

June 2004

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# GOLF

## COURSE NEWS

Serving the Business of Golf Course Management



# STAFF REVIEWS AT PINEHURST

### IN THIS ISSUE:

Continuing education  
Green speed  
Native grass



# Good people



From left: Don Smith, President; Scott Taylor, Chief Engineer; Bill Kenny, VP Engineering and Manufacturing and the new Smithco Sweep Star P-48 Turf Sweeper.



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Ted Smith,  
founder of Smithco

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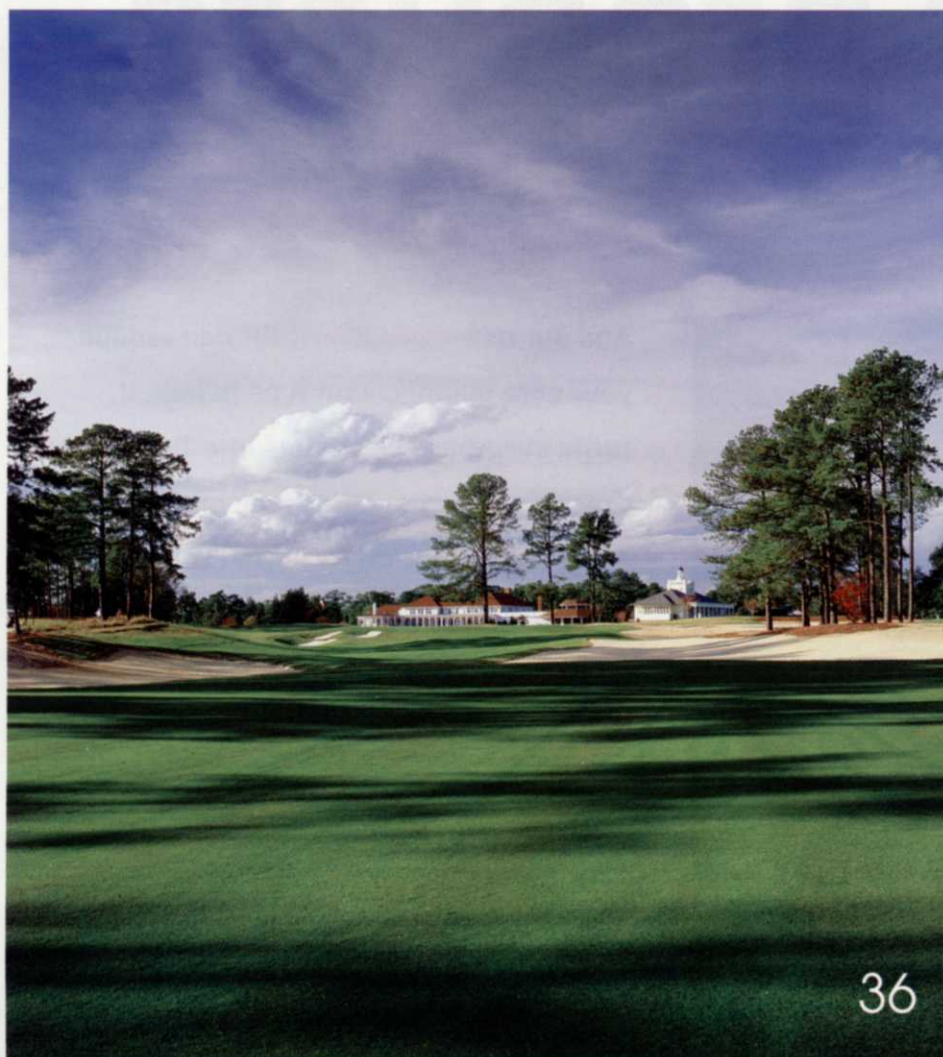


After aeration.

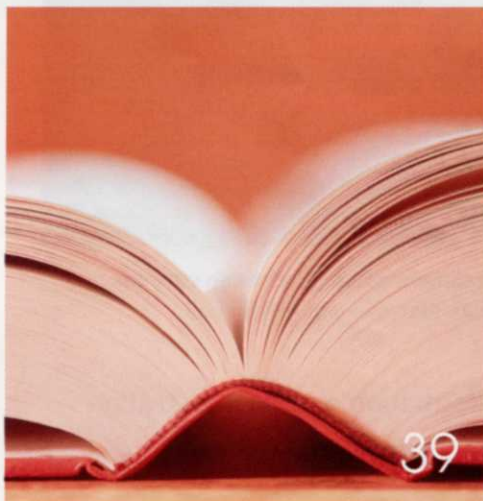


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Roger Stanley  
Editor-in-Chief /  
Associate Publisher

## It's your business

**G**olf course manager Bob Farren, CGCS, of Pinehurst believes in mid-season employee reviews (see "Measuring success" on page 36). Mid-season reviews allow employees to make meaningful changes during the season when it counts most.

But the challenge to mid-season reviews is *making* the time when there is no time.

I suggest that right now, when you are the busiest, is the best time to do some big-picture planning for 2005. Right now you're acutely aware of what needs fixing with your staff, equipment and course. Postponing planning until fall or winter means forgetting the details and possibly justifying the reasons to leave things the same.

Deciding to plan significant changes can be as simple as carrying a pocket sized note pad during the week to jot down ideas as they come to you and setting aside some time each week just to think.

Summer is a hectic time in the publishing business as well. In addition to all the "normal" work, this is the time of the year when we get invitations to numerous golf outings and manufacturers' product demonstrations. It's also the time when staffing becomes an issue because of vacations. On top of that, this is the time when we begin planning our editorial content for the coming year.

When work gets wild, the phrase "working on your business" comes to my mind. The phrase was coined by Michael Gerber, a business consultant and author of the bestseller, "The E-Myth." The central principle in the book is that three types of people are needed in any business—the technician that performs the tasks, the manager that manages the technicians and the owner who directs the business.

The "myth" in "The E-Myth" is that technicians and managers who are good at a jobs can start their own business—the entrepreneurial dream. For a golf course superintendent, for example, this might mean deciding to become a turfgrass consultant. Unfortunately, technical skill alone doesn't ensure success. More than 90 percent of all business start-ups fail within the first five years.

Gerber's solution is that businesspeople need to spend some time working "on" their business, not just doing the day-to-day tasks and getting caught up in pressing manage-

ment issues. Working on your business means taking the time to see the problems clearly, then planning to take advantage of the opportunities to get things done faster, better and cheaper.

Getting caught up in the day-to-day job is as big a problem for managers as it is for owners. Gerber addresses this in another book he wrote, "E-Myth Manager." He contends that managers will be happier and more productive if they adopt the mindset their department is a stand-alone business and they own it.

For example, imagine the owner of the golf course at which you work decided to eliminate your position and your maintenance staff because next year course maintenance will be handled by an outside service. The course owner wants you to provide him with a proposal encompassing everything needed to maintain the course for the coming year. He wants a bid that includes all materials, equipment and overhead. Your bid has been accepted, and you won the contract for the coming year.

Under this scenario, nothing has changed in the sense that you would still be doing the same work you did the year before. But at the same time, everything would have changed. Now you work for yourself. If you do all the work and come in under budget, you get to keep all the money. But if you go over budget to get all the necessary work completed, then you have to pay for it out of your own pocket. Taking this view probably changes the way you think about maintenance requirements, staffing needs, management systems and your responsibilities.

In the real world, Gerber says taking on the ownership mindset revolutionizes what department managers do, how they do it and how happy they are in the process. His contention is that the manager who thinks and works like the owner—even though they're not—makes improvements that echo throughout the organization.

Approaching your job as the "owner" helps you avoid the trap of working in your business versus working on it. It's easy to get too involved with working on tasks and management issues that need to be addressed and fail to work on directing the business. But that's what's needed if lasting progress is the goal. Having an owner's view also means making the time to plan, even when you don't have the time. GCN

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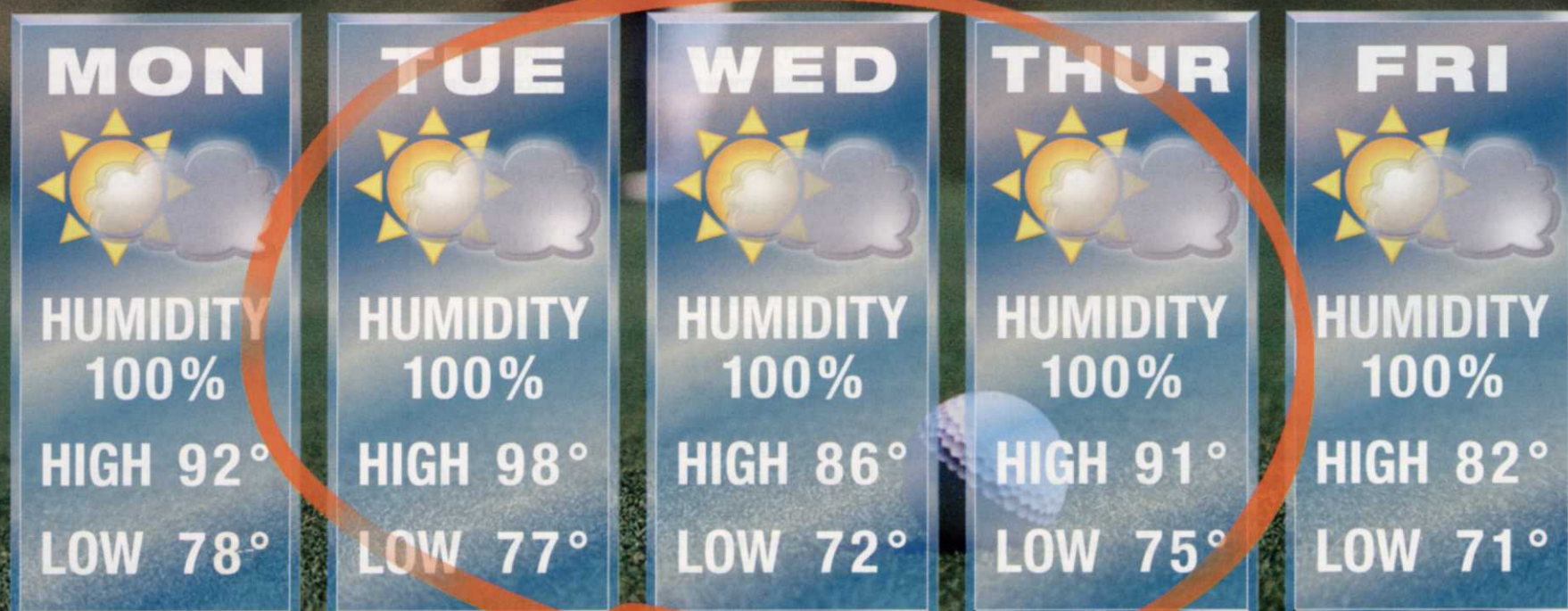
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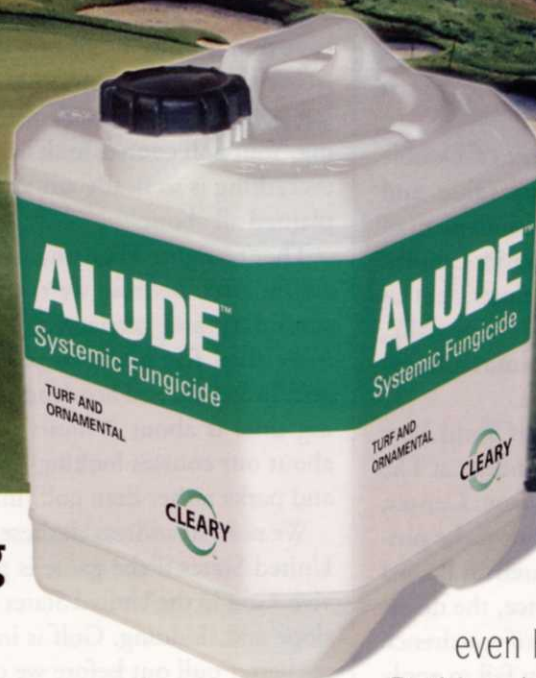
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An applicator spot treats moss, thoroughly soaking the spot until it puddles with the mixture.

## Moss control revisited

I would like to clarify some of the information presented in the article, "Moss control on greens," by Kevin Ross in the April 2004 issue. First, the moss treatment procedure developed at the Sharon Golf Club and referred to in the article doesn't involve drenching the green as shown in the photo used. The procedure we have used successfully involves spot-treating moss using 4 ounces of Ultra Dawn mixed with one gallon of water and applied with a one- or two-gallon hand pump sprayer. The applicator thoroughly soaks each moss spot until it puddles with the mixture by holding the nozzle about 1 inch from the surface. When this proportion of mixture dries, the moss dehydrates, which kills the plant. Adding extra water or drenching the surface of the green with water only dilutes the mixture and nullifies the desired result.

Second, conditions needed for the desired result are full sunlight and temperatures between 60 F and 80 F. Under such conditions, we've experienced no damage to the surrounding Bentgrass or *Poa annua* turf. The moss will turn an orange-brown color within 24 hours. The surrounding Bentgrass spreads over the top of the dead moss in a week or two. If the application is made as we have stated above, the desired results have been consistent.

Todd Voss, superintendent of Double Eagle Golf Course in Galena, Ohio, and Tony Mancuso, former superintendent of New Albany Country Club in Columbus, Ohio, and now superintendent at Bellerive Country Club in St. Louis, Mo., also have experienced excellent results using the described procedure.

Finally, it's the opinion of Todd Voss and Frank Dobie, superintendent at The Sharon Golf Club in Sharon Center, Ohio, that failures may result if the procedure, as we have stated, aren't followed exactly. From our experience, the detergent mixture won't kill moss if you drench it with extra water, or if you fail to apply enough mixture to wet the base of the moss plant. Boom spraying has been shown to discolor the moss, but will not kill it because there isn't enough volume to penetrate to the base of the plant.

You can obtain a copy of our procedure for the treatment of moss by sending an e-mail to SharonGC@gte.net.

DAVID WILLMOTT

Assistant Superintendent  
The Sharon Golf Club  
Sharon Center, Ohio

*Editor's Note: The Sharon Golf Club in*

*Sharon Center, Ohio, was listed incorrectly in the previous article as being in Pennsylvania.*

## More about moss control

You provided valuable insight on a prominent recurring issue. Well done. One of the clubs I currently am consulting for is the Country Club at Muirfield Village. They have had a moss problem during recent years. Last fall and throughout the winter, they increased their granular sulfate of potash levels, and we are seeing some good results. So far this spring, we have found only two dime-sized spots on all of the greens! We think it's a major contributing factor.

MIKE MCBRIDE

Agronomist/renovation services  
Nicklaus Design  
North Palm Beach, Fla.

## U.S. courses are overdone

After 26 years in the U.S. Marine Corps, Jack Nicklaus hired me to be his design coordinator on one of his courses in Japan, the Komono Club. I've been in the golf business ever since and am now the U.S. Army's training area manager in Hawaii.

My travels to Scotland and Ireland have led me to believe that we in the United States, as the folks in Ireland and Scotland have told me often, "all love the game but have ruined it with the way you play, driving golf buggies around instead of walking. Your golf courses look like cemeteries, everything is so neatly cut and flowers are planted all about."

They're right. High maintenance costs are incurred because we cut the primary, secondary and tertiary roughs. It takes more than five hours to play a round of golf. In Ireland and Scotland, average walking time is about 3 hours. They're right about our courses looking like cemeteries and parks rather than golf links.

We need to address all these items in the United States if the game is going to survive. Golf in the United States is on a down slope and skidding. Golf is in a spin, and we better pull out before we crash.

KEN ZITZ

Training area manager  
U.S. Army  
Oahu, Hawaii

## CLARIFICATION

The 2003 Superintendent of the Year Award presented to Paul Voykin of Briarwood Country Club in Deerfield, Ill., was sponsored by Golfweek's SuperNEWS. *Golf Course News* failed to credit SuperNEWS for use of the photo of Voykin in the April issue.

# GOLF COURSE NEWS

Serving the Business of Golf Course Management

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## Industry News

### Rounds increase during first quarter

Jupiter, Fla. - Rounds of golf increased 5.3 percent nationwide during the first quarter 2004, according to the National Golf Foundation and Golf 20/20. Traditionally, the first quarter accounts for about 15 percent of total annual rounds.



Regionally, the Northeast and Mid Atlantic achieved strong gains during the first quarter, partly because of having more play days—10 more days on average in the Northeast and four more in the Mid Atlantic. The Mountain region, which had the sharpest percentage decrease (-5.0 percent) for the quarter, also had fewer play days—an average of 10 fewer days open in the region.

Beyond a consideration of weather, there's evidence rounds increased because rounds per play day increased 11 percent during the quarter. An increase of rounds per play day indicates an increase of new golfers, an increase of rounds by existing golfers, or both.

"We're seeing gains in activity not just due to weather but also due to a fundamental growth in demand—the increase in rounds per play days," says Joe Beditz, president and c.e.o. of the NGF. "We have three-quarters of the year left, but it's nice not to have to dig out of a first-quarter hole."

The report is available at [www.ngf.org](http://www.ngf.org) and [www.golf2020.com](http://www.golf2020.com). Data is based on a survey of more than 1,100 golf facilities conducted by the NGF during the first quarter of this year. Data is weighted statistically to be representative of all U.S. golf facilities by region, type (private/public), number of holes and price point.

### Pesticide market research study completed

Mendham, N.J. - Specialty Products Consultants completed a research study of the professional turf and ornamental pesticide market in the United States. More than 1,000 golf course superintendents, lawn care operators and ornamental plant producers were surveyed.

As part of overall turf management in the United States, 1.1 million acres of

turf are being managed by golf course superintendents. Those surveyed said they made an average of more than 14 fungicide applications to tees and greens during 2003.

Almost \$700 million was spent this past year on fungicides, herbicides, insecticides and plant growth regulators in the markets analyzed. Syngenta Professional Products and Bayer Environmental Science are the top two suppliers to the professional turf and ornamental market, according to the study. With the fungicides Heritage (azoxystrobin) and Daconil (chlorothalonil), Syngenta has more than 40 percent share of the U.S. turf and ornamental fungicide market. In the insecticide sector, Bayer's Merit (imidacloprid) is the top seller by a margin of more than 2.5 to one. Dow AgroSciences is the third largest supplier, selling Dimension (dithiopyr) and other pre-emergent herbicides.

Four of five golf course superintendents were aware of new technologies such as transgenic turfgrass (e.g., Roundup Ready Creeping Bentgrass). In regions with cool season turfgrass, about half of the superintendents said they were somewhat likely to highly likely to convert their course to this type of turfgrass. Based on the adoption rate assessed in this survey and the acreage superintendents said they would convert, it's estimated the potential value of Roundup Ready Creeping Bentgrass could exceed \$1.5 billion. The use of this transgenic turfgrass seed is pending approval by the U.S. Department of Agriculture.

The study also examined awareness, usage, and satisfaction of pesticides applied in residential and commercial lawn care, on golf courses, and in ornamental nurseries and floriculture production. For a copy of the report, call (973) 543-5195.

### Web site provides information about turfgrass research

Beltsville, Md. - Details and updates about the National Turfgrass Research Initiative can be found at [www.turfinitiative.org](http://www.turfinitiative.org) or [www.turfresearch.org](http://www.turfresearch.org). The \$32.4-million initiative is an effort among the USDA, Agricultural Research Service and the turfgrass industry. The document contains the justification for, goals and components of a national turfgrass re-

search strategy. The initiative is to educate legislators, administrators and others of the value of the turfgrass industry and the critical needs it faces.

Six research areas have been identified and incorporated into the Turfgrass Initiative: 1) improvement of water management strategies and practices, 2) collection, enhancement and preservation of turfgrass germplasm, 3) improvement of pest management practices, 4) understanding and improvement of turfgrass' role in the environment, 5) enhancement of soil and soil management practices and 6) development of integrated turf management systems.

### Turfgrass program celebrates commencement

University Park, Pa. - The 45<sup>th</sup> Golf Course Turfgrass Management Program class at The Pennsylvania State University graduated March 6, 2004. Twenty-four students received their certificates at a ceremony held at the Nittany Lion Inn. Dr. Bruce McPheron, associate dean of research and graduate education and director of the Pennsylvania Agricultural Experiment Station, addressed the graduates during the commencement ceremonies. Mark Kuhns, director of grounds at Baltusrol Golf Club in Springfield, N.J., was the keynote speaker.

## Course News

### Spyglass Hill upgrades irrigation system

Tucson, Ariz. - Pebble Beach Co.'s Spyglass Hill upgraded its irrigation system to enhance playing conditions and help maintain its status as one of the nation's premier courses. When renovation is completed later this year, Spyglass Hill's new irrigation equipment will mirror that of the Pebble Beach Golf Links and The Links at Spanish Bay, both owned by Pebble Beach. Equipment includes Rain Bird's Cirrus central control, 500, 550, 700 and 750 Eagle series gear drive rotors, and the Freedom System handheld remote. The new system will help alleviate irrigation challenges and promote a more consistent playing course and healthier turfgrass, according to Chris Dalhamer, Spyglass Hill superintendent.



# GOLF

## COURSE NEWS

### What do you think of the new *Golf Course News*?

*Golf Course News* wants to serve its subscribers with the best editorial coverage possible. Please take a few minutes to complete this self-mailer survey to: *Golf Course News*, PO Box 5817, Cleveland, OH 44101-0817.

**1. What is your job title?**

- ☐ Golf course superintendent
- ☐ Assistant superintendent
- ☐ General manager
- ☐ Other: \_\_\_\_\_

**2. Please rate the value of:**

(1=Poor, 7=Excellent)

- \_\_\_\_ Editor's editorial
- \_\_\_\_ Letters page
- \_\_\_\_ Industry news
- \_\_\_\_ Market update
- \_\_\_\_ Marketing your course column
- \_\_\_\_ Design conceptions column
- \_\_\_\_ Advancing the game column
- \_\_\_\_ Staff reviews at Pinehurst feature
- \_\_\_\_ In the balance Q&A feature
- \_\_\_\_ Up to snuff education feature
- \_\_\_\_ Devil's Thumb design solutions feature
- \_\_\_\_ Green speed feature
- \_\_\_\_ Managing native grass feature
- \_\_\_\_ Research updates
- \_\_\_\_ Triplex mowers feature
- \_\_\_\_ Products
- \_\_\_\_ Making a difference

**3. What three books should be on every golf course superintendent's shelf?**

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Others: \_\_\_\_\_

**4. What are the three biggest issues in golf course management?**

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Others: \_\_\_\_\_

**5. What topics would you like to read about in *Golf Course News*?**

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**6. May we contact you?**

Name: \_\_\_\_\_

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Thank you.



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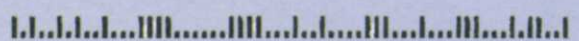


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# **GOLF**

**COURSE NEWS**

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CLEVELAND, OH 44101-0817





"Our main objective is to improve the irrigation system so that we can water more efficiently, while reducing water use, and energy and labor costs," Dalhamer says.

Spyglass Hill features various microclimates: heavily forested, shaded areas versus open areas exposed to the sun and ocean; and rough areas with dense, clay soil versus sand-capped fairways. Prior to renovation, Dalhamer didn't have the ability to turn on one rotor at a time. As a result, the microclimates that required different volumes of water would receive the same amount, which caused some areas to receive too little or too much water. As a remedy, the new system will be wired to give Dalhamer the capability to turn on individual heads as needed.

Around the greens, the Eagle series rotors were installed and repositioned. The redesign and addition of the new half-circle heads is designed to offer more precise distribution of water on greens, green banks and around bunkers.

The Freedom system is expected to give Dalhamer access to every rotor on the course via a GPS map and to allow him the flexibility to adjust running times without the need to turn on the heads from the satellites.

## Course seeded with SeaDwarf Seashore Paspalum opens

Naples, Fla. - The nation's first golf course to be grassed completely with SeaDwarf Seashore Paspalum opened March 3rd at Hammock Bay Golf & Country Club near Naples, Fla. The warm-season turfgrass was installed from tee to green, in the roughs and in all common areas around the golf course community's residential homes and roadways.

Hammock Bay's developer, WCI Communities, and golf course designers, Houston-based Jacobsen/Hardy Golf Course Design, selected SeaDwarf Seashore Paspalum for use as the only grass on the 18-hole, 7,080-yard course at Hammock Bay because of its salt tolerance and versatility of mowing heights. SeaDwarf Seashore Paspalum can tolerate salt levels as high as 22,000 ppm or higher and can be mowed from 1/8-inch to about 4 inches. For additional infor-

mation, visit [www.environmentalturf.com](http://www.environmentalturf.com) or call (772) 460-5575.

## Hospitality sales increase at Pinehurst

Village of Pinehurst, N.C. - Hospitality sales for the 2005 U.S. Open Championship are well ahead of schedule, according to Pinehurst officials. The U.S. Open is the National Championship conducted each year by the United States Golf Association. The U.S. Open was conducted last at Pinehurst in 1999.

