, see above.) But any superintendent who isn't taking his own image and his own career into his own hands is kidding himself. When will these whiners realize their challenges are no different than any other manager at any other business and no one else is going to solve their problems for them?

5. Finally, when will clubs start tearing down the walls that separate the different departments. I'm constantly amazed when I meet a golf professional who has no clue whatsoever about the maintenance program. Or, I'll meet a superintendent who's only barely aware that food-and-beverage operations impact the bottom line. When you ask members of the management team about membership growth or rounds development, they'll say, "Lisa in the sales department handles that." The days of pros, superintendents and club managers working in their own little kingdoms without cooperation or coordination have to come to an end if the facility is to survive. As Benjamin Franklin said, "We must all hang together, or most assuredly, we will all hang separately." Thus, why do so few facilities make teamwork a priority?

OK, I'm still pissed, but at least I've had some fun. I posed several questions and didn't manage to answer any. That's what curmudgeonly columnists do. We have that luxury. You don't. **GCI**

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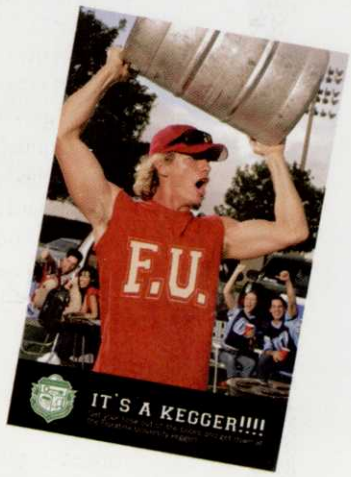

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