The number of corporate hospitality marquees for the U.S. Open at Pinehurst has been increased from a record-breaking 50 in 1999 to 65 for the 2005 Open. To accommodate what will be the largest corporate marquee village in U.S. Open history, Pinehurst will use its practice facility, commonly referred to as Maniac Hill. A new contestant practice facility currently is under construction on the first holes of Pinehurst Nos. 3 and 5. However, both courses will remain open through 2005 National Championship play with exception to their respective first holes.

The Trophy Club package is a smaller entertainment option in a sports bar-themed pavilion featuring full food and beverage service, VIP parking, private restrooms, televisions and air-conditioning. Each package, priced at \$40,000, includes a reserved table with corporate signage and 12 tickets per day.

## Tree Doctor hired to minimize tree loss

Charleston, S.C. - The Daniel Island Co. hired Hendersonville, N.C.-based Tree Doctor to consult with Rees Jones, who is designing the second golf course on Daniel Island, to minimize the number of trees that are removed or damaged during course construction. Mead Tree Service also is part of the team working to preserve and maintain some of Daniel Island's natural resources.

"Our job is to save as many trees as we can, while at the same time, not interfering with the integrity of the golf course design," says Kenneth Knox, a consulting arborist/urban forester from Tree Doctor.

Once Knox identifies a tree he thinks



The Daniel Island Co. hired Tree Doctor to minimize the number of trees that are removed or damaged during course construction.

Photo: The Daniel Island Co.

can be transplanted, the team turns to Mead to prepare it for the move and to nurture it through the aftershock.

"Saving the magnificent trees on this island has been a priority from day one," says Matt Sloan, Daniel Island's c.o.o. "Trees set the character of this course in much the same way they help define the character of Charleston and the South Carolina coast."

Thirty-eight grand trees (30 inches or larger in diameter) were removed for the course. Forty-four trees that were in the path of the course routing, including several live oaks, were transplanted through the use of a giant tree spade or saved through massaging the original routing, Knox said. The cost to transplant each tree is about \$3,500, excluding arborist services and care and maintenance.

## McCumber to redesign Riverside

Jacksonville, Fla. - McCumber Golf will redesign the course at Riverside Golf & Country Club in Macon, Ga. Riverside Golf & Country Club—an 18-hole, par-72 course originally built in the 1960s that features natural rolling terrain, large Georgia pine trees, and lakes and creeks—will be enhanced by McCumber Golf's philosophy of suiting the course to the natural features of the land.

"Our redesign takes advantage of the spectacular vistas from tees and greens, in addition to bringing existing water features and rock outcroppings into play on several holes," says v.p. Jeff Lucovsky.

McCumber Golf's other current projects include Tumble Brook Country Club in Bloomfield, Conn.; Magnolia Point Golf & Country Club in



Green Cove Springs, Fla.; and the recently completed Tunica National Golf Course in Tunica, Miss., slated to open May 18.

McCumber Golf has designed or remodeled about 60 courses throughout the past 25 years.

## Club, association support turfgrass research trust

State College, Pa. - The Club at Nevillewood in Presto is the first golf club

in Pennsylvania to make a commitment to support the Pennsylvania Turfgrass Research Trust. The new endowment fund was created by the board in January to ensure a permanent source of reliable funding for critical ongoing research at Penn State's Turfgrass Program and its Valentine Research Center.

The club's board of directors voted to donate \$5.00 for each person in the club who maintains a USGA handicap. The financial commitment by the club was a response to the Growing the Game campaign created by the Pennsylvania Turfgrass Council board to raise awareness of the fund and the research it will support, and to offer ways in which to support the fund. The short-term goal of this campaign is to partner with 75 golf facilities in the state to pledge annual contributions to this new fund. The ultimate goal is to create partnerships that will create at least \$200,000 per year to grow the endowment.

## Construction of Laughlin Ranch under way

Bullhead, Ariz. - Laughlin Ranch Golf Club—an 18-hole, par-72, daily-fee golf club—is under construction. The course, which was designed by David Druzisky, stretches more than 7,000 yards and is routed through the highlands overlooking the Colorado River. The course, which is scheduled to open Dec. 31, will feature expansive fairways, large undulating greens and five tee boxes per hole to choose from.

## Joint venture to develop course in Tennessee

Jupiter, Fla. - Medallist Developments, a joint venture between Greg Norman's Great White Shark Enterprises and Macquarie Bank of Australia, partnered with Thunder Enterprises, owner of 1,450 acres near of Knoxville, Tenn., to design and build the Tennessee National Golf Course there.

Norman's design staff began studying the proposed site plans and visiting the property in the summer of 2003. Norman visited the site in late 2003 to begin formulating his design concepts for the course. During his second visit in early 2004 the routing plan was finalized.

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improved pest resistance. And while it might green up a little later than some bermudas come spring, once it takes off it's very aggressive. A lot of superintendents feel this is a big plus when they're dealing with fluctuating spring temperatures. TifSport. Specify it by name for your new course or renovation project.

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The design process is in the second stage of development as Greg Norman Golf Course Design prepares construction plans and specifications.

Amenities at Tennessee National will include a country club, a community marina and a wellness center.

## Raven Golf Club offers special rate

Scottsdale, Ariz. - From June 1 through August 31, the Raven Golf Club at Verrado is offering guests unlimited golf, unlimited use of the practice facility, use

of a golf car, breakfast and lunch or lunch and dinner from the Cocina Grille, and on-course nonalcoholic refreshments and snacks for \$55 per player, Monday through Thursday or \$65 per player Friday through Sunday.

## Hollow Brook scheduled to open in fall

Cortlandt Manor, N.Y. - Hollow Brook Golf Club, designed by Empire Golf, is a private, non-equity club that is scheduled to open in the fall. The golf club is Empire's sixth course. The 6,900-yard course is constructed on 180 acres of rolling hills and dramatic elevation changes and features the Hollow Brook river traversing the property. Water is in play on more than half the holes. A rustic-style, cedar clubhouse is scheduled to open in the spring of 2005.

## Angels Crossing opens in Michigan

Vicksburg, Mich. - Angels Crossing Golf Club opened in May. The 27-hole public course covers 750 acres and stretches 7,169 yards on the back tees and 4,845 yards on the forward tees. There are five sets of tees per hole. The course overlooks Portage Creek and Barton Lake and sits on rolling land featuring dramatic elevation changes, ponds, and native trees and grasses. Bruce Matthews III designed the course, which includes amenities such as a practice facility, target greens, practice bunkers and a short-game area.

## Trump selects Textron Financial as finance partner

Alpharetta, Ga. - Textron Financial Corp., a golf course lender, completed its financing of the new Trump National Golf Club at Bedminster (N.J.) with an affiliate of The Trump Organization. Terms of the agreement weren't disclosed.

Trump National Bedminster will offer an 18-hole course, 18 cottages, a men's locker room located in a restored carriage house and a 15,000-square-foot clubhouse created from the renovated estate home on the property, all situated on 465 acres at the historic Lamington Farm.



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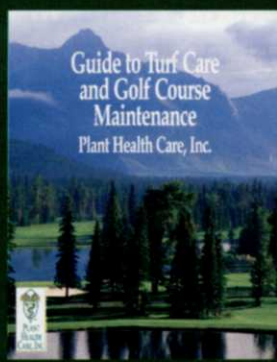
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## news

The course is scheduled to be completed by late summer 2004.

### Oberlin Golf Club reopens front nine

Oberlin, Ohio - Oberlin Golf Course finished remodeling its front nine holes. It now offers more playability for the average golfer, a more exciting bunker scheme and an improved practice facility, according to Denny Spencer, a golf course architect with Spencer Golf Concepts. The creation of the new ninth hole allowed for the practice range to be expanded and the establishment of a short-game practice area that uses the original ninth green. The course is closing the back nine holes during the fall for remodeling. All 18 holes will be open next spring.

### Canadian course celebrates 75th anniversary

Banff, Alberta, Canada - The Fairmont Banff Springs Stanley Thompson Golf Course in Banff National Park celebrates its 75th anniversary this year.

The 18-hole championship course (par 71 and 5,607 to 7,083 yards) was designed by golf architect Stanley Thompson and was opened by the Prince of Wales in 1929. At the time, it was the first course in the world to cost more than 1 million dollars to build, which is equivalent to about 25 million dollars nowadays.

Thompson's goal at Banff was to create a course where players of varying abilities could challenge their skills. Thompson's innovative flash-faced bunkers mirror the shape of the mountains and the natural run of the fairways.

The course is a Certified Audubon Cooperative Sanctuary. It was only the third golf course in Alberta and the 15th in Canada to achieve this status. The course is recognized for its commitment to providing a sanctuary for wildlife on the course property to the delight of golfers, elk and the occasional bear that might be seen wandering along the fairways, and for greatly reducing water consumption and chemical use. Course crews continue to adhere to a maintenance program that supports the goals and mandate of the Audubon Cooperative Sanctuary System of Canada.

## Association News

### EETC honors achievements

Heartland Wis. - As a nonprofit organization, the Equipment & Engine Training Council relies on volunteer members to help support and accomplish its goals. At this year's annual conference, the EETC honored the achievements of those members who've excelled through their hard work and dedication. Awards were presented in six specific areas.

The EETC honored **Alexandria Technical College** with its School of the Year award for its development of an outreach program that supplies high schools with engines and training materials so students can get a start on a career in power equipment repair. The Manufacturer of the Year award went to **The Toro Co.** for its continuing commitment to technician certification and dedication to the mission of the EETC. **Coye Consultants** received the Distributor of the Year award for its leadership in technician education, training and dealer development. The John Thompson Memorial "Service Manager of the Year" award went to **Andy Sadlon** of Florida Outdoor Equipment. Sadlon is the chairman of the electrical committee on the EETC board of directors.

Each year the EETC board president selects a person that has helped the EETC in its mission. This year Pete Fernald, manager of customer service for Shindaiwa and EETC president, awarded two President's Awards. The first went to **Tecumseh Power Co.** for its dedication to EETC technician certification. The second President's Award went to **Tom Kane**, national training manager, Kubota Tractor Corp., for his vision as a founding father of the EETC.

A new award was presented at this year's conference. The highest honor the EETC can present is the Spirit Award, which was presented to **Briggs & Stratton Corp.**

### Educational Institute unveils new Web site

Lawrence, Kan. - The Environmental Institute for Golf will showcase its informational and educational resources with the launch of a new Web site, which will provide information about

golf and the environment.

The site, [www.eifg.org](http://www.eifg.org), was unveiled during the Golf Course Superintendents Association of America's 75th International Golf Course Conference and Show in San Diego. The site will provide information about environmental issues related to golf, with links to other sites, allowing a variety of audiences to access information on golf's relationship with the environment easily. Currently, the site highlights the five centers of The Institute:

- water management,
- integrated plant management,
- wildlife/habitat management,
- golf course siting, design and construction and
- energy and waste management.

The Environmental Institute for Golf, the philanthropic organization of the GCSAA, is an effort of the environmental and golf communities, dedicated to strengthening the compatibility of golf with the natural environment.

### Student receives first annual grant

Lawrence, Kan. - The Golf Course Superintendents Association of America named Katelyn Ritter of Mount Airy, Md., the first recipient of the Joseph S. Garske Collegiate Grant.

The \$2,500 grant, funded by Par Aide and administered through The Environmental Institute for Golf, was established in honor of Par Aide company founder Joseph S. Garske. Each year, the program awards children of GCSAA members to assist in the funding of their education at an accredited college or trade school. The grant is renewable for a second year with proof of enrollment and a GPA of 2.0 or higher.

Ritter will attend The Pennsylvania State University next fall to study architectural engineering. Her father, Thomas Ritter, CGCS, has been the golf course superintendent at Hampshire Greens Golf Course in Silver Springs, Md., since 1997.

## Supplier News

**Clickitgolf** added 12 new golf courses to their growing list of affiliates: Bent Tree Golf Club, Blackhawk Golf Club, Chapel Hill Golf Course, Cooks Creek Golf Club,



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Fox Fire Golf Club, New Albany Links, Oakhaven Golf Club, Phoenix Golf Links, Royal American Links, Shamrock Golf Club, The Landings at Rickenbacker and The Legends at Locust Lane golf courses, which all are in the Columbus, Ohio area. Affiliate members enjoy benefits that include a professionally driven marketing campaign via [www.clickitgolf.com](http://www.clickitgolf.com) to help increase rounds and revenue.

Clickitgolf has more than 70,000 golfers in North Carolina, South Carolina, Virginia, Maryland, and Ohio that use its Web site, according to Robert Browning, v.p. It launched in May of 2001 and currently is partnering with more than 180 golf courses. Clickitgolf developed a way for golfers to use the Internet to save on a variety of services offered by its affiliate courses.

The new United States Golf Association recommendations for putting green construction include inorganic amendments

that meet specific requirements. **Profile Porous Ceramics**, an inorganic soil amendment, meets these requirements.

Profile particles are 74 percent porous and have an ideal balance of water and air pore space that promote a healthy root zone. Tests show Profile enhances the ability of the greens mix to retain water and nutrients while increasing infiltration rates to allow for proper drainage. A Profile/sand mix meets the USGA's recommended saturated hydraulic conductivity of a minimum of six inches per hour. Profile's particle sizing falls within the medium to coarse particle range of the USGA Guideline, which is 0.5 mm to 0.25 mm.

**Rain Bird Corp.** release of a four-part white paper that examines the depletion of the earth's supply of usable water and the recommended solution of efficient irrigation. The paper, "Irrigation for a Growing World," provides insight into the importance of practicing water conservation through efficient irrigation. The pa-

per, available in downloadable form at [www.rainbird.com](http://www.rainbird.com), underscores the company's more than 70-year commitment of promoting water conservation.

The Charlotte, N.C., plant of **Jacobsen**, a Textron company, recently exceeded one million hours of operation without a lost-time accident. Recognizing this accomplishment, Jacobsen was awarded the Textron Award of Merit for the second time.

Promoters of the independent film "Bobby Jones: Stroke of Genius" used a grassroots marketing strategy that includes GPS advertising on golf cars and posters in golf clubhouses in addition to traditional advertising and public relations campaigns. **Club Car**, which manufactures golf cars and utility vehicles, signed on as a national corporate sponsor to help promote the movie. Through its IR Media partnership, Club Car and **Uplink Corp.**, a provider of GPS-based commu-

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nications and course management software, provided advertising materials to more than 50 golf courses across the country to display in golf cars equipped with the UpLink technology. Twice during their rounds golfers saw images from the film on screens that are attached to their golf cars. Bobby Jones Film LLC also enlisted the support of the PGA, PGA Tour, USGA, American Junior Golf Association, National Golf Course Owners Association, Golf Course Superintendents Association of America and the Executive Women's Golf Association. The organizations lent their names and logos to collateral materials that Club Car sales people distributed to about 1,500 courses throughout the country.

**Lesco** opened nine new service centers in the first three months of 2004. They are in: Brookfield, Conn.; Kaukauna, Wis.; Wilmington, N.C.; Matthews, N.C.; Pleasant Valley, Mo.; Collinsville, Ill.; Lewis Center, Ohio; Millersville, Md.

and Austin, Texas. There were 256 service centers throughout the country as of March 31, 2004. The company's net sales during the first quarter of 2004 increased 8 percent to \$102.0 million from \$94.5 million during the first quarter of 2003. Lawn care gross sales improved 10 percent to \$85.7 million from \$77.6 million in the year-ago period, while golf gross sales declined 4 percent to \$17.2 million versus \$17.9 million last year. Service center sales grew 10 percent to \$68.3 million from \$62.0 million, while same-store service center sales increased 5 percent to \$64.9 million compared to \$61.8 million during the same quarter last year.

**Klingstone**, a manufacturer of a patented polyurethane soil stabilizer designed to treat the base of golf course bunkers to stop side wall erosion and sand contamination, will be featured on "Terry Bradshaw's Pick of the Week." The production company, Broadcast News Channel LLC, searches for companies that represent the backbone of America's economy.

Klingstone was chosen for its forward-thinking and consistent principles that have led to its growth and success, according to Dan Usry, executive producer. The two-minute segment aired on MSNBC June 16.

**Adverse Weather Insurance Group** introduced a seasonal and annual weather coverage program to the golf industry. Golf courses can purchase single-day coverage in bulk for a period of several days, weeks or months to protect profits during peak periods. If it rains during the period of coverage, golf courses can generate a profit during those days instead of losing revenue. Weekend seasonal, holiday weather, multi-day weather and tournament weather coverages are available.

**DryJect LLC** has four new franchises: Scott Szydoski in Northeast Texas, John Fleck in New York, John Majernik in

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southern Ohio excluding Cincinnati and Casey Dorn in Arizona. This brings the total number of U.S. franchises to 24. Since 2003, 16 franchises have been added. Dryject Service Centers are capable of injecting large volumes of a variety of dry materials into the soil while aerating, including sand/top dressing, granular insecticides, herbicides, fungicides, biologics and root stimulants.

## Personnel News

Angel Fire (N.M.) Resort named **Jon Bohannon** its head golf professional. Bohannon will be responsible for overseeing Angel Fire Resort's golf pro shop operations, instructional lessons, tournaments, retail sales, golf carts and driving range. Angel Fire Resort is a master planned development in a common interest community offering homes, condos and land.

**Doug Weaver** joined Greenwood Development Corp. as director of instruc-



Weaver

tion for Palmetto Dunes Resort and Palmetto Hall on Hilton Head Island, S.C. The 44-year-old former tour professional will assist golfers in perfecting their game-management abilities, their swings and their golf persona on the resort's three championship courses: Arthur Hills, George Fazio and Robert Trent Jones Oceanfront Course. Weaver plans to increase and improve the resort's women-only programs and daily classes, among other soon-to-be announced programs. Weaver will join his 8-year-old junior golf school with Palmetto Dunes Junior Golf Academy.

Eight individuals in the golf industry agreed to collaborate as members of The Environmental Institute for Golf Advisory Council: **Vernon A. Kelly Jr.**, president of PGA Tour Golf Course Properties; **H. Thomas Webb III**, senior vice president of residential development for Crescent

Resources; **Tom Crow**, founder of Cobra Golf and also a retiring trustee for The Institute; **Dana Garmany**, chairman and c.e.o. of Troon Golf; **R.D. Hubbard**, owner of Bighorn Golf Club in Palm Desert, Calif.; **Robert Sillerman**, c.e.o. of FXM; and **Frank Weed**, c.o.o. of Medallist Developments. **Jamie Ortiz-Patiño**, owner, president and golf course superintendent at Valderrama Golf Club in Sotogrande, Spain, agreed to serve on the Advisory Council in September. The Environmental Institute for Golf, the philanthropic organization of the Golf Course Superintendents Association of America, is a collaborative effort of the environmental and golf communities, dedicated to strengthening the compatibility of golf with the natural environment. The purpose of the advisory council is to provide guidance to the institute's board of trustees, in the areas of outreach, fundraising and strategic planning. The members were selected to the advisory council to enhance the institute's ability to cultivate relationships with current and potential donors,

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as well as communicate the importance of the work conducted by The Institute.

The Golf Course Builders Association of America elected five officers and added four new members to its board of directors. The officers and new members will serve two-year terms. The elections took place in conjunction with February's Golf Course Superintendents Association of America conference in San Diego. Elected officers are:

President - **Tommy Sasser**, Weitz Golf International;

President Elect - **Tom Shapland**, Wadsworth Golf Construction Co.;

Vice President - **Rick Elyea**, Tee-2-Green Corp.;

Secretary - **Michael Harrington**, HARCO Fittings; and

Treasurer - **Steve Christman**, Eagle Golf & Landscape Products (second term).

**Fidel Garcia** of Ryangolf Corp. will continue to serve the board as immediate past president. As the new president, Sasser brings more than 30 years of experience in golf construction and land development with him. At Weitz Golf International, his responsibilities include developing and presenting business plans for construction projects throughout the world. His affiliations include National Golf Foundation, the GCSAA and the Urban Land Institute. The GCBAA also welcomes the following new board members: **Klaus Ahlers** of Leemco; **Glenn Caverly** of Golf Course Construction.; **Mick Jones** of The Toro Co.; and **Scott Pate** of Seaside Golf Development.

During the Equipment & Engine Training Council's annual conference, the board of directors voted in five new members (see photo at right): **John Chocholak**, instructor, Ukiah High School; **Mike Goad**, training manager, Dixie Sales; **Brian O'Neil**, technical instructor, Kawasaki Motor Corp.; **Lynn Pesson**, owner, Southland Engines; and **Earl Miner**, manager, US Technical Services, Oregon Cutting Systems Group. Each will serve a two-year term on the EETC board of directors. Also, **Dann Roark**, service training manager, Briggs & Stratton Corp., is the news president of the EETC executive board. Rounding out the remainder of the executive board are vice president **Fred Moreaux**, technical service and training director, Ariens Co.; Secretary **Mark Lindemann**, instructor,

Alexandria Technical College; Treasurer **Brian Kassel**, customer care manager, Coye Consultants; and Immediate Past President **Pete Fernald**, service manager, Shindaiwa.

**Daniel Jazdzewski** was appointed accounts manager for John Deere Landscapes in San Diego County. John Deere Landscapes is a wholesale distributor of irrigation, landscape lighting and landscape products for professional contractors. Jazdzewski will work on new customer acquisition and will be based at a branch in San Marcos, Calif.

Lesco promoted **Luke Stratton** to technical services manager and **Mike Maravich** to technical services representative.

Rain Bird Corp. promoted **Barbara Booth** to director of the company's golf irrigation strategic business unit.

Rain Bird Corp.'s golf division added **Scott Stevens** as district sales manager for the Southern California region. Stevens will promote customized irrigation systems to new and existing golf courses in Southern California. He will be based out of La Quinta, Calif.



West Coast Turf promoted **John Marman** to regional sales manager for Southern California and Southern Nevada. Marman will be overseeing the Southern California and Southern Nevada regions—responsible for new business development for golf, landscape and sports turf. In addition, he will be general manager for WCT's Las Vegas operation. Marman is a founding member of the Nevada Landscape Association's Southern Chapter and has served as secretary/treasurer of the state board for several consecutive terms.

**Curt Franklin** has been added to Waukegan, Ill.-based Precision Laboratories sales team. Franklin will be responsible for managing customer relationships in Alabama, Arkansas, Louisiana, Oklahoma, Mississippi, Tennessee and Texas for the golf course, lawn and landscape, and athletic field markets. Franklin's hiring represents a completion of the company's plan to expand its national sales presence. GCN



EETC 2004 Board of Directors. Back row, from left: Pete Fernald, Shindaiwa; Earl Minor, Oregon Cutting Systems; Brian Kassel, Coye Consultants; Kevin Stricker, Stricker's Outdoor Equipment; Eric Gearhart, SkillUSA. Middle row, from left: Mark Lindemann, Alexandria Technical College; Mike Barnett, MTD Products; Mike Goad, Dixie Sales; John Chocholak, Ukiah High School. Bottom row, from left: Dann Roark, Briggs & Stratton Corp.; Brian O'Neil, Kawasaki Motors; Andy Sadlon, Florida Outdoor Equipment.

Photo: Equipment & Engine Training Council

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USE READER SERVICE #24



# Golf facilities revenue linked to rounds played

**D**uring January and February, the National Golf Foundation conducted a survey of U.S. golf facilities to collect rounds and revenue data to compare 2003 with 2002. About 1,850 facilities responded—150 are nine-hole courses, 270 are 27-or-more-hole courses and 1,430 are 18-hole courses. About 1,180 are public and 670 are private.

Revenue, including rounds, food and beverage and merchandise, at private

clubs are highest, followed by premium, standard and value public courses.

Generally, revenue correlates with rounds by region. For example, rounds decreased 6 percent throughout the Northeast from 2002 to 2003. For the same period, total revenues declined 3 percent at premium public courses, 7.2 percent at standard public courses, 13.3 percent at value public courses and 0.2 percent at private courses.

Where rounds declined because of severe weather, in some cases, revenue per round increased. For example, rounds declined 13 percent throughout the Mid Atlantic, but at private clubs, total revenue per round increased 17 percent because members continue paying dues but can't play as much golf. At public courses, where rounds decreased but revenue per round increased, the reason appears to be slight increases of green fees. GCN

## Golf facility revenue analysis

Source: National Golf Foundation

PREMIUM PUBLIC					VALUE PUBLIC			
	Average Total Revenue 2003	Percent Change vs. 2002	Average Rounds Revenue 2003	Percent Change	Average Total Revenue 2003	Percent Change vs. 2002	Average Rounds Revenue 2003	Percent Change
Northeast	\$1.65 m	-3.0%	\$1.33 m	-4.2%	\$394,449	-13.3%	\$189,980	-15.6%
Mid Atlantic	\$1.64 m	-1.4%	\$1.21 m	-3.0%	\$712,393	6.9%	\$599,376	0.7%
Southeast	\$1.90 m	-0.4%	\$1.58 m	-1.3%	\$447,805	-0.3%	\$386,341	4.2%
Central/South Florida	\$4.66 m	9.5%	\$3.08 m	11.3%	\$1.07 m	-0.9%	\$942,766	-3.0%
Gulf Coast	\$3.17 m	1.1%	\$1.92 m	-2.5%	\$802,482	5.2%	\$601,352	8.2%
South Central	\$1.83 m	8.2%	\$835,720	21.4%	\$456,545	-8.1%	\$376,584	-5.0%
Lower Midwest	\$1.50 m	-0.1%	\$954,159	-1.6%	\$520,537	1.7%	\$305,225	3.2%
Upper Midwest	\$1.35 m	5.9%	\$955,856	5.2%	\$385,149	11.0%	\$206,343	9.9%
Mountain	\$1.69 m	-1.2%	\$1.17 m	-2.5%	\$637,644	1.7%	\$528,587	-2.7%
Southwest	\$4.70 m	1.8%	\$3.35 m	-3.1%	\$1.13 m	2.3%	\$673,887	-4.2%
Northwest	\$1.45 m	4.6%	\$886,481	-1.8%	\$359,038	4.6%	\$886,481	1.5%
STANDARD PUBLIC					PRIVATE			
Northeast	\$1.02 m	-7.2%	\$742,862	-8.0%	\$2.82 m	-0.2%	\$1.23 m	-0.8%
Mid Atlantic	\$973,628	-10.6%	\$667,163	-15.2%	\$2.06 m	2.7%	\$968,758	-0.7%
Southeast	\$942,717	-3.7%	\$699,204	-3.3%	\$1.77 m	-0.1%	\$871,344	-0.7%
Central/South Florida	\$1.84 m	6.9%	\$1.52 m	4.7%	\$3.47 m	7.2%	\$2.22 m	4.9%
Gulf Coast	\$1.22 m	1.4%	\$884,535	1.1%	\$2.74 m	2.8%	\$1.79 m	4.5%
South Central	\$1.21 m	-4.0%	\$1.01 m	-7.4%	\$2.94 m	1.4%	\$1.93 m	-0.9%
Lower Midwest	\$739,760	-1.5%	\$533,324	-2.3%	\$1.59 m	-0.1%	\$619,086	0.0%
Upper Midwest	\$734,986	5.0%	\$445,359	4.2%	\$1.64 m	2.4%	\$654,895	1.1%
Mountain	\$1.41 m	-2.4%	\$844,107	-7.7%	\$2.08 m	0.1%	\$596,276	1.4%
Southwest	\$2.52 m	2.3%	\$1.64 m	3.3%	\$4.99 m	6.3%	\$3.33 m	3.9%
Northwest	\$1.12 m	1.4%	\$680,480	-0.8%	\$2.36 m	2.0%	\$708,699	5.4%



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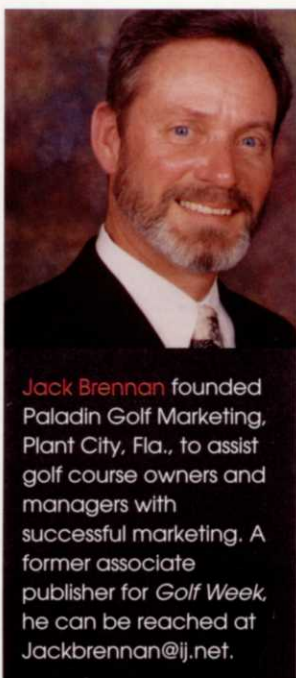


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Jack Brennan founded Paladin Golf Marketing, Plant City, Fla., to assist golf course owners and managers with successful marketing. A former associate publisher for *Golf Week*, he can be reached at Jackbrennan@lj.net.

## Contests inspire results

**G**etting things done means taking action. We're a society that loves results. In business, it's often said there's little else that counts.

But think more carefully about the process behind getting results. It starts by identifying a problem or some opportunity. In business planning, this step often is called brainstorming—an open discussion about what could be done, should be done or what's possible.

Once an idea is generated, the second step is to decide how to solve the problem or make some advance. Basically, this is a planning process that involves deciding what is the best way to get something done, deciding what the priorities are and looking at any of the trade-offs involved when taking one course of action versus another.

Results come when your best idea(s) are put into practice.

This process isn't an issue for superintendents when it comes to their agronomic duties. Any superintendent who doesn't approach turfgrass management in this way is probably not going to have his or her job for long.

But few superintendents apply the three-step logic to the nonagronomic parts of their jobs. Few stop to take an open-minded view of everything they do, or everything they could do for the course, especially in the area of marketing to generate more profit.

One of the exercises I use to help a golf course make its marketing effort more creative is to hold daily contests for all department heads and their staffs. Each supervisor is responsible to generate at least one action every day that will generate future profitable revenue for the course. This contest can last from several days to more than a month.

It's somewhat of an awkward contest to gain immediate momentum, but once department heads get on board with it, most are surprised at the many opportunities that they and their staffs have never seen before. Many times superintendents and their staffs are the contest winners because there are many aspects of the course they touch. And once the team is trained to think about contributing to net revenue every day, their mindset changes.

One superintendent handled his contest assignment by directing three of his staff to spend one hour per day finding something that could be done—without taking away

from their primary jobs. One staff member saw the county shredding trees in the area and asked if the course could take the chips to put around trees on the course. The county agreed, and the result added an attractive clubhouse curb appeal for almost no cost.

Another superintendent began to take grass from out of the way areas to patch the cart path. Another superintendent strategically ceased mowing 70 of his 260 mowable acres and created a turf repair farm located in different areas throughout the course. These ideas made maintenance easier and saved money for little or no investment.

But just as important as the actions taken is the creation of the mindset this contest produces. Most of us are so busy day to day we never stop to think about what could be done, or about the impact our creative thinking and actions could have on the course and our jobs. Thinking creatively isn't just the superintendent's responsibility. It's also tapping your staff for their best ideas—they're the ones out on the course everyday that see problems and opportunities that usually don't get voiced.

Which brings us back to the first two of the three steps listed above—brainstorming ideas and developing action plans. The good news is you don't need a consultant to make

or she talks. Try to capture the essence of the idea in writing in a few words.

When the brainstorming session comes to an end, when there are no more ideas, you should have many sheets with ideas on them. At this point, take a break and tape the sheets on the walls. After the break, analyze each idea, group the ones that are similar and start to prioritize them by deciding which are most important or easiest to do. The process is simply a cost/benefit analysis—if something is beneficial and easy to do for a low cost, then there's no reason not to do it. If another idea is beneficial but involves cost and more effort, then you have to decide whether to make the investment.

Some ideas will sound dumb during the analysis period. That's OK. They were created during the brainstorming session, so don't make the person who came up with the idea defend or explain it. That will kill their participation the next time. It's better to ask someone else if they think the idea has merit or could be modified to become workable. Some ideas will be unworkable. That's OK, too. But a few are going to be excellent ideas. Focus on them and start generating an action plan—the who, how and when of getting it done.

Many staff people will take ownership of ideas and give them extra effort to make

**"One of the exercises I use to help a golf course make its marketing effort more creative is to hold daily contests for all department heads and their staffs."**

this happen. You can do it in your next staff meeting. Just get a flip chart and a magic marker and start asking your staff how you can improve the course, make their work faster or easier, or improve communication. Then start writing the answers down without allowing any editorial comment from you or anyone else. Brainstorming gets killed when people start making fun of someone else's idea. No one wants to be made fun of, so unless you eliminate that fear right away, you won't get the ideas you want.

If certain people dominate, ask them to give others a chance to talk. If some don't offer ideas on their own, call on them.

It's fair to ask for clarification of an idea during the brainstorming process or to let the person who suggested it develop it as he

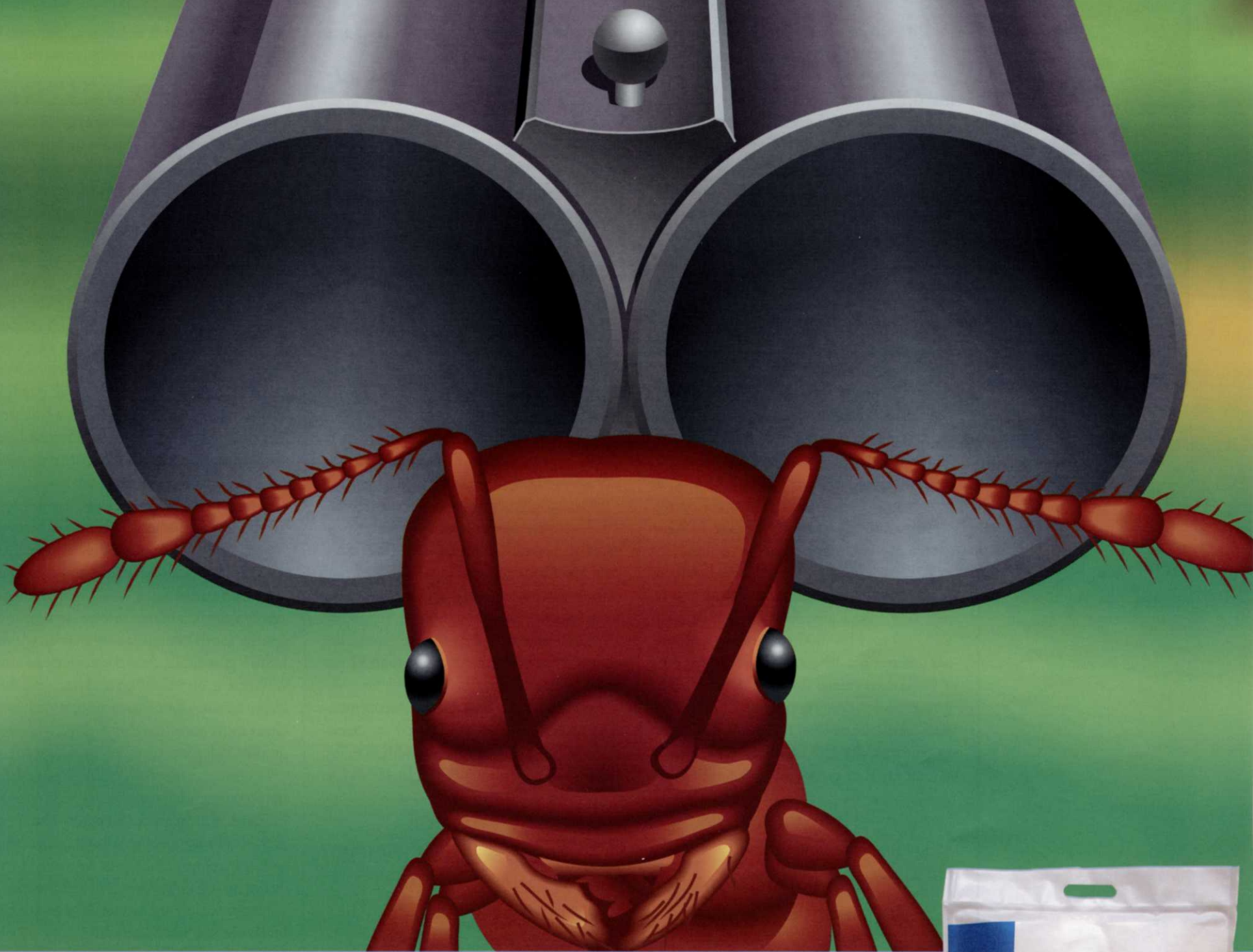
them happen. That's another benefit of this exercise.

Here are two suggestions to make your brainstorming and action plan session more successful. First, make sure you set the right tone right away by telling everyone that their jobs involve more than just doing their assigned work. Ultimately, everyone's job is to improve the course, cut costs, work safer and help the course be as profitable as possible. Second, make the meeting fun. Give prizes to the best ideas, and have some food and drinks as a way to thank everyone for their time and best ideas.

Actions generate profitable revenue. But actions begin by seeing the opportunities and planning the best way to make them happen. GCN



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\*source: USDA





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# Greens in renovation

During a recent project interview, the greens committee asked what kind of construction I recommended for rebuilding its greens. Another architect had raised the idea of using a different greens construction method than the traditional U.S. Golf Association method most architects recommend. This had piqued the committee's interest. But given the club's finances, I don't understand the curiosity.

If a course can afford it, it should invest in USGA greens. Considering the importance of greens to a course's success, one can't afford *not* to build them using the most recommended practice.

This is not to say that I've never recommended "California" or other greens construction, especially early in my career when budgets were tight. And in the current economy, I'm sure all aspects of golf course construction costs are being scrutinized, including whether USGA greens are necessary.

There are some key differences between USGA and California greens, and cost is just one. Typically, USGA greens cost \$60,000 to \$100,000 more than California greens on a 19-green renovation.

California greens also differ from USGA greens because they consist of 12 inches of pure sand placed directly on the sub-base. In contrast, the USGA method requires a 4-inch layer of gravel and, depending on

drain faster because of the gravel layer and do well even with poor water quality);

3. Weather is relatively temperate, and a qualified superintendent can grow grass under less-than-optimum conditions;

4. Where native sands naturally have porous characteristics;

5. When the owner absolutely needs to save money; and

6. Where long-term success isn't critical to the owners.

Still, constructing California greens isn't the only option for saving money. There are a host of modified USGA procedures, although the USGA may deny this. One typical shortcut on lower-budget jobs is rototilling organic amendments instead of mixing off-site or using sand that doesn't conform to recommendations. In either case, there's a risk of eliminating the benefits the USGA method was intended to create.

When construction cost is an issue, one way for superintendents to sell the additional expense of a USGA green is the insurance sales technique of breaking down that cost into a daily increment. This makes the cost seem smaller. Say, throughout the expected 15- to 20-year life span of those greens, the additional cost translates to less than \$1 per green per day.

Another plus is that USGA recommendations have always been based on extensive research and have been modified many times since being introduced in 1968. On

perintendents, and academic evaluation gleaned from turfgrass research over the last two years."

The revised USGA recommendations have come full circle to their original intentions of incorporating local sands to build practical greens inexpensively and minimize compaction, while using fertilizer and irrigation technologies to replace nutrients and water lost more easily through a sand profile. As a result, the cost differences between USGA and other methods are narrowing.

The cost of building USGA greens has increased for years. As the USGA refined the sand characteristics through more research, there was an unintended consequence. Adherence to the sand particle charts – which were intended as a first step to determine if a type of sand might have suitable characteristics – meant that sand choices narrowed too much.

A few high-profile lawsuits, such as one in which the contractor wasn't paid because greens drained 0.1 inch per hour less than the USGA guidelines, scared architects, superintendents and soil testing and agronomy consultants into using more expensive sands than necessary to keep within USGA guidelines. And the expense of sand isn't just a one-time cost. After selecting imported sand for construction, superintendents must continue to top dress with that sand or risk creating layers in the greens.

Luckily, the newest USGA greens material recommendations and increased options for sand, tile, organics and percolation rates allow more ways for greens reconstruction to meet recommendations. Typically, I recommend USGA greens and then working with the project superintendent to acquire local, site-specific materials.

Still, for all the science that goes into the basic USGA green, every course needs a specific green construction method. Superintendents who have been in regions for a long time have done their own research and may have a lot of information in their heads. One might call it "feel" or intuition, but superintendents with such experience should make the final call on minor tweaks to get the greens just right. There are many great greens not built exactly to USGA specs – a tribute to the skills of the superintendent and a nod to the notion that there's still some art, and not all science, to the job of producing great greens. GCN

**"The new USGA greens material recommendations and increased options of sand, tile, organics and percolation rates allow more choices for greens reconstruction to fall under the recommendations."**

material sizes, an intermediate layer of coarse sand to keep root-zone sand from filtering into the gravel. Both methods call for a herringbone tile pattern to drain water from the green cavity.

In spite of these differences, I've recommended California greens with success under the following six conditions:

1. The superintendent understands them and wants them;

2. Water quality is poor, and the pure sand moves it through the profile (although newer research shows that USGA greens

the other hand, university researchers developed the California method shortly after the original USGA green. The California financial crises prevented further research funds for golf greens, while USGA recommendations were revised earlier this year.

"The 2004 guidelines are the result of more than 100 people worldwide evaluating all aspects of greens construction," says Jim Moore, USGA construction education director. "We are happy with the approach taken, and it incorporates both real-world expertise of architects, contractors and su-



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Jim McLoughlin is the founder of TMG Golf, a golf course development and consulting firm ([www.TMGgolfcounsel.com](http://www.TMGgolfcounsel.com)) and is a former executive director of GCSAA. He can be reached at [golfguide@adelphia.net](mailto:golfguide@adelphia.net).

# Why they quit the game

**W**hy do 3 million players quit golf each year?

Putting this question in context, it's noted that 3 million people also take up the game each year. But because it's difficult to bring players to the game and easy to lose them, the future welfare of the game requires the above question be addressed. Considering possible solutions to this crucial problem requires debunking three long-standing myths.

**Myth No. 1:** Golfers leave the game because scheduling tee times is a constant struggle. Reality: Because the preponderance of good municipal and semiprivate golf courses throughout the country provide as many as eight-day priority tee time access, golf can be scheduled comfortably when there's a will to do so.

**Myth No. 2:** Golfers leave the game because it's too expensive to play. Reality: While golf electively is expensive for some, the game remains affordable to the general golfing public. The secondary club market has developed to the point where a good set of used clubs can be purchased for \$500 or less. Regarding fees, many millions of residents living within municipal districts and members at many semiprivate golf courses can play 25 to 30 rounds of golf a year for less than \$1,000.

**Myth No. 3:** Golfers leave the game because of the time it takes to play a round of golf. Reality: In the current golf world, slow play is no longer tolerated. Almost every popular golf course will maintain play at less than four-and-a-half hours.

Younger families don't have the leisure time to play golf regularly, this reality should dictate when someone plays golf, not whether an individual commits to playing golf. Golf doesn't require people to play it continuously throughout their lives. Rather, the game is a patient "friend" that allows people to choose when they connect, disconnect and reconnect with the game as changing circumstances in their lives allow.

## The real problem

The paramount factor that drives golfers from the game is the difficulty playing the game, which often can be attributed to too many overbearing golf courses and not making effective golf instruction available to the masses.

The problems with too many new golf courses are:

1. With the better lands often long gone, new courses are built on more difficult sites, which produce more difficult new golf courses that result in 125 to 135 slope ratings from the men's regular tees. Recognizing that the national slope average for men is 113, more user-friendly golf courses should be designed within a 110 to 120-slope-rating range.

2. More difficult courses also can result from a latent conflict of interest between a project's golf course architect and its developer. This situation arises because the developer generally wants a course designed for everyone to play, and the architect generally wants a course that will earn the highest possible ranking, which means it will be comfortably playable only by the better players. The net result is a growing inventory of golf courses that discourages typical players more than it encourages them to play. Architects defend their aggressive designs by explaining that six sets of tees for each hole allows everyone to play a course comfortably. However, too many architects consistently overdefend their greens, which can add five to 10 strokes to a player's handicap.

## Real solutions

The basic remedy for this problem is to educate the development community about the slope-rating system—what it means and how it can be helpful.

Then, preliminarily slope rate golf courses during the construction-plan phase before they're built to put everyone on notice and to allow for plans to be amended when appropriate. Currently, a golf course is slope rated only after it's built and opens. This dual approach should result in more courses being designed for their clients' needs than for the pursuit of higher course rankings.

Difficulty of play is also a problem with many older golf courses because the majority older golf courses fail to provide the industry-recommended 6,100-yard tees for all male players with 15 and higher handicaps. These older golf courses generally are playing from about 6,400-yard tees, which will consistently add four to eight frustrating strokes to a player's medal score.

An approach that would soften older

courses, where necessary, would be to establish sets of 6,100-yard tees at courses that don't have them. This practice is underway throughout the country, with the new 6,100-yard tees designated as "green" tees. Other steps to consider include converting some of the strategic sand bunkers on a golf course to grass bunkers and controlling speed on fast-paced greens.

The paramount problem facing golf is the perceived complexity of golf instruction. Because golf is played in a 360-degree, three-dimensional environment, it can be difficult to teach and learn. This results in present day golf instruction being far less effective than the game requires.

A large segment of the game's teachers have fallen into the trap of overpresenting micro techniques before helping students master macro principles. This is too often exemplified by watching an inexperienced instructor using micro techniques to establish a neutral grip with a beginning student before establishing the most fundamental macro teaching principle that the club head should approach the ball at a square angle. Teaching "why" is often more effective than teaching "how."

Golf is faced with the huge challenge of restructuring its basic approach to teaching the common player. Golf can no longer afford to allow the game's most inexperienced instructors to teach the mil-

lions of the game's most inexperienced players. This can be accomplished by qualifying and rating teachers before granting them access to the country's in-

structional programs, and by using modern communications technology to improve golf-instruction visuals.

The golf industry has paid millions of dollars to consulting and marketing firms during recent years in a failed attempt to bring more players to the game and to keep them there. This approach has been less than effective because golf cannot buy its way to player-development success. Rather, the answers lie within moderating overly aggressive course design, and more importantly, substantially improving the quality of golf instruction.

The question remains, who will lead the renaissance? GCN

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## In the balance

PLANNING AHEAD AND HIRING COMPATIBLE ASSISTANTS CAN HELP SUPERINTENDENTS ACHIEVE STABILITY BETWEEN HOME LIFE AND WORK

by  
JOHN  
WALSH

**Q** Explain your typical day and work week.

I typically divide the year into two seasons—the off-season and the in-season. During the in-season, I wake up just before 5:00 a.m., and arrive at the course about 5:30 a.m. I live only a mile from the club, but I like to stop and get a cup of coffee and enjoy some private time before I get to work.

I don't believe I do anything atypical of any other superintendent. We have many projects going on at one time. I have a terrific staff of 17, and have two interns with us for the summer. I enjoy assigning the first task in the morning. We use a large board where jobs are listed and expectations are posted. I believe at least 70 percent of the

daily work is completed within the first four hours of the day, so it's important I set that tone. I delegate more to my assistants as the day goes on.

The work week can be flexible with effort. I can do a lot of family activities by taking off and coming back later to make up the time from being off property. The job offers a certain degree of flexibility. Typically, I work Monday through Saturday. I try not to come in on a Sunday unless a tournament or the weather dictate I should be around. Saturdays are usually spent meeting with members and being more visible.

In-season, we come back after hours several days of the week to do jobs that might interfere with play, such as pesticide applications, in-line irrigation repairs or getting a few extra acres of rough mowed, or when we want to be less intrusive. When I arrive early, it doesn't translate to leaving earlier; it usually just adds that time to the total day. I estimate I put in about 50 to 55 hours per week. During the off-season, I will adhere to a more traditional schedule and stick to 40 hours per week. Off-season days are full, similar to in-season, but without the intense pressure of getting things done now.

**Q** How do you manage your time?

I usually don't like to deviate from routines. I like to keep the staff focused and on task. After assigning the morning's first assignments, I will head back to the office to check e-mails and then tour the golf course. As mentioned before, as the day progresses, I delegate more through the assistants. I tend to return all nonurgent phone calls during one or two periods during the day.

We try to be efficient. We have a new maintenance facility, which is four-seasons old, that was designed with a conveyor-belt-type system, meaning it allows moving forward. I'm always saying little victories lead to big victories. I like to accomplish a lot of little chores first then tackle the more time consuming jobs next. This builds positive momentum. Examples of this could be checking irrigation heads. We will focus on the small, mister-style heads first, knocking off 20 or so at a clip, then tackle the larger leaks later. Another quick example is mulching or weeding flower beds. We start with the smaller beds first and progress to the larger ones second. In general, people feel better with themselves if they accomplish something during the day. Again, it builds momentum. I share my philosophy, never preach, and we go on.

**Q** Do you consider your job stressful? How do you handle stress?

For me, there's an ebb and flow as it relates to stress. It all revolves around the greens. When the greens are healthy and ball roll is acceptable, life is pretty good. As the temperature and humidity rise, so does my stress level. I tend to internalize most of it.

Admittedly, during the past two seasons, I've struggled a bit. I began to question programs we had in place and the time they were taking to materialize. So I hired a turf consultant, Ed Etchells of Golf Turf, for a review. He has helped reduce my stress level.

I solicited advice from others often. When Ed leaves, I feel good. He gives me peace of mind. I have a touch of insecurity that keeps me motivated. These turf consultants are often negatively perceived, but I believe if used right, they're a great asset. I remind superintendents that the consultants work with you not for you, so be prepared for some blunt talk.

I created some self-inflicted stress by following Tony Savone. Tony was the superintendent at Quaker Ridge for 27 years and maintained this golf course as the standard for the area. During the transition, the membership also wanted me to transition the golf course to play differently—lower heights of cut, less water, lower fertility—all things you're "not supposed" to do. What followed were disease outbreaks that included Anthracnose. This devilish fungus created havoc for a few seasons on the turf. During this time the membership was tough, patience was tested, and rightfully so. I informed them with as much information as possible and gave progress reports. Other superintendents in the area were also dealing with the same problem, so communication among each other was vital for me. I really shook things up. I'm hoping for a less stressful summer this year.

**Q** Do you feel you spend enough time with your family?

It's vitally important to be able to balance work and family. I live in an affluent area, not because I can, but because I needed to live near to the course. True, I had to sacrifice a larger house by buying a smaller one, but I wanted to be close to home and not have to commute. It's a trade off.

I often bring my kids back to the course with me, and even my wife will come. It's a great feeling to be together like that. They're having fun with dad, and I'm making those mental notes getting ready for tomorrow. If I had a long commute, I wouldn't do that as often as I do. To make more time for my

GOLF COURSE NEWS  
INTERVIEWS STEVE  
RENZETTI, CGCS, GOLF  
COURSE SUPERINTENDENT  
AT QUAKER RIDGE GOLF  
CLUB IN SCARSDALE, N.Y.





Photo: Regency Studios





Photo: Regency Studios

Steve Renzetti discusses a project with one of his staff members. Renzetti likes to review the day's projects early in the morning and delegate certain jobs.

family, I come to work early while they are still sleeping. Again this frees up time for them later on in the day.

My wife is the foundation of our family. She's the reminder for me of what's important in life and gives me reason to maintain a balance. While pregnant with our first child, she was diagnosed with cancer — Hodgkin's. Since then, she's been cured, but it grounded me and put what's really important in life into perspective. It was one of those life lessons learned.

I enjoy picking my kids up from school, attending all their school activities and coaching their little league teams.

## **Q** How does work affect your personal life?

Most of the time, I can separate work from home life. When I'm at home, I want to give my family full attention. During hot summer nights, I might not be as good at that as I would like to be because I'm usually a little nervous worrying about the turf.

I tell my sons, if you're not going to give 100 percent, don't do it. Half efforts don't help anyone, advice I should heed sometimes. It's just my philosophy. Nothing is set in stone. They're guidelines if you will.

## **Q** What is your opportunity like for advancement in this industry?

When I was an assistant, I remember hearing that when you become a superintendent motivation could be tough because the question becomes, "Where do you go from here? You achieved the goal, being a superintendent."

Success is a internal. I strive to be a better superintendent each day. Each opportunity

has its own challenges. I'm happy now. I'm at a great club, one that I could retire at and be satisfied with my career, or be pressed with an opportunity tomorrow. I'm always working, preparing for the next opportunity. I want the choice to be mine. Success is defined differently for everyone. For me, it's about choices and being in a position to not only have them but also be able to act on them.

I'm always encouraging my assistants and interns to be well-rounded and diversify their backgrounds — volunteer with the Golf Course Superintendents Association of America or a local chapter, get involved with extracurricular activities, be active. I encourage them to open their network to a bigger audience, even though some of that might be calculated.

Jim McLoughlin's (McLoughlin is founder of TMG Golf, a golf course development and consulting firm) philosophy of career management is right on. I owe him so much. He opened my eyes to varying aspects of career management at an early age. He put examples of role models, such as a Ted Horton (a certified golf course superintendent and consultant) among others, in front of me to serve as examples. I have always taken admirable traits from others and incorporated them into my life when possible.

## **Q** What is McLoughlin's philosophy?

I've participated in several of Jim's seminars and was lucky enough to have attended my first one early on, right out of college. He emphasized setting a broad and solid foundation for yourself, trying to diversify your experience, working for several different style courses, being self sufficient, giving yourself a budget for clothing, education, etc. He has a saying, "be patiently aggressive," and keep pushing yourself in a professional manner.

I remember hearing Jim use the word "pedigree" 18 years ago. Now it's a buzzword I hear often when clubs are seeking new employees. He would point out that you will give yourself a competitive advantage ... All things being equal, most clubs will hire the candidate with the "name" club on the resume or if he/she worked for a prominent superintendent. Right or wrong, they're covering their butts.

I reiterate the same advice to my assistants and interns. It's easier to build that into a resume early in a career than later when you're less mobile and have fewer commitments.

When he took his seminar "national," I had mixed emotions, my immediate thought was ... now the secret is out and

my competitive advantage will be gone. I say that tongue-in-cheek of course. Jim "gets it." I have benefited from his advice and many others will.

## **Q** How do you coach and mentor assistants?

One of the best means I have of reducing stress is having quality assistants. I always have sought and hired the best, most talented person available. I rely on them to help me meet the goals of the club. I hope I pass on sound agronomic practices. They will innately pick up many of those things anyway because they live and breathe turf, and they see what we do. It's the life lessons I hope to influence, even if it's just a little.

I'm not one to lecture. I talk situationally. I share fun, family stories about my kids. I want them to see that I enjoy my family and that you can be devoted to both, work and family, without sacrificing one over the other. One of my staple interview questions is somewhat probing. I ask what they do with their free time? I want to hear if they're active people or not, or if they're self-motivated. I'm extremely selective when hiring. Compatibility and attitude rank higher than ability. I can train technical skills, but it's hard, if not impossible, to train attitude.

I share club politics and historical perspectives on issues. I'm always emphasizing saving money. A repeated comment I always make is: "You will remember me in 30 years not for the top dressing technique you learned or how to hand-water a green, but hey, I'm glad Steve had me start saving early." It's a lot like father-and-son conversations. I'm flattered when a former assistant or intern calls for advice and some guidance about a particular situation or job. We all get caught up in our own glass-walled worlds, especially during the summertime. A happy employee is a good employee and that goes for me as well.

## **Q** What are your thoughts about being a superintendent?

If a superintendent can manage their career properly, the family/work relationship can be very symbiotic; it could be a wonderful dynamic. There aren't many other careers that could allow the flexibility to make the most out of the two most important aspects of life. I have been faced with opportunities that were compelling, but after careful consideration, I always come back to the flexibility issue. I might not take two-week summer vacations like some other professions, at least not during the "in-season" period. Instead I get my fill in many little pieces. There are tremendous opportunities that makes being a superintendent stupendous. GCN





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## Measuring Success

ESTABLISHING AN EMPLOYEE EVALUATION SYSTEM HELPS SUPERINTENDENTS MANAGE STAFF AND IDENTIFY LEADERS

by  
PETER  
BLAIS

**P**inehurst grounds and golf course manager Bob Farren, CGCS, oversees eight courses and 800 acres of turf—everything that “grows or flows”—at the fabled North Carolina resort. Farren also is responsible for a staff of 230 people, and like the other department managers at Pinehurst, which employs about 1,200 workers, he reviews the job performance of his staff at regular, prescribed intervals.

“Employee reviews are very important, whether

you are a small organization of 12 people or, as in our case, a staff of 1,200,” he says. “It is a formality to make sure people are treated consistently and fairly throughout the organization.”

Fair and consistent treatment, coupled with appropriate feedback generated during employee reviews, helps employers attract and retain their most talented workers.

“It is either part of your culture or it isn’t,” says David Hayslette, senior vice president of human

resources for ClubCorp’s Pinehurst Resort Co.

Hayslette is responsible for personnel functions at Pinehurst, The Homestead in Hot Springs, Va.; Barton Creek in Austin, Texas; and Firestone Country Club in Akron, Ohio.

“Great employees have the option of being able to take their skills elsewhere,” he says. “If you want to attract and retain those top-quality employees, you need to develop an environment where they get feedback. Then, you need to make sure they know where they stand. Top-quality employees won’t be satisfied with going through the motions.”

### Overseeing it all

Farren has been at Pinehurst since 1983. He was the superintendent at courses No. 2 and No. 4 before becoming assistant to Brad Kocher, CGCS, vice president of golf course management for Pinehurst Resort Co., in 1986. In the fall of 2000, Pinehurst promoted Farren from assistant director of golf course management to his current position. Farren also serves as vice chairman of the Golf Course Superintendents Association of America’s career development committee.

The task for Farren and his staff is a monumental one. Among the eight courses is Pinehurst No. 2, the Donald Ross-designed course that successfully hosted the 1999 U.S. Open, which was won by Payne Stewart, and which is the site of the 2005 U.S. Open. There are 230 acres of fairways, 144 greens, 432 tees and more than 500 bunkers to be maintained throughout the eight courses. Farren’s staff also is responsible for 22 acres of hotel and clubhouse grounds, a park, eight putting greens, three croquet courts, marina grounds, a lawn bowling area, a 10,000-square-foot bentgrass nursery and a 17,000-square-foot greenhouse.

Farren’s overall \$6.1-million budget includes about \$4 million of payroll. Among the full- and part-time staff, 155 of them are for course maintenance, 25 are for grounds, 30 are for the maintenance center and two are for administration. In addition, there are a number of part-timers performing various duties.



Pinehurst grounds and golf course manager Bob Farren, CGCS, oversees eight courses and 800 acres of turf. Farren also is responsible for a staff of 230 people.

Photo: Pinehurst, Inc.



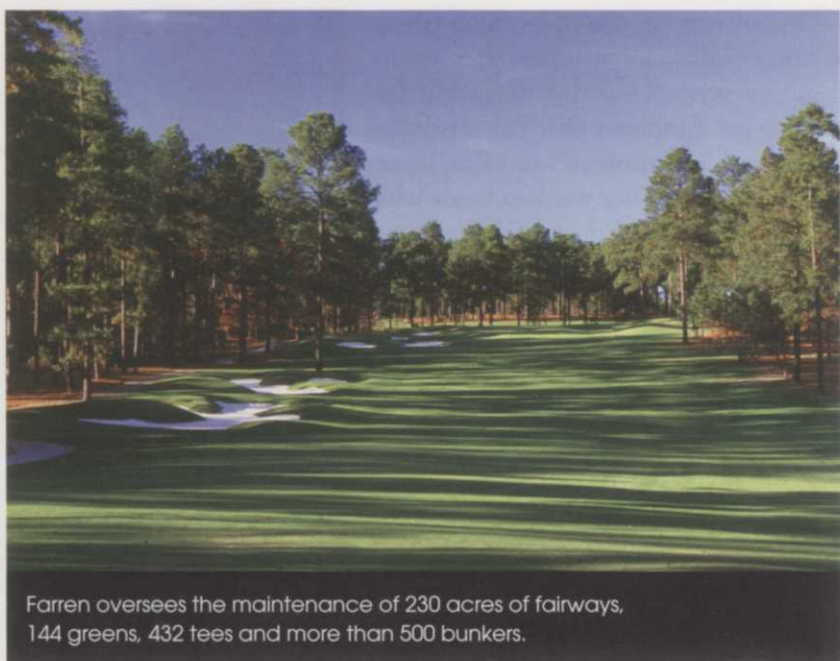


Photo: Pinehurst, Inc.

Farren oversees the maintenance of 230 acres of fairways, 144 greens, 432 tees and more than 500 bunkers.

### Reviews for new, hourly staff

Course superintendents conduct formal, in-office evaluations of their assistants and all hourly employees 90 days after they're hired. Annual reviews are required after that. Both evaluation forms note: "An honest and accurate appraisal of performance is vital to self-esteem, motivation, efficiency and improvement within the individual's current position." It directs managers to devote enough time for the review—usually about 30 minutes, according to Farren—to ensure useful feedback is given.

The 90-day evaluation directs superintendents to use a scale of one (the lowest) through five (the highest) to rate the individual's general performance level in many areas. The first section addresses six skills and behaviors, including safety, compliance of policies, attendance/punctuality, quality of work, cooperation/adaptability and job knowledge. The six ratings are totaled and divided by six to yield an average rating. The second section of the 90-day report asks supervisors and employees to list specific goals to be attained by the annual review date.

Although not guaranteed, the evaluation usually results in a slight increase of the hourly rate for new hires. The average rating, which might be something like a 3.8 or a 4.2, is compared to a matrix to determine what pay-increase percentage an employee receives. If someone hasn't performed well enough to merit an increase at that point, that might be the time to say, "This job isn't really for you," and then part ways, Farren says.

ClubCorp is careful not to label the initial three months as a probationary period. "We don't want people to feel they are



Photo: Pinehurst, Inc.

Farren

under the gun those first 90 days," Farren says. "The evaluation enables us to develop a score sheet of their success to that point. For example, we can see what equipment they have been trained on and obtain an update of where they are in terms of job skills."

Regular annual review use ratings to describe the individual's general performance level in many of the same areas as the 90-day review. The highest rating ("world class") is overachieved expectation, which is described as performance unquestionably above established expectations. For an employee to receive this rating it must be documented with detailed explanations by the reviewer. The next rating ("role model") notes that the employee achieved 100-percent of expectations, described as "performance sometimes exceeding but consistently meeting established expectations." Next is "meeting minimum expectations," which acknowledges the potential for greater contributions. The bottom two ratings are "needs significant improvement" and "did not meet expectations."

During an annual review, the reviewer also can document specific observations, such as the number of accidents in the safety area, or certificates earned, seminars attended and education attained under job knowledge. The employee's success of meeting goals set during previous reviews are discussed and recorded, while new goals and objectives for the coming year are set.

To make administering the review process as easy as possible for superintendents, who typically evaluate 16 to 25 individuals per course, the human resources department schedules reviews on each employee's anniversary date rather than all at once. The human resources department also distributes monthly e-mail reminders to superintendents listing which employees will soon be due for reviews.

"There's no doubt it is an intense administrative responsibility," Hayslette says. "But in the end it pays dividends to inform people how they are doing and the status of their progress."

### Reviewing salaried staff

Salaried staff are assessed on several levels. They're evaluated 120 days after taking over a position and annually thereafter. They're also reviewed every six months as part of the Blue Chip Goals program. The Blue Chip review involves project-oriented and quality-oriented items that are measurable.

For Farren, this means evaluating eight salaried individuals—golf course superintendents (some of whom over-

see more than one course), an irrigation manager, an equipment manager and a grounds manager—on goals tied to each individual.

"We talk in very specific terms about progress in certain areas, whether it be a renovation project or weed control," Farren says. "Generally, Blue Chip reviews are held in January and July and in detail—where we are, where we want to go and how close we are to getting there."

Blue Chip reviews are a combination of leadership competencies and discreet projects or activities the person would be responsible for during that time frame. Hayslette says.

The company identified eight leadership competencies to determine how well managers are doing. The eight competencies are: drive for results; operating excellence; problem-solving and decision-making; customer focus, both internal and external customers; teamwork; adaptability; impact and influence; and grow-in talent.

As for specific projects, they rarely fall within neat six-month blocks of time, meaning aspects of evaluations often carry over from one period to the next. For example, a golf course superintendent who is responsible for a major reconstruction, might be evaluated on a planning and design phase for the first six-months of his or her Blue Chip review. That would blend into a construction phase for the second six months. Typically, individuals will be evaluated on three or four discreet competencies during a six-month period.

The Blue Chip program extends to other operations, as well. An accountant, for example, might be evaluated on the implementation of a new payroll system.

"We use a one-to-five point scoring system," Hayslette says. "The grades are then

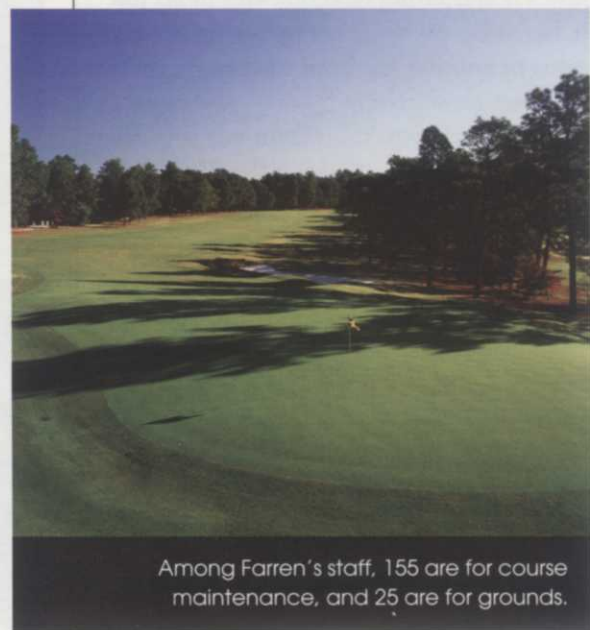


Photo: Pinehurst, Inc.

Among Farren's staff, 155 are for course maintenance, and 25 are for grounds.



weighted: 60 percent for Blue Chip projects and 40 percent for leadership competencies. Those scores are weighted and evaluated."

Hayslette says the Blue Chip process forces managers to take a big-picture view of performance management.

"It isn't simply holding out an expectation and doing a review once a year," he says. "It should be a cumulative review of the feedback that has gone on throughout the year. If someone is a month into a project and behind the eight-ball, missing deadlines and having some struggles, and if the supervisor intervenes early on and encourages the person to regroup and try to save the project, that's better than waiting until the end of the year and yelling 'gotcha.' That's what we are trying to teach with our performance-management process. It is an ongoing dialogue during the six months that culminates with a review that shouldn't be a surprise for anyone."

As part of the yearly salaried reviews, managers document if individuals earned certified golf course superintendent status and continuing education units, attended leadership seminars or obtained training internally. This year, ClubCorp is offering a 1 1/2-day Leadership 101 seminar that all Pinehurst salaried managers must attend. Participation in the seminar will be documented in their reviews.

Hayslette and Kocher don't sit in on the actual evaluations of salaried employees conducted by Farren or other Pinehurst supervisors. But they do review each evaluation from a big-picture perspective.

"What we are looking for is a consistency in the application of the process across the property," Hayslette says. "The food-and-beverage department's definition of what a 4-rating is shouldn't be out of sync with what the course maintenance department says a 4-star rating is. If one area looks like it has been overly generous in its evaluations or another has been too tough, that's what we are watching for."

"What we try to do is train our supervisors to be objective and use the Blue Chip process as a way to lay out specific expectations and provide feedback. The review should not be a monumental event, but rather the culmination of a dialogue that has been happening over the entire six months. What happens in too many corporations is that supervisors tell someone to work on something and then walk in a year later and say, 'I don't think you did a very good job.' The employee wonders why the supervisor didn't say something earlier. With our approach, there is an established, ongoing dialogue. Management people, like

Bob Farren, think it is a useful tool and helps them in the long run."

## Making it a priority

Pinehurst keeps all written reviews on-site in its human resources office, and a human resources person is assigned to the course maintenance department.

Farren says his department has always been diligent with doing employee reviews on time.

"The departments that come up short in doing reviews on time also rank worst in our employee-satisfaction surveys," he says. "We have been pretty good about doing reviews on time and have generally come up well in those surveys."

Farren believes a properly executed employee review provides a good score sheet of an employee's performance. It's a chance to give and take feedback, whether it's constructive criticism, praise or a combination of the two. More than 90 percent of the reviews are a positive experience for supervisor and employee.

"It is an opportunity with poor performance to hopefully counsel the person on how to improve, or at the very least document their performance," he says.

"In our surveys, the main thing people say they want to know is how they are doing," he says. "Unfortunately, you frequently get comments like, 'My supervisor never pays attention to me.' Employees want attention. They want to know what is going on and how they are doing."

A well-designed evaluation-management system should highlight those people who are exceeding expectations clearly and consistently, Hayslette says. "That helps you identify the leaders of tomorrow. The star performers are the ones you need to reward and give more responsibility."

Farren says he doesn't know of any other company that conducts employee reviews as extensively.

"But I would encourage other courses to consider the value of reviews," he says. "Some people think it is too much of a burden. But if you put it on your calendar and make it happen, it really pays off over time in terms of discrete employee satisfaction." GCN

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Kocher

Photo: Pinehurst, Inc.



Photo: Pinehurst, Inc.

At Pinehurst, fair and consistent treatment, coupled with appropriate feedback generated during employee reviews, helps the resort attract and retain its most talented workers.



## Up to snuff

**SUPERINTENDENTS NEED TO FURTHER THEIR EDUCATION TO DO THEIR JOBS EFFECTIVELY AND REMAIN COMPETITIVE**

by JOHN WALSH

To say continuing education is important for golf course superintendents is an understatement. A number of academics in the turfgrass field say education has become critical to the success of a superintendent's career because aspects of the job constantly change and competition for good jobs is stiff.

The Golf Course Superintendents Association of America (GCSAA) encourages its members to earn four-year degrees, according to Bruce Clarke, director of turfgrass science and extension specialist in turfgrass pathology at Rutgers University in New Jersey.

"While a four-year degree is no substitute for experience on golf courses, the basic level of professionalism has been raised," Clarke says. "The four-year degree programs are starting to become the foundation. It will be a trend for the next 10 years, definitely among the younger men and women who want to become superintendents. Sharp, young superintendents need to have four-year degrees, and there are a lot of four-year programs across the country to provide them with that level of education."

Nick Christians, professor at Iowa State University in Ames, says there's no substitute for in-depth training at any stage of a superintendent's career. Christians says the GCSAA's continuing education program, which has more than 100 offerings, is the most recognized in the industry.

"Continuing education gives the superintendent advantages," he says. "Some employers value continuing education more than others, but it has always been important. It's more important now because technology is changing things so rapidly."

"We all work with more rapid change," adds Terry Buchen, president of Golf Agronomy International and a consulting agronomist. "We're in a business that is very professional. As a result, in the last 10 to 15 years, there has been a need for more education. There is a constant learning process about pesticide use and regulation."

Education has become more important because the golf course industry is dynamic and education is the only way to keep abreast of the changes, according to Milt Engelke, professor of turfgrass, breeding, genetics and management at Texas Ag Experiment Station at Texas A&M Systems in College Station. Education also exposes superintendents to different operational philosophies.

"I really credit the GCSAA," Engelke says. "Its curriculum has done a good job of bringing quality education to superintendents. But GCSAA has gone overboard with some issues. The program needs a core curriculum before it can get into other topics, but overall, GCSAA made a very important contribution to the industry through its educational programs. GCSAA educational programs have brought the quality of superintendents up well beyond being just greenskeepers."

GCSAA education consists of several components. Hannes Combest, senior director of membership and professional development for the GCSAA, says superintendents can learn using online resources, attending seminars in person or reviewing programs for external use (nonrelated GCSAA education). Superintendents are responding to these options. During 1997, fewer than 60 partici-



pated in GCSAA training. Last year, from January through May, there were less than 100 applications for education programs. This year, for that same time period, there have been more than 600 applications.

## Agronomy and beyond

Because agronomic change is constant, a priority for many superintendents is working to keep abreast of new technology. Biocontrol systems—genetically modified organisms in turf—is one popular topic, Engelke says. But more basic education also is necessary. For example, the industry doesn't educate superintendents enough about the process of what equipment does to grass and soil. Grooming and aerification are examples of cultural practices that have effects on soil agronomically, physically and biologically.

Superintendents should take refresher courses about the basics because they are what help them keep core job knowledge in agronomy up to speed, Engelke adds.

"Superintendent jobs are lost when the golf course fails," he says. "Superintendents need to reconnect back to the roots—root-zone maintenance. We tend to lose contact with that over time, but we always need a basic understanding of the way things are and how we can get out of balance. We need to understand the turf life cycle better. For example, diseases don't occur under natural circumstances, we create many of them."

"It seems like there is always some new disease and new approaches to controlling the older diseases," Clarke says. "Yes, there are new species of fungi and new mutations. In many cases, it's the way superintendents change their turf management that exacerbates diseases."

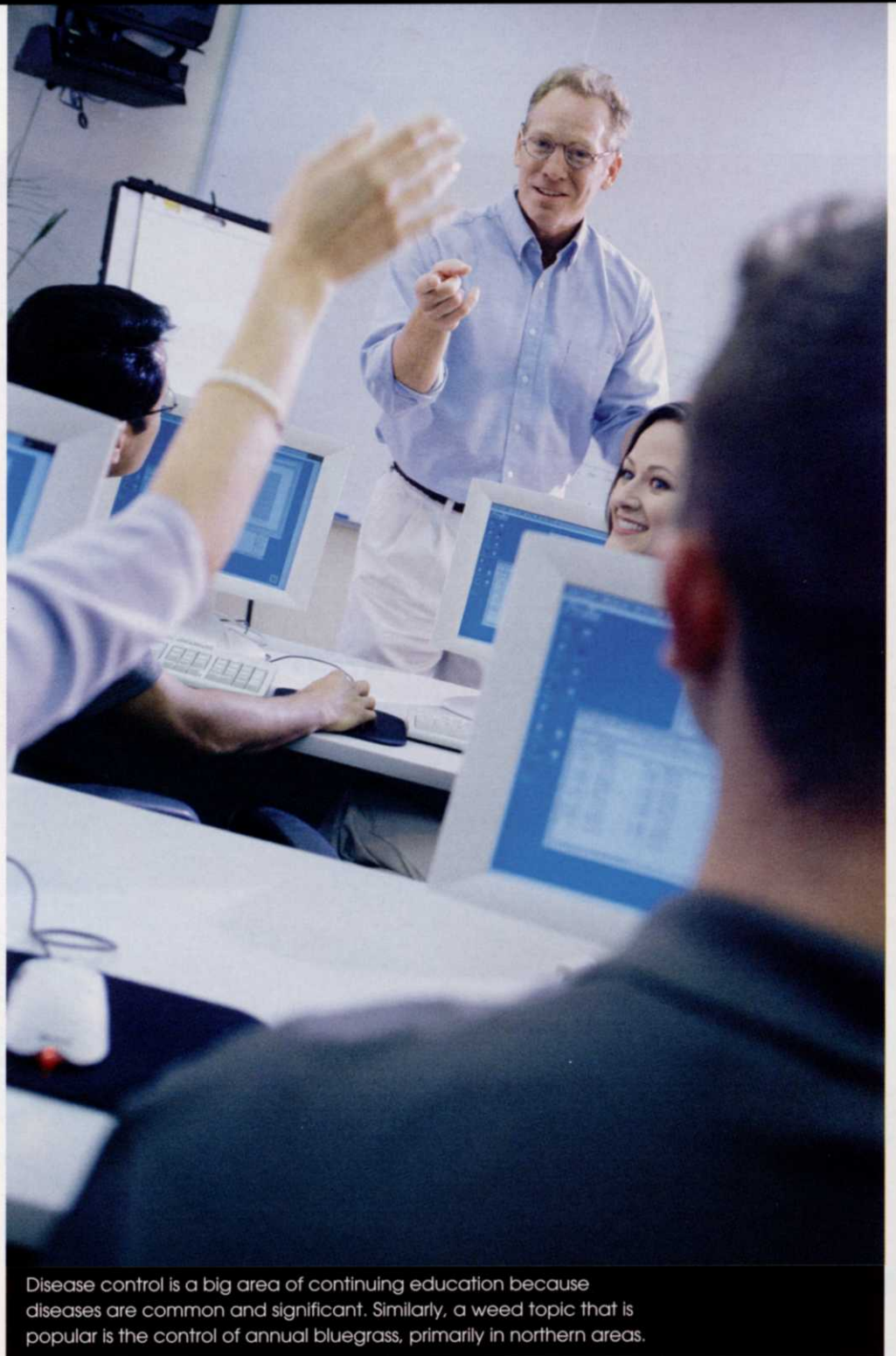
An example is the height of cut that's being lowered dramatically because of the demand for faster green speed. Lowering the height of cut reduces the amount of nitrogen and water in the soil and weakens the grass, making it more susceptible to diseases.

Disease control is a big area of continuing education because diseases are common and significant. Similarly, a weed topic that is popular is the control of annual bluegrass, primarily in northern areas.

"*Poa* is a major issue," Clarke says. "New control measures are popping up. Superintendents will be left behind if they don't keep up."

Additionally, Buchen says weed-, disease- and insect-related continuing education often counts toward the recertification credits superintendents need to maintain their pesticide licenses.

"Every one to three years, superintendents need to get a new license for pesticides, de-



Disease control is a big area of continuing education because diseases are common and significant. Similarly, a weed topic that is popular is the control of annual bluegrass, primarily in northern areas.

pending on the state requirements," Buchen says. "In most states, superintendents don't need to be licensed, they just have to be under the direction of someone who is. But at some point, it will become mandatory to be licensed in all states."

Similarly, superintendents need to keep track of changes of pesticide labels, new pesticides, fertilizers and turf seeds.

Many times, superintendents' core training is in an area like agronomy, so most need help with business fundamentals, such as accounting and personnel management.

Buchen says personnel management is the hardest thing many superintendents have to do and the aspect of their jobs of which they spend the most time.

"We can't do anything without people,"

he says. "It's the least taught item at the university level. We all need more training. It's our biggest weakness. Superintendents need to keep up on labor and discrimination laws. There are some natural people leaders, but few superintendents are like that."

Also, an increase of the number of Hispanics in the green work force is a trend that has led more superintendents to take Spanish lessons so they can better communicate with their workers, Buchen says. Do-it-yourself Spanish language seminars are a popular way to learn enough to communicate day to day.

Water usage is another important topic in which education is needed. Bob Carrow, professor of turfgrass science at the University of Georgia in Athens, says the No. 1 issue facing



the turfgrass industry is water conservation and increasing demand and competition for water, which has created a need for golf to exhibit good stewardship in action.

"There is a shift toward alternative water sources, but that often involves poorer quality water that contains various nutrients and salt," Carrow says. "Many courses use water run-off. Surface run-off is pretty high quality water, but you do have to be careful of sediments."

The quality of wastewater varies from being quite good to pretty poor and varies from site to site. Wastewater also will have more nutrients than run-off or potable water, which means superintendents have to watch the fertilizers they use. That adds complexity to the fertilizer program.

"It's an ongoing issue," Carrow says. "Water conservation will change the type of grass we use. For example, Seashore Paspalum can withstand poorer water quality. We're getting pressure to shift to poorer water quality, and that will change turf management."

Carrow says pest management is another topic superintendents need to keep educated about. He says that throughout the past 25 years, superintendents have made sure they don't contaminate ground water with pesticides, and the same philosophy of pest management will apply to water conservation.

"There are going to be changes in irrigation design and operation because of water conservation," he says. "There are a lot of spin-off issues of water conservation that are complex, but we won't have the length of time for pesticides that we will have for water conservation. The pressures are higher. Everybody is concerned about water. Today, there are statewide water conservation efforts across the country."

## Time and money issues

In spite of the need for education in so many areas, limited time and money are barriers that prevent some superintendents from taking as many continuing education courses as they would like.

"Superintendents are too busy to leave golf courses," Buchen says. "Most work too many hours. It's a 24/7, high-pressure packed job."

Still, superintendents should aggressively seek out education whenever possible, Clarke says.

Superintendents should take every opportunity they can get to continue their education, Christians agrees.

"It's a good idea during the off season to attend one continuing education class, something totally different than they've done be-

fore," he says. "I highly recommend superintendents make time and budget the money to do it."

Engelke says that because there are many demands put on superintendent's time, they need to get the most out of continuing education classes. Taking regional classes in the off-season is a good way to do this.

Buchen says the GCSAA and the United States Golf Association have regional seminars that are easier for superintendents to attend because it reduces the time and cost to take a class. There's also a lot of information that can be gotten for a small fee.

"Superintendents need to set aside money in their maintenance budget to attend seminars every year," he says. "There's a lot of informal stuff out there. The Web can help to some extent, but that doesn't mean the information is good, it just means it's there."

Many superintendents also read trade magazines and file articles for future reference, Buchen says.

"There are now more books about turfgrass and golf course architecture," he says. "We're inundated with books. Superintendents are building their libraries more than ever."

With increasing educational options, cost can become less of an issue unless the training involves traveling, for example, to attend GCSAA's International Golf Course Conference and Show.

"An increasing number of superintendents have contacted me about giving talks locally," Buchen says. "Superintendents have to maintain a certain number of credits for their GCSAA membership."

But Engelke says the cost of continuing education is irrelevant because of its importance.

"Education should be viewed as an excellent investment in their future," he says.

GCSAA certification is another focus of education for superintendents. In 1997, 1,650 superintendents were certified. Today, 1,911 golf course superintendents throughout

the country are certified, according to Combest.

Clarke says certification shows a certain level of education has been attained and demonstrates a superintendent's level of expertise.

"Certification is one of the greatest things going," Buchen says. "Some superintendents don't think getting certified is beneficial because it won't get them more money, but a GCSAA survey shows it will."

Superintendents also should strive toward

certification because it is a validation of the continuing education process, Engelke says.

"It sends a message to the employer that someone is going the extra mile," he says. "There a lot of guys who have been in the business 20 or 30 years and are not certified, and guys that are three or four years out of school who are not experienced enough yet to enter the certification program. It's not essential to get certified, but it opens doors."

Clarke says certification gives superintendents the recognition that they gave the effort to continue their education.

And the higher a superintendent moves up, the more important certification will be, Christians says.



Clarke

## Customized training

Combest says GCSAA's education program format has changed: It used to be a two-day format, and now it's a day or half-day program.

"Now we're engaging people more," she says. "They want questions and answers and want to be more involved. Continuing education continues to play a major role in their lives. The challenge for us is how to meet that need. In response, we're looking at new ways. For example, online education that is synchronous and nonsynchronous and starting Web casts. They are still intimate experiences. They are only open to 50 people."

GCSAA regional seminars also are popular, and chapters are offering more education.

"I don't expect the chapters to do Web casts and distance learning," Combest says. "They don't have the bodies to do that. Members tell us three reasons they come to the national show: education, networking and new products."

Combest says people coming out of school often have a good theoretical knowledge of turfgrass management, and 95 percent of association members younger than 30 have some formal education. Seasoned professionals are still taking classes because this is an important part of their jobs.

"It's going to continue to be an interesting profession, she says. "Superintendents are, by nature, fraternal. They like contact with experts in the field. But it will be interesting to see how owners react to education needs if economic difficulties take hold. Education is often the first thing to go in the budget." GCN

*The author is managing editor of Golf Course News and can be reached at jwalsh@gie.net.*



Buchen



## Devil's Thumb

PLANNING AND BUILDING AN AFFORDABLE COURSE THAT CAN BE FINANCIALLY SUCCESSFUL IN TODAY'S GOLF MARKET IS NO EASY TASK

by  
PETER  
BLAIS

**B**ack in the late 1980s, the city of Delta, Colo., looked into the possibility of expanding its nine-hole Cottonwood Golf Course to an 18-hole facility. The city owned the land, and the Cottonwood Golf Committee operated the course. The city asked Phelps Golf Design of Evergreen, Colo., to analyze the property for expansion of the course. Although nothing was done at the time, the city eventually formed a golf task force consisting of city staff and Cottonwood members that were responsible for researching the situ-

ation and making recommendations.

"We came to the conclusion it wasn't possible to expand the Cottonwood site without encountering some of the same costs you would have in building a whole new course," says Rich Englehart, city manager. "The task force finally came to the city council with the idea of building a new course. We had some Bureau of Land Management and County of Delta acreage available, and we felt the land had some potential. Both entities also were willing to donate it. After having looked at



The Devil's Thumb course offers views of Colorado's rugged landscape. Hole three (view from the middle tees) is a par 4 and is 342 yards from the back tees.

Photo: Phelps Golf Design



numerous sites where we would have had to purchase the land or give up development rights, this site suddenly came into play at no cost."

Living near the Grand Mesa—a high plateau outside the city that's slightly above 5,000 feet—and with gorgeous views of the San Juan and West Elk mountain ranges, the 7,800 residents of this western slope community hoped to build a high-quality, affordable course with green fees between \$25 and \$40, a price range that would make it accessible for most local golfers.

"We had a feasibility study done by THK Associates of Denver," says Englehart, who was the assistant city manager at the time. "They did a market analysis to make sure we could support the course. Knowing it was a small town, we knew we had to draw on the locals and the surrounding area 50 miles out to Montrose, Grand Junction and Ridgeway. That was how far they thought people would travel for quality golf."

The task force issued requests for proposals, and in 1998, the city selected Rick Phelps to serve as the lead architect, develop conceptual plans and design the course.

"Rick's excitement for the location and vision fit into his selection," Englehart says.

"When I first looked at the property, I didn't think there was any way to build a golf course there," Phelps says. "It was rocky, dry and with scarcely any vegetation. It looked flat until you walked over to the eastern side, where it drops off in every direction. It actually had a lot of character and interest. I figured I could route the course to take advantage of that drop-off on both nines."

Water was a major concern until Phelps discovered an abandoned pipeline that came down from the Grand Mesa, which receives abundant snowfall.

"The golf course site gets about seven inches of moisture a year," Phelps says. "It's basically a desert site. But on Grand Mesa, they get better than double that amount of moisture. Twenty-five years ago, the two pipelines from reservoirs on the mesa used to provide Delta its drinking water. The pipelines aren't used for drinking water anymore, but the structures were still intact. The water was excellent snowmelt quality and was delivered right to our front door. All we had to do was repair the pipeline in a few places and tap into it with a new valve. We had plenty of water to grow in and maintain a golf course."

Once Phelps was on board, the task force interviewed three builders.

"We hired Niebur Golf because of its reputation," Englehart says. "They had worked with Phelps on some other projects and had a good working relationship. We wanted a team working on this. We didn't want this to be the city against the architect and builder. We wanted a management team. Teamwork and cooperation are imperative, especially when you have a limited budget—\$2.7 million for course construction and \$3.5 million overall."

### Cost-conscious construction

Construction began in the spring of 2000. To meet its limited budget, the development team had to come up with creative ways to save money.

The two biggest ways to reduce construction costs

of a project of this sort are by minimizing earthwork and cart-path construction, according to Phelps.

"You move as little earth as possible to accomplish your design strategy and maintain aesthetic interest," he says. "We only moved 170,000 cubic yards of dirt, with 70 percent of that being for the irrigation reservoir and clubhouse. And you must not put in any more cart path than necessary, which we took to an extreme on this project."

Another way to control costs is to make use of all available resources.

"We used the honors camp from a local minimum-security prison that was very valuable in the rock-picking process," Englehart says.

"They mostly picked rock from the tees and fairways to prepare for grassing," says Phelps of the 12-man crew. "That probably saved the city \$200,000. It wasn't the most productive crew, as you might expect, but it worked out fine."

One of the city park department employees, Tony Bohling, worked closely with Niebur and Phelps to build the rock retaining walls and landscaping.

"The whole site was inundated with rock," Englehart says. "Now we have a tremendous rock wall lining the course. It's a nice benefit for the community. In fact, the general public is welcome to take the rock from a designated area to use for landscaping their own homes."

The developers grassed the course in late summer

### AT A GLANCE:

#### Devil's Thumb Golf Course

<b>Location:</b>	Delta, Colo.
<b>Course Type:</b>	Municipal
<b>Cost:</b>	\$2.7 million
<b>Construction began:</b>	Spring 2000
<b>Course opened:</b>	July 21, 2001
<b>Yardage:</b>	Five sets of tees ranging from 5,180 to 7,176 yards
<b>Par:</b>	72
<b>Number of bunkers:</b>	60
<b>Average greens size:</b>	5,500 square feet
<b>Greens:</b>	Bentgrass blend
<b>Tees:</b>	Bluegrass
<b>Fairways:</b>	Bluegrass
<b>Accent:</b>	Fine fescues around bunkers
<b>Slopes:</b>	132, 125, 122, 112, 120 (back tee to front)
<b>Ratings:</b>	72.9, 70.3, 67.6, 65.7, 68.9 (back tee to front)
<b>Professional:</b>	Dave Way
<b>Superintendent:</b>	Matt Smith
<b>Customer Service:</b>	Judy Hays
<b>Architect:</b>	Rich Phelps, Phelps Golf Design
<b>Builder:</b>	Niebur Golf



The nine additional holes to the Cottonwood Golf Course, including the 435-yard sixth hole, was constructed with a limited budget. To reduce construction costs, earthwork and cart-path construction were minimized.

Photo: Phelps Golf Design





Photo: Phelps Golf Design

The Devil's Thumb course, including the 155-yard seventh hole, was budgeted to generate \$587,000 of revenue during 2003. In its first full year of operation, it generated \$665,000.

and had the grand opening July 21, 2001.

"We came in on budget," Phelps says. "We spent a little more money than anticipated on rock excavation, especially in the water-reservoir area. It worked out well, though. We had all the rock we needed to build the water features, retaining walls and tee boxes. The city parks employee was able to do all that work, which saved a bunch of money."

The only environmental issue concerned lining the ponds. The original budget was insufficient, so the city continues to work on this aspect.

"We created some wetlands to make some habitat," Phelps says. "Otherwise we tried to leave the area as natural as possible around the golf course. We didn't plant any trees. I

refer to it as 'Colorado desert style.' It's not quite target golf, but it's pretty close. If you get off the 105 irrigated acres on the course, you're in the desert."

Bluegrass is the dominant turf on the tees, fairways and first cut of rough. The greens are a bentgrass blend. Lighter-colored fine fescues are used to accent the areas around the bunkers and second cut of rough.

## Earning recognition

The city has been pleased with Devil's Thumb, which finished second in *Golf Digest's* Best New Affordable Public Course rankings for 2002.

"The *Golf Digest* designation is a real tribute to Rick's design as well as Niebur Golf, our superintendent, his staff and our pro," Englehart says. "The course has become a source of pride for the local golfing community."

Devil's Thumb has more than met its original goals. At \$35 per round with a cart for residents

and \$40 for nonresidents, the course, with national recognition and design, is a bargain, Englehart says.

Financially, the course has exceeded its original projections. The facility was budgeted to generate \$587,000 of revenue during 2003, its first full year of operation, Englehart says. The course did \$78,000 better than that, generating \$665,000 during 2003.

Revenue was off about \$9,000 through the first two months of 2004, compared to the same period a year ago.

"But that's mainly because of the weather," Englehart says. "We were only open two days this January. Last year in January, we took in \$41,000. This year it was only \$4,000. But we bounced back in February. Last year, we brought in \$14,000 during February. This year we brought in \$42,000. We felt good about last year and hope this year will be even better."

To attract players, Devil's Thumb benefits from its location. Delta, Grand Junction and Montrose are located in Colorado's "Banana Belt," which stays warmer and drier through

Water was a major concern until Rick Phelps discovered an abandoned pipeline that came down from the Grand Mesa, which receives abundant snowfall.



the winter than any area of Colorado except the southeastern portion of the state, according to Phelps.

"The busy season extends from March through mid-November, roughly three months longer than ski areas like Vail and Aspen," he says, noting that 30 percent of the course's play comes from outside the immediate area.

The Delta County airport is adjacent to the course and houses a pair of golf carts to take visiting players from their private planes to the course.

But the support of local golfers and citizens is the main reason this small-community project was built and why it prospers. That support was illustrated vividly during the first weekend of March when almost 75 volunteers attended a barn raising to build a 3,300-square-foot clubhouse to replace the temporary facility that had been used since opening day.

"One thing we do here in Delta is rely on local citizens to get engaged," says Englehart, noting the volunteer labor and materials donations will save the community a substantial amount on the clubhouse's final price tag. "The city council will make

decisions and move forward to make something happen, but in most instances, only if the citizens want it to happen and get involved. The barn raising is a good example. We had some quality people on site. The relationships built and the ownership they felt in the project was incredible. We had people from as far away as Carbondale, which is up near Aspen. It was pretty cool."

Community development director Rich Sales, a licensed architect who is overseeing the project, says that by the end of the first weekend of construction, all exterior walls had been framed and sheeted, interior walls framed, openings prepared for the plumbing and mechanical utilities in the concrete flooring system, roof trusses raised and braced, roof sheathing started, window openings cut and heavy timber entry framing placed. Electrical, mechanical and plumbing contractors were scheduled to start their work in mid-March. The clubhouse is expected to open by summer.

"The best result of this effort was not about sticks or bricks or money," Sales says about the clubhouse project. "The best part was that we had citizens from all sectors of



Photo: Phelps Golf Design

Bluegrass is the dominant turf on the tees, fairways and first cut of rough. The greens are a bentgrass blend.

our community come together, work hard, work well together and create something enduring for the community." GCN

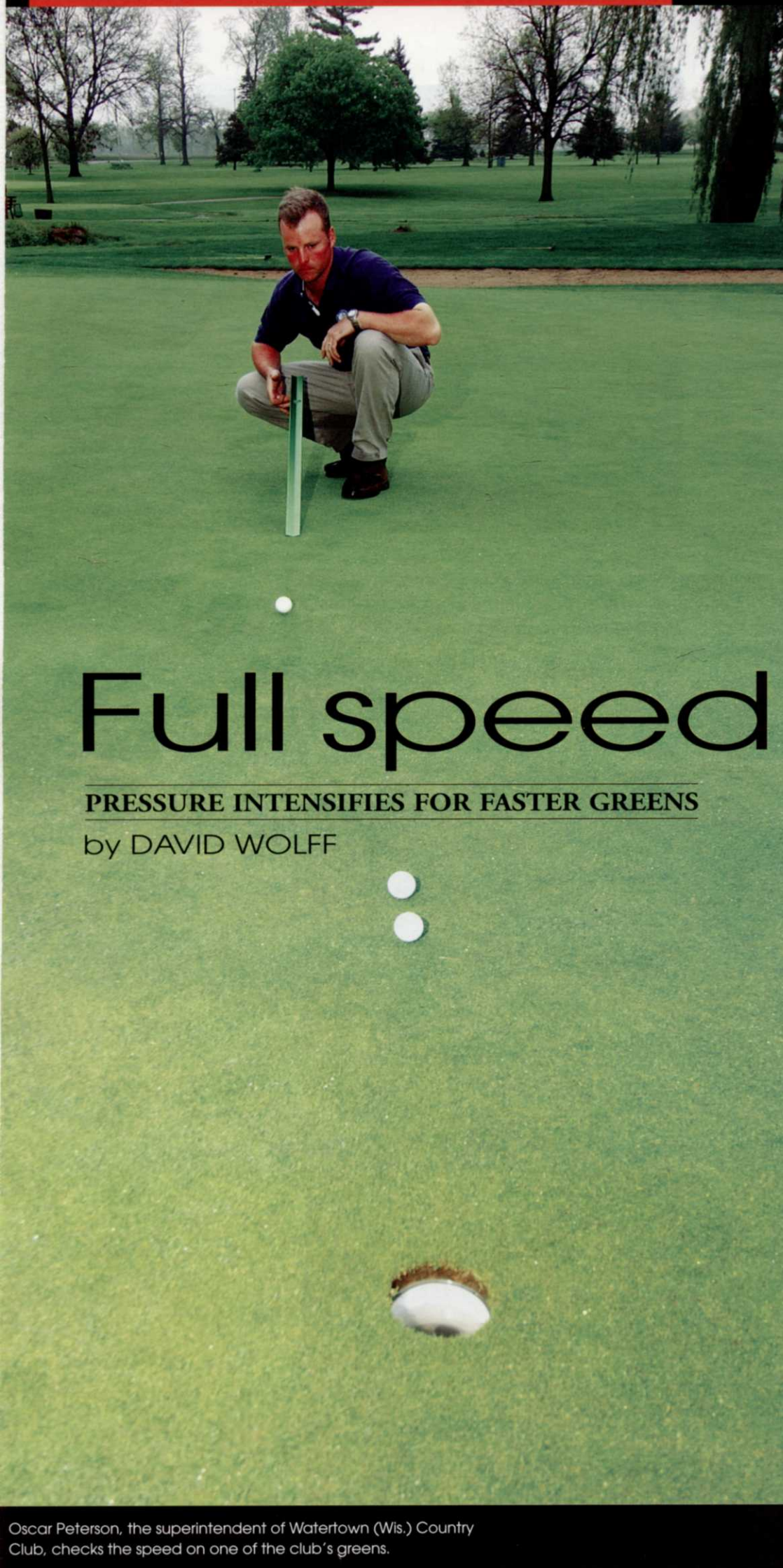
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Photo: Phelps Golf Design

Support of local golfers and citizens is the main reason the small-community golf course, including the 414-yard 13th hole, was built and why it prospers.





## Full speed ahead

**PRESSURE INTENSIFIES FOR FASTER GREENS**

by DAVID WOLFF

**M**anaging the modern putting green for demanding golfers is as much art as it is a science. Increasingly, performance expectations are challenging superintendents' skills, pushing biological boundaries and stretching budgets. What was acceptable performance a few years ago seems a memory of a by-gone era because even the high-handicap golfer expects championship conditions.

The issue of green speed is here to stay, and the challenges intensify with the introduction of new types of grasses that allow for lower mowing heights. Course design and new mower technology are among other new developments that impact green speed.

And, equally important is the information about green speed that needs to be communicated to golfers effectively. As much as the topic is discussed, it seems that golfers understand less about what makes greens faster or slower, or even to what extent they can tell the difference between a green that is stimping at 8.5 feet or one that rolls at 9.5 feet.

### Green speed is a range

Despite printing several articles in the club newsletter detailing the agronomic issues of maintaining putting greens and explaining what Stimpmeter numbers mean, green speed continues to be an issue among the membership at Crystal Downs Country Club in Frankfort, Mich., according to superintendent Michael Morris, CGCS.

Working closely with his greens committee chairman, David Rosenberger, Morris concluded that the first step to address the topic was to determine the range of green speeds at his course. That could be expected throughout the day on a daily basis. After addressing this issue, Morris would be able to present the appropriate green speed for Crystal Downs to the greens committee and membership.

To conduct his research, Morris measured the speed of two greens with a Stimpmeter everyday from Memorial Day to Labor Day in 2001 and 2002. This also was done twice a day, once in the morning and again in the afternoon.

Morris' next step was to survey 20 golfers who represented a cross section of the membership to determine their satisfaction with the course's green speed. They were asked four questions about their perception of the greens. During the season, Morris received 260 responses from them. At the same time, Morris and his staff looked for ways to fine tune

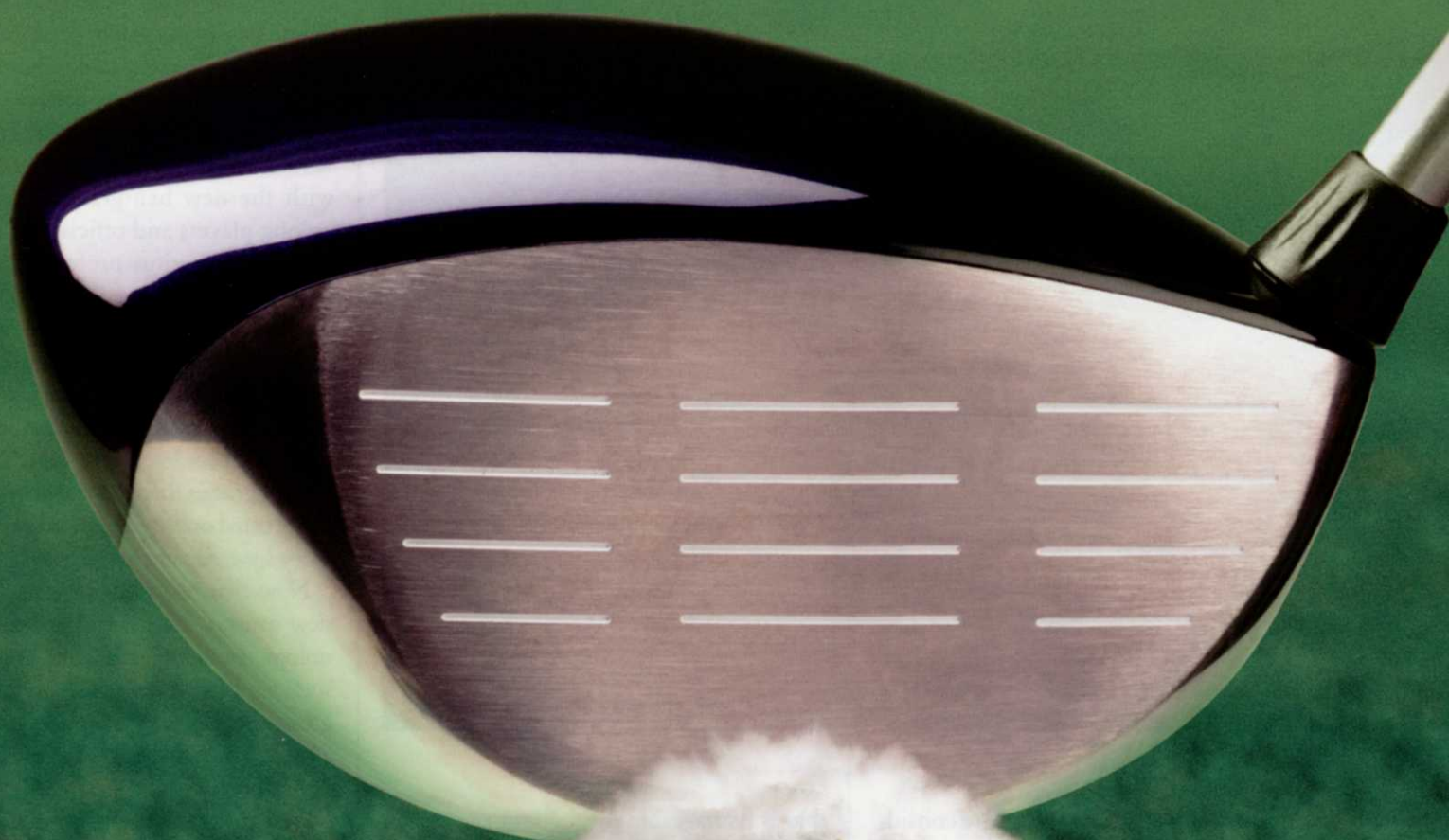
**COURSE DESIGN AND  
NEW MOWER  
TECHNOLOGY ARE  
AMONG NEW  
DEVELOPMENTS THAT  
IMPACT GREEN SPEED.**

Oscar Peterson, the superintendent of Watertown (Wis.) Country Club, checks the speed on one of the club's greens.

Photo: David Wolff



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Photo: David Wolff

The pursuit of fast greens increases course maintenance budgets to provide firm, true and fast surfaces. But golf course superintendents should consider the influence this trend will have on putting green design.

maintenance practices to minimize considerable differences in green speed.

The results of this research produced surprises for Morris.

"The old wives' tale that greens are faster in the afternoon as they dry out was almost never the case on our course," he says. "The greens were almost always slower in the afternoon as the grass grew and the putting surface received traffic. We also found that green speed decreased drastically during the day if we did not get a good cut in the morning. When we mowed the green twice—once before the morning measurement and again before the afternoon measurement—we would see a noticeable increase in speed."

The average decline of speed throughout the day was about 6 inches but could be as great as 18 inches. Morris determined that a green speed of 9.5 feet to 10.5 feet was a realistic target. Golfer surveys indicated speeds below 9.5 consistently were too slow, while speeds approaching 11 consistently were too fast.

"What we learned regarding our maintenance practices is that they are very specific to our golf course, resources, golfers and greens," he says. "Every golf course searching for the most appropriate green speed will likely encounter a different set of variables. We discovered that a superintendent could indeed determine a green-speed range

that is manageable throughout the season and satisfies the golfers at his course."

## Designed for speed

As Morris' example demonstrates, golfers judge many superintendents on green speed. Clearly, the pursuit of fast greens increases course maintenance budgets to provide firm, true and fast surfaces. But there should be consideration given to the influence this trend will have on putting green design.

"Simply put, fast greens will need to be flatter or will have to be significantly larger in size to allow the ball to come to rest near the cup," says Cornell University's Frank S. Rossi, Ph.D. "While there are no strict provisions for green speed and cupping area in the Rules of golf, there is some acceptance that fast greens with severe contours will not permit the ball to come to rest near the cup. Subtly, we have been observing this phenomenon the last few years at the U.S. Open."

Consider the 18<sup>th</sup> green at Southern Hills Country Club in Tulsa, Okla., site of the 2001 U.S. Open Championship. Much was made of the severe slope that was questioned by players during the practice rounds for being too fast, penalizing a good shot as balls rolled off the putting surface. Here was a case in which the de-

sign conflicted with agronomics.

John Szyllinski, the golf course superintendent at Southern Hills, was focused on providing the highest quality putting surfaces with the new generation bentgrasses installed during the renovation of his course. These bentgrasses were bred for high shoot density that permits and requires low mowing heights. The consequence was that green contours maintained at normal green speeds would be acceptable, yet speeds generated with the new bentgrasses wreaked havoc among players and officials.

"When emeritus professor Joe Duich of Penn State University developed the new generation high shoot density bentgrasses, he clearly had green speed in mind," Rossi says. "The same design for speed was true for the breeders of ultradwarf Bermudagrasses. It seems the breeders had it right. The new generation grasses that provide fast greens are being planted on 90 percent of the new courses. They have become the standard."

Now that fast greens are the standard on new courses, mechanical and chemical technology should be available to maintain the surfaces. New mowers able to cut lower, and growth regulators that enhance plant density and slow growth are keys to providing speed.

Architects have responded to this trend by increasing the putting area but keeping the contours, although many have chosen less severe undulation. This is easier in new construction, but what's happening with renovating old courses?

When greens were renovated and new grasses were planted at Apawomis Country Club in Rye, N.Y., there wasn't enough cupping room. Some greens had to be rebuilt because they were too small and too fast for the design.

"Apawomis removed some of the severe undulations but did not plant the highest shoot density grasses," Rossi says. "They opted for L-93, a notch below the Penn A and G series in shoot density, mixed with some experimental greens-type annual bluegrass from professor Dave Huff's breeding program at Penn State. The superintendent told me the greens look great and have a consistent appearance with the existing greens that were not renovated."

It seems that while green speed is important and can influence design, aesthetics can also play a role. The visual consistency ap-

**SOME GREENS HAD TO BE REBUILT BECAUSE THEY WERE TOO SMALL AND TOO FAST FOR THE DESIGN.**



**"Amending the sands with organic materials such as peat or compost has been shown to enhance a uniform moisture level throughout an undulating surface."**

preciated at Apawomis is an example. It's possible fast greens aren't the only things that make a round of golf pleasurable.

"We need different grasses," course architect Rees Jones says. "Breeders are taking away my ability to add contours to my designs. The grasses need to be cut so low, I have to flatten my thinking."

Jones is a proponent of traditional shoot density bentgrass species such as Pennncross and Pennlinks. These grasses can be maintained at mowing heights that produce more average green speeds in the 8-foot to 10-foot range.

### Flat green soils

There are below-ground consequences of putting green design that will influence root-zone selection and performance. Flat greens place a greater emphasis on subsurface drainage. This compares to older undulating greens built with native soils that emphasized surface drainage. The advent of sand dominated root zones, such as the United States Golf Association specifications for putting green construction allows for greens to be flat and indirectly fast.

"Flat greens can reduce the need for amendments that might aid in water holding," Rossi says. "Amendments have been shown to be of particular importance to water management of undulating surfaces, as peaks of severe slopes will drain more rapidly. Amending the sands with organic materials such as peat or compost has been shown to enhance a uniform moisture level throughout an undulating surface."

Research by professor Ed McCoy of Ohio State University investigated the effect of root-zone profile and putting-green slope on internal drainage.

"The results of his study concluded that the USGA method for green construction that includes a gravel layer below the sand root zone permits more rapid and complete drainage," Rossi says. "Furthermore, undulating surfaces built to USGA specifications performed better than the straight sand California specifications."

Root zones of flatter greens might reduce cost by performing well with less organic amendments, which permit more uniform drainage to enhance soil aeration.

"Theoretically, based on cupping area, flat greens could be smaller in size, depend-

ing on the amount of traffic expected, and require less total inputs," Rossi says.

### Is speed sustainable?

The technology is available to most golf courses to provide fast greens. Biological advancements with high-shoot-density bentgrasses and ultradwarf Bermudagrasses are where it begins. Conditioning required to maximize the performance of these grasses is available with mowers, top dressing equipment, rollers, etc. A lingering question is: If greens are designed for interest with contouring and maintained for speed, will the result be an enjoyable round for the average player?

"Lost in the discussion of speed are the functional aspects of grasses and soils that would allow reduced water and pesticide use," Rossi says. "Disease resistance and drought tolerance of these grasses appear to have been an afterthought to the breeders. Obsession with high permeability root zones that allow rapid drainage assumes a plentiful supply of water. As we begin to hold designers to higher standards for environmentally friendly designs not just focused on speed, why shouldn't we hold the breeders and soils scientists accountable as well?"

### Manage for speed

The next generation of bentgrasses offers improvements in shoot density, heat tolerance and possibly some new challenges with recuperative ability. The bottom line is that many new bentgrasses offer the ability to tolerate low mowing heights while maintaining acceptable quality. Many research studies suggested the relationship between low mowing and ball-roll distance (Stimpmeter measurements), meaning the lower the mowing height, the greater the ball roll distance. Rossi's research at Cornell University demonstrated that performance of specific varieties at heights as low as 0.080 inches can produce ball roll distances of more than 14 feet.

"Our results indicated that up to 3.5 feet can be gained in ball roll distance by reducing cutting height from 0.125 to 0.095 inches," Rossi says. "Yet, it is important to note that except for Penn G-1, no other cultivars were able to maintain acceptable quality at the close cutting height under

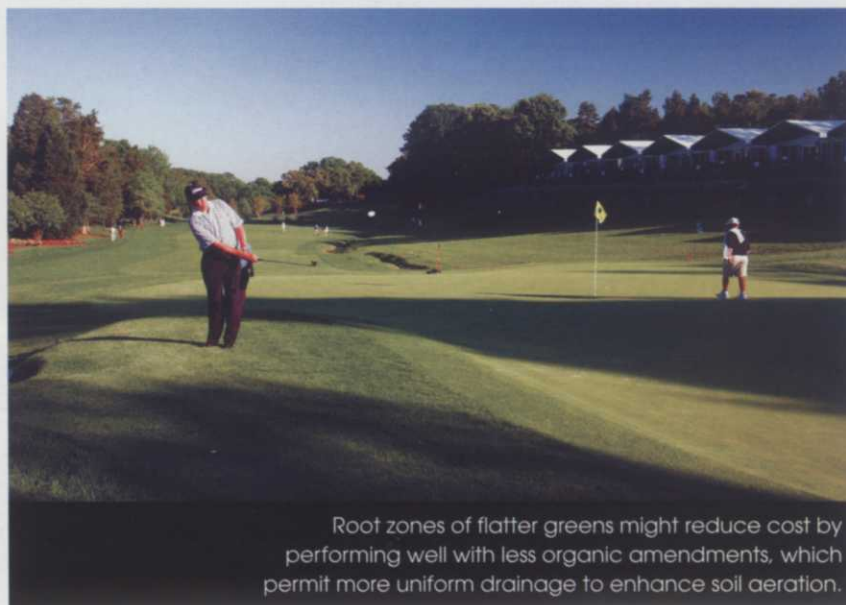
traffic treatments.

"Furthermore, as cutting heights were lowered to 0.125 inches and below, many of our plots exhibited significant reductions in surface density," he says. "Plots established at the recommended seed rate of 0.5 had a 25 percent to 50 percent greater incidence of algae compared to high seed rate plots, especially for the more prostrate growth habit cultivar Pennncross. As cutting heights were increased above 0.125 inches in early fall, algae was not evident. In addition, there was a surprising increase in the incidence of take-all patch associated with the low seed rate plots."

Just as an entire industry might have been established to support the care of Pennncross, it appears the management of the new bentgrasses, especially the high-shoot-density varieties in the Penn A and G series, will require different management. A study conducted at the University of Wisconsin investigated the amount of top dressing material picked up by mowers. Almost 4 percent of the applied top dressing was collected in the first mowing for Penn A-4, with about 3 percent for G-2. Pennncross and annual bluegrass resulted in 2.5 and 1.5 percent, respectively.

Many top superintendents who currently manage the Penn A and G series say no increased maintenance is required.

"This should be expected at the top clubs with adequate maintenance budgets that already are aggressively top dressing, liquid feeding and maintaining superior equipment," Rossi says. "However, these grasses are not for clubs that cannot realistically support a high level of care. Leading the next level of bentgrasses are Crenshaw, L-93, SR1119, Cato and Southshore, which offer many advantages of the high-shoot-density varieties without



Root zones of flatter greens might reduce cost by performing well with less organic amendments, which permit more uniform drainage to enhance soil aeration.

Photo: David Wolff



much of the additional care. These grasses all perform well at mowing heights at or below 0.125 inches and offer myriad of disease and environmental stress tolerance."

## It's the mowers

But Morris offers a different point to Rossi's contention that new grasses have a major

influence on green speed. He asserts that green speeds should be managed—either speeded up or slowed down—with grass type, green contours and golfer expectations in mind. At Crystal Downs, it became clear to

him during his investigations how much cultural practices influence green speed.

"There is a new course just down the street from us that is facing the same issues we do with regard to green speed," Morris says. "It's a world class facility with A-4 bentgrass greens. In a comparative study, we found that their green speeds exhibited the same degree of fluctuation as ours did day to day. Though their greens are maintained 6 inches to 1 foot faster than ours, the design of the greens accommodates that speed. If the greens at that course are maintained any faster, golfers sometimes begin to complain that they are too fast for the design."

"The issue of green speed is not about the grass; it's about how you take care of it," he says. "To manage our greens at a speed of 9.5 to 10.5 feet, we looked at mower set-up, roll-

ing frequency, irrigation, fertilization, use of plant growth regulators and top dressing. Our goal for each of these elements was consistency. We tried to eliminate anything that might cause a drastic change in green speed."

Morris found the most important factor to maintaining green speed was mower set-up.

"Once we determined the appropriate mowing height for our *Poa annua* greens, we found that a daily check of the height of cut and quality of cut is critical," he says. "The greatest swings in speed we recorded could be traced directly to a mower that was not sharp or not properly adjusted. As a result of our study, our mechanic has developed an intensive mower set-up and reel grinding schedule for our greens mowers."

Morris also found green speed fluctuates.

"The results of our efforts proved to me that green speed is not a number, but a range," he says. "Maintaining a 1-foot range is a good target. Our data told us that if we can do this 60 (percent) to 70 percent of the time, that's excellent. We also gathered weather data every one-half hour throughout the day of our survey period. Precipitation was the greatest influential factor, not humidity or temperature. If we had one-half inch of rain, the next day our green speed would drop 6 inches."

## The price of speed

Frequent low mowing has been shown to be

stressful to turf. One study that looked at Penncross and Crenshaw creeping bentgrass mowed at 0.125 inches and 0.157 inches. The results showed that mowing at 0.125 inches regardless of the bentgrass variety produced weaker, stressed plants. The weaker plants were the result of an increase in energy usage required from close mowing and reduced energy production from photosynthesis, which is naturally lower under high temperatures. The study concluded that increasing mowing height by 0.03 inches significantly increased stress tolerance.

Other studies have shown increased disease associated with low mowing heights. For example, researchers found that annual bluegrass mowed at 0.157 inches had 40 percent less summer patch than the same annual bluegrass mowed at 0.125 inches.

"Clearly, the high price of speed can be devastating and costly to maintain with increased disease pressure requiring additional fungicide inputs," Rossi says.

## Telling the difference

With the amount of time, effort and money being spent to maximize green speed, golfers should be able to discern subtle differences in green speeds. Can a golfer tell the difference between a 5-foot, 6-inch green and a 6-foot, 6-inch green any better or worse than the difference between a 9-foot, 6-inch green and a 10-foot, 6-inch green?

Researchers at Michigan State University set up several putting-green areas with a variety of speeds. Golfers of various handicaps were asked to putt on the greens and choose the faster green. In general, the golfers in the study weren't able to discern a difference in green speed less than 6 inches. Conversely, golfers were able to detect differences of 12 inches. Greater than 80 percent chose the faster green when the difference was between 7-feet, 10-inches and 8-feet, 10-inches, whereas 68 percent could tell the faster green between 8-feet, 6-inches and 9-feet, 6-inches.

"Green speed differences of 6 inches or less across a golf course is a sign of consistency," Rossi says. "Also, green speed changes of 1 foot have less chance of being noticed by the average golfer once speeds get above 9 feet. Therefore, there could be other psychological factors involved in the golfers' assessment of green speed. In the end, the pursuit of speed is easy, yet complex, with a variety of biological, physical and psychological factors at play." GCN

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"THE ISSUE OF GREEN SPEED IS NOT ABOUT THE GRASS; IT'S ABOUT HOW YOU TAKE CARE OF IT."



In general, golfers aren't able to discern a difference in green speed less than 6 inches, according to a study by Michigan State University.

Photo: David Wolff



## Managing native grass

IRRIGATION, SPECIES SELECTION AND SEEDING RATES ENSURE  
NATIVE GRASS BENEFITS AREN'T OUTWEIGHED BY DRAWBACKS

by KEVIN J. ROSS, CGCS

**G**olf courses featuring native grass areas have existed for at least 200 years. But in the United States, native grasses have become en vogue during the past 25 years.

Native grass is any species indigenous to an area growing in nearby fields. These species survive with natural rainfall and no fertilizer or mowing. Pull them out of their normal environment, and they perform quite differently.

The extensive use of native grasses is often called the "Scottish look" because the practice can be traced back to the great golf courses in Scotland and Ireland. There are two primary reasons why the Scottish look

has become so popular recently.

The first is design value. Golf course design has moved to imitate the great architects and natural designs of the past, and what better way than to use design features of where the style originated, especially on older courses being restored to their original design intents.

Native grasses also suit courses that are built on open sites with little or no tree growth—an important consideration as more of the land available for golf course development lacks trees or strong, natural features. Such sites require designs that use mounding features to separate and define holes.

Architecturally, designers deal with fewer constraints during the routing process and in most instances, have an open canvas to work with when using native grasses. And the finished look of native grass areas offers aesthetic appeal even to the nongolf enthusiast.

The second major factor of this look's popularity is the environmental advantages native grasses provide. Native grasses reduce mower and labor costs and create natural buffer zones between maintained areas and waterways, ponds or nonmaintained areas. In addition, native grasses serve as a natural wildlife haven, providing an environment for small animals and stalking grounds for larger predators.

Native grasses also can be selected to meet the environmental needs of challenging climatic and soil conditions. Native grass species tolerate drought or wet (riparian) conditions, as well as alkaline, saline or acid soils.

With all of these advantages, are there any disadvantages to native grasses? The one debate concerning these areas is their effect on play. Many superintendents have heard golfers comment, "I hit my ball 2 feet out of the bluegrass rough, and I'm in this 3-foot-high area of thick, lush grass and can't find my ball."

The underlying question behind such comments is how native grass areas are managed. Establishment and management are the keys to having native grass areas perform as intended.

### Managing native grass

Native grass cultivar selection often results in grasses that aren't native to the area. In some instances, there's no problem with this, but in other cases, mistakes are made with selection. The typical mistake is selecting a cultivar that performs more like a turfgrass than a native grass.

Another mistake is the seeding/establishment rates for these grasses. Many times, superintendents and architects use rates that are too high and create a stand that's too dense and acts like a turfgrass stand. For example, the normal seeding rates for native fescues should be 30 percent to 50 percent less than a turf stand. This will provide a thinner stand and a much more playable situation than with a higher seeding rates. The grass will develop with a clumping growth habit and will seed better and obtain the wispy seedhead look that's desirable.



Photo: Kevin J. Ross

Properly maintained native grass areas can offer excellent aesthetic contrasts and perfect playability.



# course maintenance

Balancing design integrity, aesthetics and playability is the challenge superintendents face when managing native areas. To achieve this balance, irrigation design and watering are top management issues. Native areas that receive water, or get even partially hit by water, create thick, dense and unplayable conditions. For a new golf course, being able to control and/or turn off the watering in these areas is imperative once the course is established to let the native grass grow as it was intended.

The most challenging area of water management is the interface area where the mowable rough meets native grass. The mowable rough needs water, but watering 100 percent coverage is difficult without some overspray hitting the native grass along the edge. Failing to accomplish this task often results in golfers commenting that they would rather hit the ball 10 feet into the native grass than 1 foot into the rough. In truth, an inter-

face zone can become unplayable from irrigation water hitting the edge of the native grass stand, while 10 feet in from the edge of the native grass stand is playable because the area received no water. Facing such a situation, the best solution might be to live with some rough on the dry side by setting the irrigation arcs slightly on the short side. An alternate solution could be to control the fine line of watered native grass by selectively mowing it.

Perhaps the most difficult area of native grass management is around bunkers and on bunker faces. Golf purists agree that bunker faces ringed with native grasses have a look second to none, and adding surrounding native grass to a bunker can make a regular sand bunker increase two to three times in size. Again, controlling the watering in these areas is difficult, and when watered, the grass tends to become thick and unplayable. Around such bunkers, many golfers agree the sand is the place to be and not in the native grass around it.

## A misunderstanding

Unfortunately, golfers often misunderstand design principles, strategies and hazards. Too many golfers expect every square foot of the course to be completely playable. Bunkers are hazards, according to the Rules of golf. Native grass edging isn't a hazard, but might play as difficult or even more difficult than other types of grass. The faces or fringes of the bunker are completely unplayable in some situations, and that's only if the golfer can find the ball. However, aren't these annoyances part of the game?

Unfortunately, there is no simple answer to how to manage native areas successfully? The decisions about managing native grass will lie with each club and its objectives for speed of play and playability. Most certainly, the architect's design should be considered before changes are made to create native grass areas. But the most important considerations are careful irrigation management design, species selection and seeding rates. Attention to these factors can help ensure the benefits of native grasses aren't outweighed by the disadvantages. GCN

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Native grass areas can offer an environmental balance with nature.



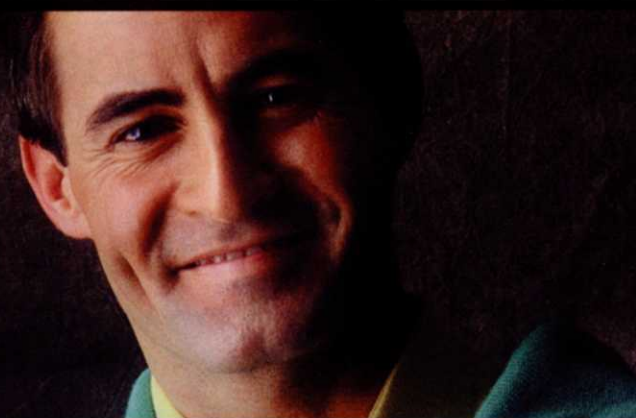
Native grass edging around bunkers that receive water result in a penal situation.



Few golf course designs are carved out of true native grasslands such as Sand Hills Golf Course in Nebraska.



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Responsible Industry  
for a Sound Environment



#### DATA

2003 (continues through 2005),  
Dan Potter, Ph. D., University of  
Kentucky

#### SOURCE

Jeff L. Nus, Ph.D., United States  
Golf Association, 2004  
*Turfgrass and Environmental  
Research Exective Summary*

#### MORE INFORMATION

<http://usgatero.msu.edu>

## Biologically-based management of white grubs and ants

**R**oot-feeding white grubs and cutworms are widespread and destructive insect pests of turfgrasses on golf courses in the cool-season and transitional turfgrass climatic zones. Ants are abundant in turfgrass habitats where they are beneficial by preying upon the eggs and other life stages of pest arthropods. Ants become pests, however, when their nesting and mound-building occur on closely-mowed turf of golf courses.

Researchers at the University of Kentucky are conducting research focusing on factors that determine the abundance and distribution of white grubs, cutworms and mound-building ants on golf courses. Parasitic wasps belonging to three different families were

discovered attacking BCW eggs or larvae, causing mortality as high as 27 percent. A baculovirus isolated from BCW cadavers has the potential to provide season-long BCW control from a single application. Studies to characterize its activity, host range, residual activity and potential as a bio-insecticide are planned for 2004. Mound activity of *Lasius neoniger* ants started in late winter, peaked in May and declined steadily thereafter. Nearly all mounds on sand-based greens were located within two meters of the outer edge. *Lasius* queens were active in late summer with synchronized emergence periods. Planting peonies as a nectar source for spring-active *Tiphia* wasps significantly increases parasitism rates of white grubs in nearby turf.

#### DATA

2003 (continues through 2005),  
Bingru Huang, Ph. D., Rutgers  
University

#### SOURCE

Jeff L. Nus, Ph.D., United States  
Golf Association, 2004  
*Turfgrass and Environmental  
Research Exective Summary*

#### MORE INFORMATION

<http://usgatero.msu.edu>

## Physiological and molecular basis heat tolerance in bentgrass

**S**ummer decline in turf quality is a persistent problem for creeping bentgrass (*Agrostis stolonifera*).

The overall goal of this project is to improve heat tolerance of creeping bentgrass by identifying mechanisms of heat tolerance in *Agrostis*. Researchers are determining whether any specific gene can be identified and used for direct genetic manipulation, and if heat-stress proteins or other genetic components can be used as genetic markers for heat tolerance.

The study examined thermal *Agrostis scabra*, non-thermal *Agrostis scabra*, *A. rossiae*, and *Agrostis palustris* cv. L-93. Soil temperatures were 20 (control), 35 and 40 C, while air temperature was held at 20 C. Treatments

were imposed for 70 days. After 10 days, all plants grown at 42 C had lower chlorophyll content than plants grown at 35 and 20 C. Differences in chlorophyll content between 35 and 20 C were not significant. Both ecotypes of thermal *A. scabra* had greater chlorophyll content than other *Agrostis* species at 35 C. Canopy temperature for all species at 35 and 42 C increased over time as much as 6 and 8 C respectively. These physiological measurements showed that thermal *Agrostis scabra* species had superior tolerance to elevated soil temperatures. These species had better cooling mechanisms and produced large numbers of roots at 5 cm at 35 C soil temperatures, while root growth declined for creeping bentgrass.

#### DATA

2003 (continues through 2005),  
Bruce Marin, Ph. D. and Paul  
Peterson, Ph. D., Clemson  
University

#### SOURCE

Jeff L. Nus, Ph.D., United States  
Golf Association, 2004  
*Turfgrass and Environmental  
Research Exective Summary*

#### MORE INFORMATION

<http://usgatero.msu.edu>

## Rapid Blight biology and integrated management

**R**apid Blight, presumably caused by an undescribed species of Chytridiomycete fungus, has caused extensive and costly damage to golf course greens, tees and fairways with rough bluegrass, perennial ryegrass, annual bluegrass and creeping bentgrass in several western states and in the southeastern United States.

Researchers at Clemson University have recently initiated research to investigate the identification and basic biology of the causal organism, including elucidation of the life cycle of the pathogen and disease epidemiology. They are also determining the influ-

ence of irrigation water (salinity, sodicity, and bicarbonates) and soil edaphic properties on disease severity and epidemiology. Preliminary data indicate that salinity linked to irrigation water quality plays a major role in disease development. Rapid Blight has been diagnosed primarily in the fall, winter and spring months, suggesting that cooler temperatures also may promote the disease. Additional preliminary results indicate a high degree of susceptibility in cultivars of rough bluegrass and perennial ryegrass, while certain cultivars of alkaligrass and creeping red fescue appear to contain levels of resistance. GCN





Photo: Jacobsen

Designed to be lightweight and maneuverable, the versatile triplex mower also is the choice of many superintendents for tees, approaches and fairways.

## Triplex mowers offer versatility, quality cut

**G**etting the job done faster on greens is probably the greatest advantage of triplex mowers. They offer golf courses increased productivity and a quality cut.

Designed to be lightweight and maneuverable, the versatile triplex mower also is the choice of many superintendents for tees, approaches and fairways.

### Toro trim-mower technology

In 1999, Toro introduced the first triplex trim mower with the patented Sidewinder cutting system, according to the company. Since then, trim mower technology has helped superintendents reduce labor, control costs and achieve a high quality of cut with reel and rotary trim mowers.

Producing a skillfully manicured golf course requires looking at all aspects of mowing.

"There's a distinction between quality of cut and the after cut appearance," says Tony Ferguson, Toro's marketing manager for Reelmasters. "Many people think they're synonymous, but they're really two different things. Quality of cut is how well you're cutting the grass as you're cutting it. The after-cut appearance is

what it looks like when you're done. Is it uniform? Is there overlap? Is it cleanly cut?"

Quality of cut and after cut appearance are important to golf course superintendents because both impact the aesthetics and playability of a golf course. And although these two terms can sometimes overlap, Toro considers quality of cut and after-cut appearance separately when designing and testing mowers.

Superintendents typically use trim mowers for trimming surrounds around bunkers, greens and sometimes even small rough areas, according to Kevin Conry, marketing manager for the Groundmaster product line.

"Our rotary trim mowers essentially have made it possible to mow trim at higher heights of cut where rotary mowers thrive," Conry says. "Toro rotary trim mowers are equipped to handle undulations commonly found around bunkers and surrounds because each 27-inch deck floats independently. This quality of cut from a rotary changed how many courses managed their trim areas."

The Toro Groundmaster 3500-D, which Conry refers to, is a riding trim rotary mower with a 35-hp turbo-charged engine and



# course maintenance

Photo: National Mower



National Mower's 68 Deluxe triplex mower (top) features a 68-inch cutting width, as well as a compact and lightweight design that lets the mower maneuver through tight spaces. John Deere's 2500A triplex greens mower (right) features a new cutting unit suspension that carries the weight of the lift arms on the traction unit and not on the cutting units.

Photo: John Deere



free-floating rotary decks, which can be shifted 24 inches right and left with the Sidewinder feature.

"The Sidewinder provides a lot of versatility because the traction unit doesn't have to operate as close to a lake or bunker edge," Conry says. "The decks can be shifted from day to day so the tires aren't driving over the same track. That means less compaction and turf damage."

The Sidewinder feature also is available on the Toro Reelmaster 3100-D for trim applications.

"The Reelmaster 3100-D has cutting unit options that provide either a 72-inch or 85-inch width of cut," Ferguson says. "For those that need a narrower unit to maneuver around obstacles or a wider unit for maximum productivity, Toro has it."

Additionally, the Reelmaster 3100-D features a distinctive operator-out-front design and Series/Parallel 3-wheel drive traction system, which minimizes spin-outs.

"It has superior traction capabilities on hilly and wet turf conditions," Ferguson says. "You would actually have to spin one of the front wheels and the rear wheel at the same time to get stuck. That's pretty tough to do. This prevents scuffing the turf as well."

**USING AGILE TRIPLEX MOWERS FOR TRIMMING ALSO CAN OFFER PRODUCTIVITY GAINS AND CORRESPONDING LABOR SAVINGS.**

Using agile triplex mowers for trimming also can offer productivity gains and corresponding labor savings.

"One course in particular replaced their hand mowing entirely with a Reelmaster 3100-D by justifying the labor cost savings," Ferguson says. "That's not going to be true for everyone, due to slopes that are too severe, but in many cases, courses are finding that they can replace some or all of their hand and fly mowing operations, thereby saving time and money."

Another benefit the reel and rotary trim mowers provide is an attractive after cut striping pattern.

"With the rear rollers you have an aesthetic benefit that you usually wouldn't get with a standard rotary," Conry says about the Groundsmaster 3500-D.

Conry boils the key features of the mowers down to three things.

"The most important attribute is the ability to follow the ground undulations because they give you a good quality of cut without scalping," he says. "The second would be the Sidewinder feature because it allows you to reach into places more safely and get close to obstacles without endangering the operator. The third point would be the after-cut appearance you get with the striping rear roller. Toro trim mowers provide the versatility superintendents need to create attractive playing surfaces at the desired height of cut while reducing labor and saving time."

**John Deere's 2500A offers ease of operation, service**  
Designed for ease of operation and service,

the quality of cut achieved with John Deere's 2500A triplex greens mower is enhanced by a new cutting unit suspension that carries the weight of the lift arms on the traction unit and not on the cutting units. This is critical on daily cleanup passes because the mower can move clockwise one day and counterclockwise the next, so the wheel pattern won't be in the same track. This greatly reduces the triplex ring associated with this operation.

The 22-inch cutting units are designed and manufactured by John Deere and come with 11-blade reels, 3-mm standard bedknives and a smooth or grooved front roller. The cutting units also feature a new bedknife-to-reel design.

In addition, the command arm puts the key switch, mow switch, throttle lever and raise/lower lever conveniently at the operator's fingertips. The mower also features tilt steering and a two-foot-pedal system for forward and reverse. Features of the 2500A include:

- 19.9 hp (gross) /18 hp (net), three-cylinder, liquid-cooled diesel engine;
- Patented offset cutting units and cutting-unit suspension to minimize perimeter compaction and turf wear;
- Low-profile tires with a wide footprint;
- Ergonomic control arm and operator station for operator comfort, visibility and easy operation;
- 22-inch cutting units with bedknife-to-reel design for ease of service;
- Grass catchers designed for optimum catching efficiency and improved cut quality;
- Standard hydraulic oil cooler for improved hydraulic system performance and durability;
- Sit-on-seat diagnostics to improve serviceability and diagnostics;
- Tilt-back hood and tilt-up seat platform provide good visibility to components;
- All daily service checks are made from the left side of the machine; and
- High-strength, tubular steel frame provides increased strength and improved rear cutting unit visibility.

## National Mower's 68 Deluxe has 7-mph transport speed

National Mower's 68 Deluxe triplex mower can increase productivity with its 7-mph transport speed. An out-front steering system allows the mower to go almost anywhere.

It has a 68-inch cutting width and 21-inch wing mowers that follow severe contours. The reel mower provides a cleaner cut and better appearance than a rotary mower, according to the company. The tooled-steel



reel blades and bedknife are built to last twice as long as others do on the market.

The compact and lightweight design lets the mower maneuver through tight places and allows mowing in soft areas with minimal tracking. A large reel overhang makes for better trimming capabilities.

There's no shroud over the engine, which provides good airflow to the engine and easy access for maintenance. The mower's mechanical drive requires less horsepower for operation and reduces maintenance. Parts are readily available and inexpensive to replace.

An electric starting system makes starting and stopping easier when an operator needs to pause for golfers.

The 68 Deluxe triplex mower tractor is powered by an electric start 7½ hp Briggs & Stratton four-cycle engine. It has a welded tubular steel frame; hardened steel gears and clutches for traction, and the wing and rear mowers. The differential is automotive-type. Steering is tie rod and drag link, and it features full pneumatic, power grip tires (front, 350 x 6; rear, 650 x 8).

The mowers include two 21-inch side wings and one 30-inch rear free floating for a total 68-inch width of cut. Reels feature six blades, 1¾ inches thick and 1½ inches wide. The seven-inch diameter reels adjust down to a high carbon steel bed knife with a ¾-inch lip for longer life. Timken reel bearings disengage the mowers for transport.

## Jacobsen's Greens King VI

The Jacobsen Greens King VI is versatile,

reliable and a user-friendly triplex mower, according to the company. Whether maintaining greens, tees, approaches or fairways, the triplex mower has the ability to deliver results that meet golf course superintendents' high expectations.

The mower features a 62-inch cut. The fully floating, steerable cutting units help prevent marking and scuffing while turning. There are 11- or seven-blade reels for a high-quality finish in a variety of turf conditions. The mower has other features and benefits:

- Engine offerings include a liquid-cooled, fuel-efficient 19-hp Kubota diesel, or an 18-hp Briggs & Stratton gas engine;
- The mower offers pedal and joystick control, along with a padded, adjustable steering wheel;
- Attachments include vertical mowers, spikers, brushes greens roller and patented turf groomer. The groomer doesn't extend the roller base and that keeps the rollers closer together to minimize scalping;
- Grooved and smooth rollers;
- Backlap optional;
- A one-touch lift/lower system features an electronic solenoid valve coupled to a sophisticated electrical system. Roller sequencing is automatic, unlike other mower models that use a mechanical system;
- Motor and hydraulic fittings are mounted outside the frame, allowing easy access;
- As part of the hydraulic circuitry, steel

**"OPERATORS WHO ONLY CUT STRAIGHT LINES USE GROOVED ROLLERS. OPERATORS WHO MOW AROUND THE EDGES ON THEIR CLEANUP PASS HAVE UNITS WITH SOLID ROLLERS."**

lines have replaced rubber lines in the chassis;

- A redesigned hood opens from the back for better access; and
- Biodegradable hydraulic fluid is available.

Oakmont (Pa.) Country Club acquired a number of Greens King VI units throughout the past few years. The club's superintendent, John Zimmers, says the mowers are quite flexible.

"Our fairway mowing technique is a little different," Zimmers says. "Operators who only cut straight lines use grooved rollers. Operators who mow around the edges on their cleanup pass have units with solid rollers. With the Greens King VI and the FlashAttach system, we can swap heads quickly. Plus, if we want to use different attachments for greens, tees or other areas we can make the changes quickly and easily. We have a lot of flexibility with this mower."

Zimmers says the golf course has changed since it started using the units.

"Comments from members have been unbelievable," he says. "They say the condition of the fairways is much improved. The reasons are the quality of cut and the fact that the Greens King VI is a lightweight machine. We're able to mow more often because of its lighter weight and the three-wheel-drive feature. Before we got these units, we couldn't get out on wet days with heavier mowers."

Small features on the mower mean a lot to Zimmers.

"An adjustable steering wheel is more important than someone might think," he says. "Every operator is different, and if you want them to go out and do their best, you have to provide them with comfort features."

Zimmers says the joystick control option is a big plus.

"Some people always use their feet, while for others their hand-eye coordination is better, and they prefer the joystick," he says. "I like the flexibility of it because in summer when we bring in students and interns it's nice for them to have the option of using either their feet or hands. That may sound farfetched, but it's true." GCN



Photo: Toro

The Toro Reelmaster 3100 trim mower features cutting unit options that provide either a 72-inch or 85-inch-width cut.



### WS PRO LT weather station

- Designed to help eliminate the guesswork when determining accurate sprinkler run times
- Sensors collect weather data—temperature, relative humidity, wind speed, solar radiation and rainfall amounts—throughout a 24-hour period
- Data is used to calculate an evapotranspiration value, which determines the precise amount of water that must be replaced to maintain soil moisture at a desired level
- Central control will automatically program the sprinkler run times without overwatering or leaving areas of turf too dry
- Offers a cost-efficient option for smaller-budget golf courses
- Ability to connect as many as five weather stations to a central control system
- Allows rainfall from one day to be carried over to the following day for accurate run-time calculations

Rain Bird Corp.

Circle 200 on reader service form

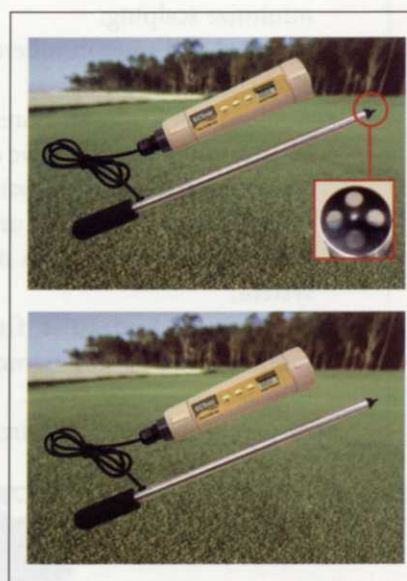


### Futerra flexible revegetation blankets

- Promotes fast vegetation growth
- Weighs 50 percent less than comparable blankets and absorbs three times the amount of water
- Features a combination of thermally processed wood fibers and crimped, interlocking synthetic fibers that provides a high seed-germination rate
- Netting degrades in three months; no messy nets remain to entangle in mowers

Profile Products LLC

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### Field scout direct soil EC probe/meter

- Portable meter permits instant, accurate measurement of nutrient salts in soil media, as well as water or nutrient solutions
- Measures soil conductivity on the spot without tedious soil sampling and preparation methods
- Resolution of 0.01 mS/cm and an accuracy reading of +/- 2 percent

Spectrum Technologies

Circle 203 on reader service form

### Electric pump driver

- Controls the rate of flow by regulating the speed of a 12-volt pump
- Replaces a electric servo valve
- Controls most 12-volt pumps as high as a maximum rating of 20 amps
- Installation is clean and simple
- Accurate and effective control of application rate
- Designed to work in conjunction with company's controllers
- Can be purchased as part of a customized kit with control console, speed sensor and flow meter, or just the EPD kit

Micro-Trak Systems

Circle 204 on reader service form



### Mete-R-Matic self-propelled top dresser

- Controls thatch layers
- Decreases compaction by improving the growing medium and leveling uneven turf
- Controls are in easy, fingertip reach of the walk-behind operator
- Easy to maneuver in tight places
- Patented chevron belt provides a uniform application regardless of moisture content or material
- Light footprint prevents turf damage.
- 31½-inch spreading width
- 11.5-cubic-foot hopper and 2.5-mph operating speed
- Available with a special patent-pending overseeder attachment
- F-15 model available for factory-direct purchase

Turfco

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# THE GLOVES ARE OFF.

Because of activists, extremists and misinformed politicians, consumers are questioning whether the products and resources (such as water) used to care for their lawns, landscapes and other green spaces are a waste—or a harm to the environment. Yes, legislation and regulations have been throwing the green industry some rough punches. And we're about to start fighting back.

Project EverGreen is an alliance of green industry associations, companies and professionals dedicated to educate the public, protect the green industry and grow our business. It was created in response to unfavorable regulations in many parts of the United States and Canada. If the services our industry professionals offer are restricted, regulated or made illegal, everyone will lose revenue and customers.

Help Project EverGreen educate consumers on the environmental, economic and lifestyle benefits of green spaces. To make a contribution, volunteer your time or find out more information, call **1-877-758-4835** or visit **[www.projectevergreen.com](http://www.projectevergreen.com)**.





## Ionization system and electronic descaler

- Releases a controlled amount of electrically charged copper and silver ions into water for algae and disease control
- System includes microprocessor control box and a pair of scientifically formulated electrodes composed of copper and silver
- Control box works by generating a low-voltage DC current to the electrodes
- Descaler eliminates scale formation in water lines, misters, sprinkler system nozzles without chemicals or maintenance
- Integrated circuitry system produces a modulating frequency waveform to an induction coil that's wrapped around the outside of an incoming water line; this hits the resonant frequency of the calcium carbonate molecules causing them to lose their adhesive properties

ClearWater Enviro Technologies

Circle 206 on reader service form



## Premier and Medalist ball washers

- Sharp-looking design
- Easy-to-use agitator
- Durable cast aluminum case and top
- Premier model features spiral plunger for quick ball washing
- Premier model holds seven pints of washer fluid
- Drain plug flushes quickly and is tamper resistant and leak proof
- Medalist model mounts inside a 2 3/8-inch post

Standard Golf Co.

Circle 208 on reader service form

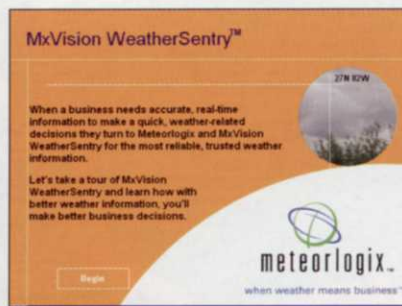


## Hydration Pellet wetting agent

- 100-percent active blend of nonionic surfactants
- For spot treatment of dry areas on greens, tees, bunker banks and fairways
- Provides consistent playing conditions by allowing even distribution of water to root zone
- Each pellet should be suitable to treat a 15,000-square-foot to 20,000-square-foot area
- Effective for three to four weeks; can be applied as often as needed
- Are non-phytotoxic

Jada Corp.

Circle 210 on reader service form



## MxVision WeatherSentry Turf Edition weather service

- Designed to help superintendents make operational decisions about crew scheduling, chemical applications and course maintenance
- Provides up-to-the-minute weather information, including the ability to accurately gauge rainfall, check wind speed and heat indexes
- Allows user to look 10 days into the future and know when to expect major pattern changes
- Customized visuals show when temperatures and high dew points might encourage disease or when winds exceed spraying thresholds

Meteorlogix

Circle 207 on reader service form



## Verti-Drain deep-tine aerators

- 7215 model features 61-inch width and can aerate to 10-inch-deep maximum, making for greater productivity when fitted to a 23-hp tractor
- 7215 model offers reinforced front and rear rollers and a lighter frame than the 73 series, and has lower horsepower requirements
- 7416 model has a 63-inch width and weighs less than the 7516 model and can be used with smaller tractors
- Cranks of the 7416 model are supported on each end
- 7416 model can be fitted with solid and coring tines to a maximum depth of 14 inches.
- Both models are equipped with maintenance free, self-lubricated sealed bearings on all pivot points and a three-speed gearbox

Redexim Charterhouse

Circle 209 on reader service form



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JUNE 2004

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**1. What is your primary business at this location? (check one)**

- ☐ 21-Public Golf Course
- ☐ 22-Private Golf Course
- ☐ 23-Semi Private Golf Course
- ☐ 24-Municipal/City/State Golf Course
- ☐ 25-Hotel/Resort
- ☐ 26-Par3/Executive Golf Course
- ☐ 27-Practice Facility
- ☐ 29-Other Golf Course
- ☐ 30-Golf Course Management Company
- ☐ 31-Golf Course Architect
- ☐ 32-Golf Course Developer
- ☐ 33-Golf Course Builder
- ☐ 39-Supplier/Sales
- ☐ 99- Others (please describe) \_\_\_\_\_

**2. What best describes your title?**

- ☐ A-Golf Course Superintendent
- ☐ B-Green Chairman
- ☐ C-Director of Golf/Head Pro
- ☐ D-Club President
- ☐ E-General Manager
- ☐ F-Golf Course Owner
- ☐ G-Builder/Developer
- ☐ H-Architect/Engineer
- ☐ I-Research Professional
- ☐ K-Assistant Superintendent
- ☐ L-Golf Course Management Company Executive
- ☐ Z-Others (please describe) \_\_\_\_\_

**3. Number of Holes: (check one)**

- ☐ A-9 Holes
- ☐ B-18 Holes
- ☐ C-27 Holes
- ☐ D-36 Holes
- ☐ E-Other

**4. Purchase Involvement: (check all that apply)**

- ☐ 1-Recommend equipment for purchase
- ☐ 2-Specify equipment for purchase
- ☐ 3-Approve equipment for purchase

**5. Total Annual Maintenance Budget: (check one)**

- ☐ 1-Less than \$50,000
- ☐ 2-\$50,000-\$99,999
- ☐ 3-\$100,000-\$249,999
- ☐ 4-\$250,000-\$499,999
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- ☐ 6-\$750,000-\$1,000,000
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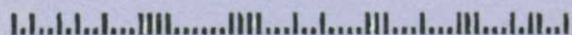


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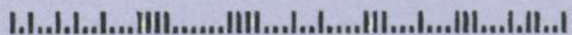


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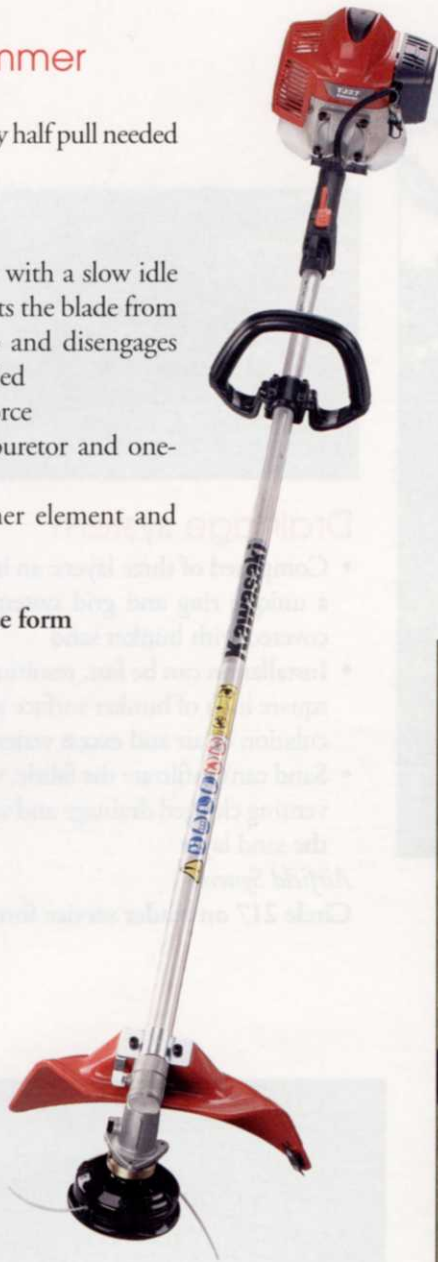


### KTR27A string trimmer

- 26.3 cc engine
- Easy starting feature—only half pull needed to start
- Lightweight
- Low noise levels
- Engine uses a carburetor with a slow idle starter device that prevents the blade from running during start-up and disengages when the throttle is applied
- Reduced recoil pulling force
- Completely covered carburetor and one-piece fan housing
- Easy-to-service air cleaner element and muffler screen

Kawasaki Motors Corp.

Circle 211 on reader service form



### Gas-powered, zero-turn mower

- ZG23 model features a 54-inch mower deck
- Economical gas unit
- Kohler Command Pro, 23-hp, two-cylinder, air-cooled engine
- External air intake system
- One-piece, integral hydrostatic transmission operates on a shaft drive with no belts
- Wet multi-plate disc brakes produce a reliable brake force
- Deep 10-gauge steel deck allows more airflow circulation through the blades enabling a quality cut at a fast rate
- Attach/detach deck has quarter-inch cutting height adjustment dial allowing increments on 1-inch to 5-inch heights

Kubota Tractor Corp.

Circle 212 on reader service form



### Slice n' Seed walk-behind overseeder

- Repairs or re-establishes grass in worn areas, or establishes new grass varieties
- 8-hp Honda engine with centrifugal clutch
- Capable of covering 22,000 square feet per hour
- 9-inch, heat-treated slicing blades on 2-inch centers
- Stainless-steel bottom with internal rotor driven by front wheel drive
- Cam gauge sets opening size to meter all types of grass seed; hand lever is used to shut off seed flow
- Internal rotor bar and metering bottom are removed easily for servicing
- 0.83-cubic-foot seed box can be ordered with traditional 10-inch disks to hold open the slit to allow a higher percentage of seed into the ground

Gandy Co.

Circle 213 on reader service form

### ATM-72LC all-terrain mower

- Versatile with sleek hood and cowling design that allows easier access for maintenance and service
- 30-hp diesel engine powers hydraulic deck drives, steering, propulsion, auto-leveling and deck lift
- Split 72-inch deck design follows contours efficiently and allows cutting V-ditches and crowns

DewEze

Circle 214 on reader service form



### Z Master Z597-D diesel mid-mount ZRT mower

- Top-mounted radiator draws cool, clean air, allowing efficient engine cooling and longer engine life
- 12-gallon fuel capacity in tanks with large fill-neck openings
- 26-inch drive tires with wide wheel stance optimize traction and stability
- Z Stand provides quick and easy access to the underside of the deck
- Deluxe suspension seat provides operator comfort through lumbar support and adjustable suspension, position, armrests and seat-back angle
- Heavy-duty, two-stage canister air cleaner improves engine life and reduces maintenance
- Dual anti-scalp wheel brackets are less susceptible to bending
- 5 1/2-inch-deep deck provides the capacity to handle the challenging conditions

The Toro Co.

Circle 215 on reader service form





## Underground rake caddie

- Reduces cost of moving bunker rakes by maintenance crews so traps can be raked and the grass mowed
- Doesn't interfere with play and is aesthetically pleasing
- Maintained underground out of the way of maintenance crews
- Keeps the rake clean and dry
- Push lid to open, and rake pops out of the ground about 24 inches
- After use, golfer puts rake back into caddie and pushes it down with a golf club until the rake locks in place; then golfer kicks the lid shut and the rake is out of the way
- Rake handle won't erode in the sun
- Spaced no more than every 16 yards around the bunker

*Underground Rake Caddie*

Circle 216 on reader service form



## Bunker pumper

- Pumping rate capability of 240 gpm
- 6-hp Briggs & Stratton engine
- Triple protection grease-filled seal prevents water and debris from coming into contact with engine components
- Floating pump weighs less than 90 pounds and is used for draining pools, sand traps, construction ditches and low-lying field areas
- Self-priming and can be operated at full throttle for about 45 minutes on one tank of fuel and can run dry with no harm to the engine
- Centrifugal pump offers submerged suction without additional hoses or priming systems
- Can operate in less than 3 inches of water
- Removable float makes it easier to handle, maneuver and store
- One-year limited warranty on the entire unit

*Otterbine Barebo*

Circle 218 on reader service form



## Sandstorm screen

- Lightweight mobile unit enables removal of undesirables from bunkers
- Remixing the different sieve sizes renews bunkers' ability to rid itself of excess moisture by allowing the water, formerly trapped by compaction, to get to the drainage system
- Powered by a 12-volt DC vibratory motor
- Provides the ability to revive bunkers' current status and maintain them

*Z Screen*

Circle 220 on reader service form



## Drainage system

- Composed of three layers: an impervious liner membrane, a unique ring and grid system, and a geotextile that are covered with bunker sand
- Installation can be fast, resulting in drainage beneath every square inch of bunker surface with a void space for the circulation of air and excess water
- Sand can't infiltrate the fabric, while water flows freely, preventing clogged drainage and water collection in and above the sand layer

*Airfield Systems*

Circle 217 on reader service form



## Sandmat geosynthetic bunker liner

- Combines manufacturing, geotechnical and geosynthetics expertise for improved bunker management techniques
- Engineered blend of high tenacity polyester fibers bonded to form a thick blanket-like matrix designed to enhance bunker drainage, minimize sand washouts, prevent infiltration of contaminating fine or coarse subgrade particles and improve course aesthetics and playability
- Available directly from the manufacturer and locally through a national network of regional representative organizations

*Western Nonwovens*

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## Greensron 5000 turf roller

- Tightens thatch layer to increase durability of the green, reduces spike marks on sand-based greens and reduces heal marks during wet weather
- Used to squeegee greens after heavy rain during tournaments to get players back on the course quickly
- Removes standing water in low areas due to rain or broken sprinkler heads
- Smooths green surface after aerifying or top dressing; ironing will maintain smoothness, trueness and putting speed
- Puts dew into greens for water conservation
- Irons rough areas on tees, range and fairways
- Allows for increased mowing heights during stressful parts of summer
- Decreases and eliminates the need for double cutting

Wood Bay Enterprises

Circle 221 on reader service form



## TerraRoller dual-purpose roller/spiker

- Uses three gang rollers alone to speed up greens
- Integrated spiker can be lowered to help greens breathe and speed water absorption with almost no surface disruption
- Hydraulic lift provides easy operation and ample ground clearance during transport

Broyhill

Circle 222 on reader service form

## SR72 roll 'n' spike golf and sports field roller

- Features the patented triple offset smoothing roller configuration
- Trues the surface by design, not weight
- Ideal for all golf courses
- Reduces ankle and knee injuries
- Three-point linkage, set-up, cat 2 or 3 fittings
- Minimum 50-hp tractor required
- Spiker has three depth settings: 1 inch, 1½ inches and 2¼ inches
- Spikers set apart 1½ inches
- 72-inch roll width
- Weighs 1,650 pounds - extra weight can be added
- Can roll and spike at high speed

True-Turf Equipment

Circle 223 on reader service form



## KTR 30 turf roller

- Walk behind with traction drum and rounded edges
- Gentle on turf
- Maneuvers around tight spaces
- Handle folds for easy storage
- Water-filled 30-inch-wide roller
- Heavy-duty design
- Fingertip controls for speed, forward, reverse and on/off
- Hydrostatic drive
- 5.5 hp Honda engine

Kesmac

Circle 224 on reader service form



## Groundhog roller frame design

- Available in 45-inch, 60-inch, 75-inch, and 90-inch widths
- Pull-type or three-point hitch tractor mounted; 12-foot and 15-foot pull-type
- Any frame can be fitted with any of the AerWay family of tines
- New designs can be fitted with an adjustable height smoothing roller
- Roller can be varied through over 10-inch of lift in ½-inch increments, which allows user to fine tune maintenance program from roller use exclusively, to venting aeration at various tine penetration depths, to tine openings without rolling
- Possible to roll and/or aerate 18 fairways in one day

AerWay

Circle 225 on reader service form





## SitePro 2.0 central control system

- Ability to manage irrigation demand automatically to meet available pump station capacity
- Can determine changes of pump-station volume and recalculate irrigation based on a predetermined set of rules established by the user
- Ability to model different irrigation solutions to anticipate outcome
- Reporting features provide details on any problems that occurred, as well as confirmation of what areas were irrigated
- Saves hours of work required to recharge an irrigation system after downtime
- Allows the integration of multiple pump stations and offers the ability to disable integration and/or responses

The Toro Co.

Circle 226 on reader service form



## 200RSDB200 professional 2-inch valve

- Manually operated
- Solid brass construction
- 300 Series stainless steel components
- Pressure activated seals on each bell
- Newly designed one-piece top bonnet with new O-ring seal that eliminates leakage
- Accepts current commercial pipe restraints
- Solid brass cross handle (can be ordered with wheel handle); both handles can be used with model 30-30, 30-6 sprinkler keys
- Weighs 10 pounds, 11.9-inches high, 7.1-inches wide
- Eliminates need for thrust blocks

Champion Irrigation Products

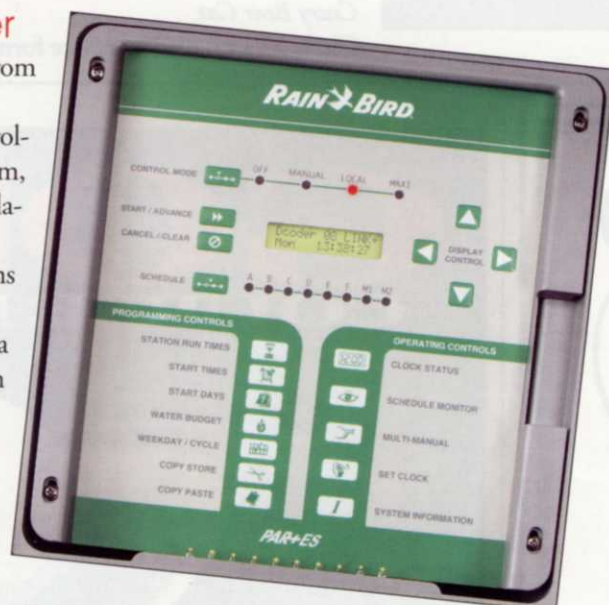
Circle 227 on reader service form

## PAR+ES decoder controller

- Ability to program and control decoders from a satellite interface
- Combines features and benefits of a controller system with those of a decoder system, resulting in an easier and less costly installation
- Offers the opportunity for easier expansions as the course's irrigation system changes
- Can be used in stand alone mode or with a company's central control system through a two-wire or wireless interface
- As many as 72 decoder addresses and two valves per address can be added
- Can operate 16 valves or solenoids simultaneously
- Provides three troubleshooting tests to facilitate maintenance of the decoder installation, plus four two-wire decoder line outputs each with its own on/off switch.
- Addition of new decoders to wire paths results in lower labor and material costs

Rain Bird Corp.'s Golf Division

Circle 228 on reader service form

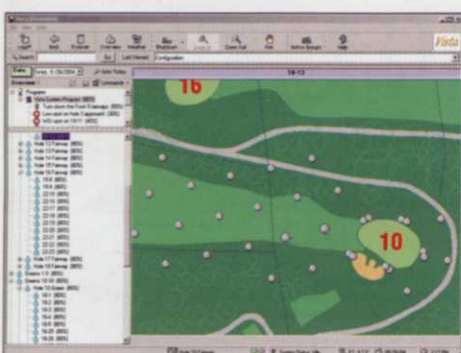


## Vista visual central control system

- Uses AutoCAD design coupled with GPS technology
- Automatically creates base irrigation program, saving time and money
- Optimizes pump efficiency and minimizes watering window automatically
- Monitors and senses problems in the field, then reacts in real-time, making programming and flow balancing adjustments on-the-fly
- Can see vital statistics with mouse clicks down to the individual rotor level
- Can save water while preventing plant disease and enhancing playability
- Flexibility to offset troublesome or unique areas for special treatment
- Automatic scheduling and balancing from start or end of water window
- Set-and-forget irrigation therapy handles temporary situations, then returns to normal

Hunter Industries

Circle 230 on reader service form



## FloMax variable frequency drive pump station

- Designed for indoor installation
- Offers flow rates from 200 to 1,200 gpm at pressures from 50 to 150 psi
- Optional skid-mounted aluminum and steel enclosure makes

Flowtronex

Circle 229 on reader service form





### Brush chipper

- Model 65 features 6-inch-diameter capacity disc style
- 12-inch-wide chipper opening
- Hydraulic, right-angle feed
- Low profile, slanted infeed tray
- Infeed hopper is 25 inches off the ground
- Hinged feed wheel closes to within 5½ inches of chipper disc
- Reversible control bar at infeed with forward, reverse and stop
- 24-cubic-inch, 1,500 psi motor that pulls and crushes material

Bandit Industries

Circle 231 on reader service form



### Bushmaster PTO-driven chipper

- Variable speed power feed 70 fpm or 45 fpm
- Drum-style chipping wheel
- Continuous chipping capacity as wide as 6 inches
- Power feed on/off control bar
- Heavy-duty shielded PTO shaft
- Built-in, high-volume blower with optional 15-inch extension
- Two knives modified A8 tool steel
- Easy access to belts and chipper knives

Befco

Circle 232 on reader service form



### Towable chipper

- Can handle branches as wide as 6 inches in diameter
- Live hydraulic feed system with a variable speed feed roller with instant reverse
- "Try again" feed system automatically retries feeding limbs three times
- 15-inch-diameter feed roller
- 13-inch-wide opening contains 10 knife blades for enhanced ease of feeding
- 360-degree-rotating, 6.7-inch discharge chute

Crary Bear Cat

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# Making the game more affordable and accessible

The United States Golf Association (USGA) is promoting a good cause through golf. Through its grants initiative, the USGA empowers organizations that introduce golf to individuals—specifically economically disadvantaged youth and those with disabilities—who otherwise would not have the opportunity. Grant awards are directed to instructional programs and the construction of facilities that make the game more affordable and accessible.

During 2003, \$5.75 million was awarded to 222 organizations that demonstrate quality operations and fiscal planning. These programs plan to reach more than 200,000 people with disabilities with the assistance of USGA grants. Since 1997,

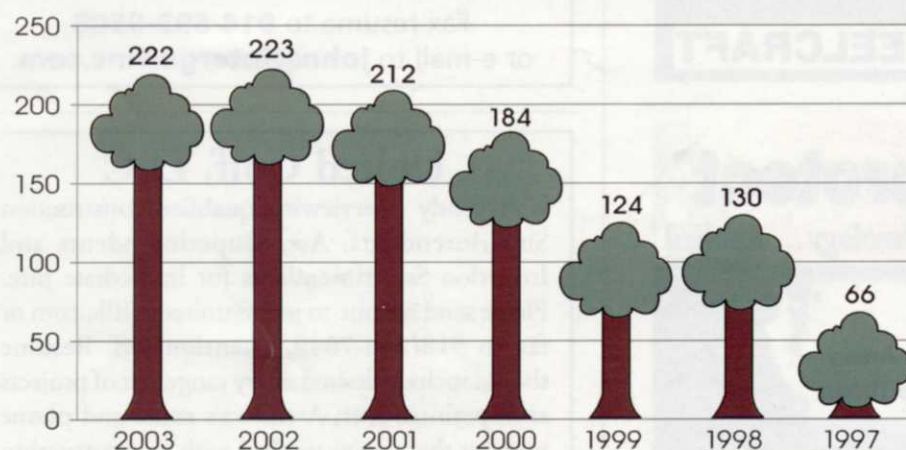
when the USGA committed \$50 million throughout 10 years to this grants initiative, more than \$38 million has been awarded throughout the nation aimed at teaching individuals about golf and the life lessons inherent in the game.

The USGA assists supported programs with public relations, obtaining equipment and fiscal planning. Grant recipients receive in-kind donations of USGA merchandise for fundraising and rules publications for use in educating their participants. In 2003, the USGA hosted the first Pikes Peak Summit—a gathering of 300 grant recipients that helped promote and exchange best practices for operating quality golf programs and facilities.

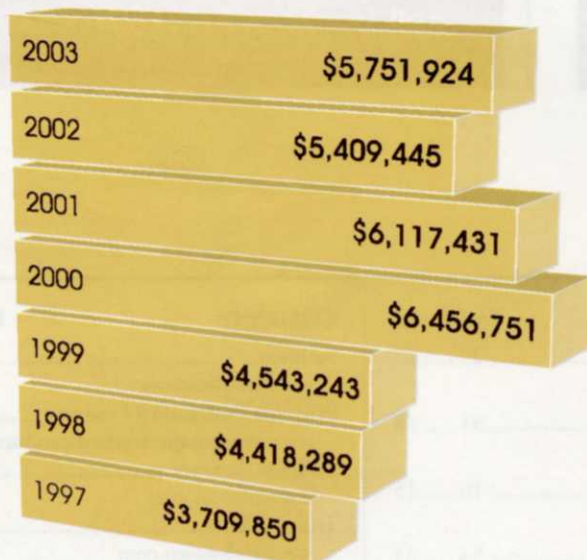
In 2003, the USGA conducted a survey of past grant recipients to assess the level of success they've achieved throughout the past seven years. Many of the more than 600 organizations that have received grants from the USGA responded. The results showed these programs improved in areas such as fundraising, participant reach, program length and providing increased amounts of golf course access at lower costs.

Below are charts that show the numbers of grants, the amount of annual awards and grant distribution.

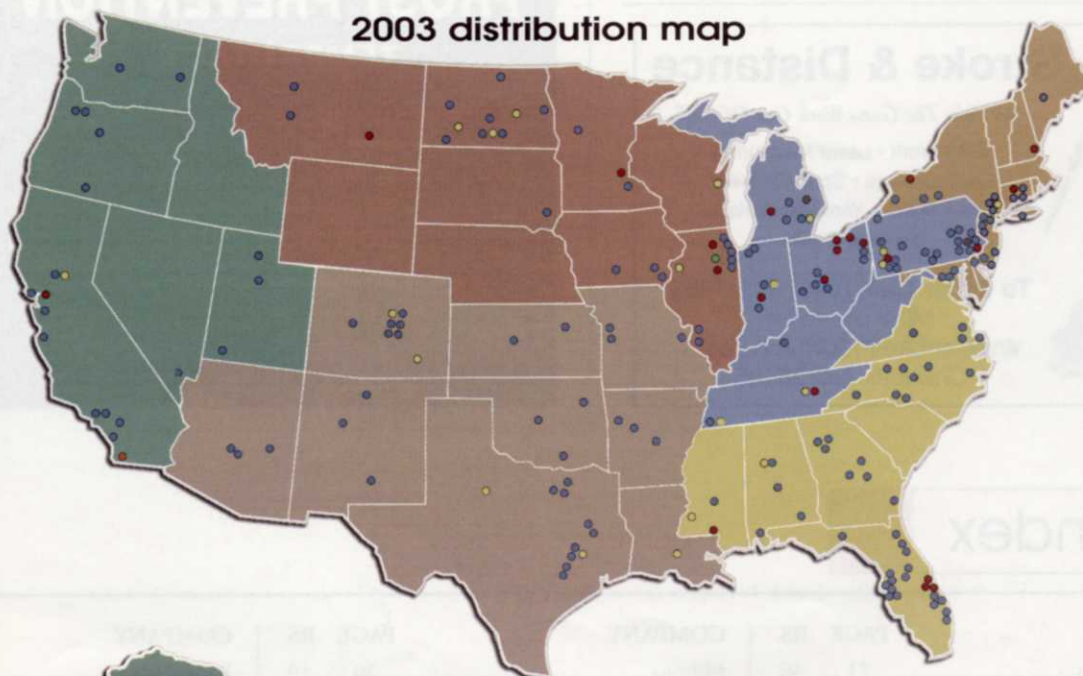
Number of grants by year 1997-2003



Dollar amount of annual awards 1997-2003



2003 distribution map



- West region**  
• 23 grants totaling \$532,410
- Southwest region**  
• 37 grants totaling \$799,578
- Great Plains region**  
• 35 grants totaling \$11,407
- North Central region**  
• 48 grants totaling \$1,263,550
- Northeast region**  
• 27 grants totaling \$490,400
- Southeast region**  
• 46 grants totaling \$1,158,100

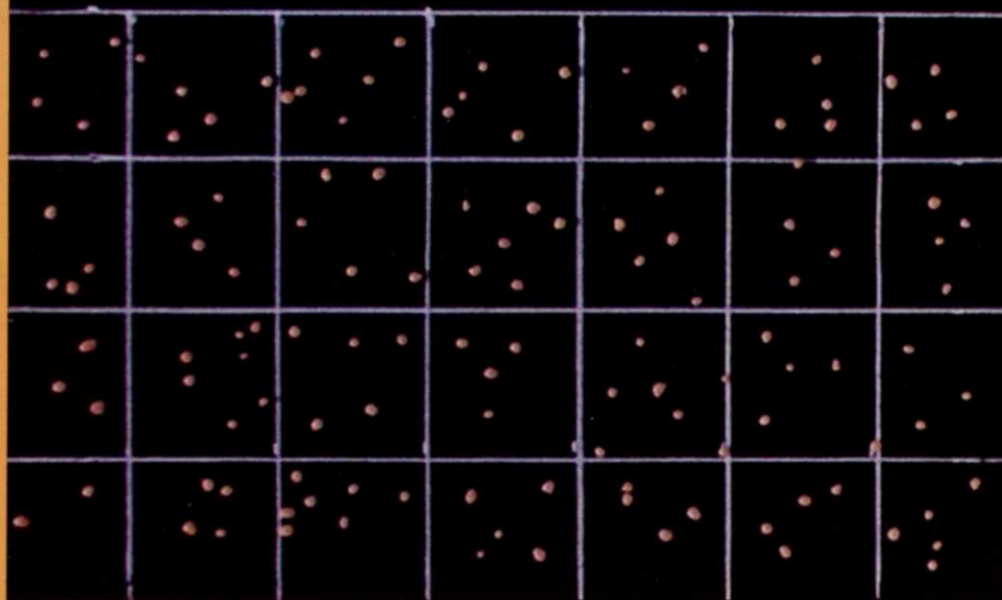
KEY

- Junior golf programs
- Golf facilities
- Golf programs for individuals with disabilities
- School-operated programs
- Caddie/occupational programs
- Other

Source: All information provided by the United States Golf Association

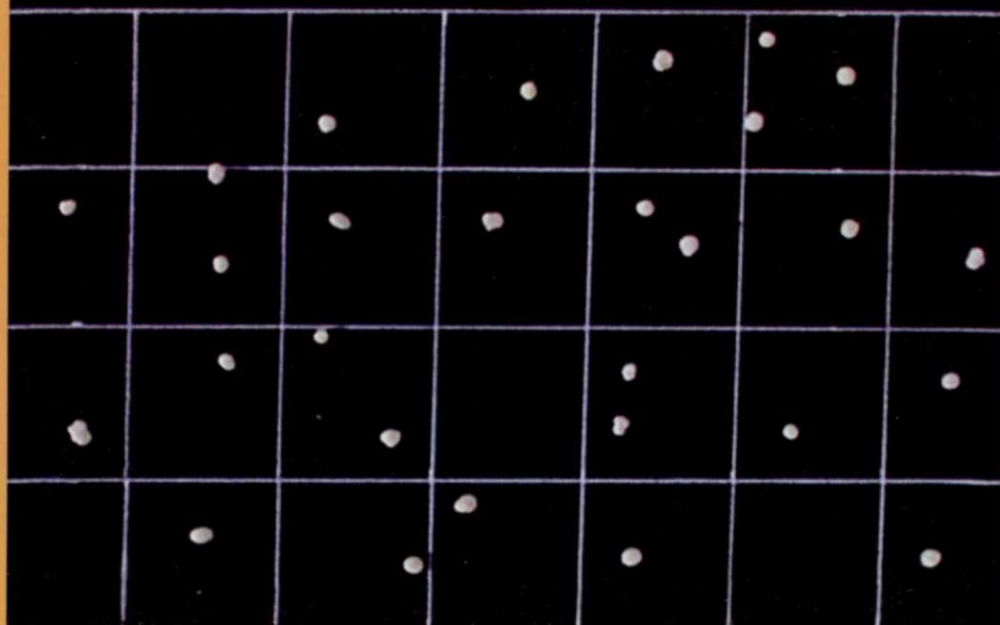


Andersons 150 SGN 37-0-0 Poly-S @ 200 Lbs. Per Acre



(Gridlines are marked in one inch increments)

Competitor's 240 SGN Product @ 200 Lbs. Per Acre



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