

February 2004

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# GOOLF

## COURSE NEWS

Serving the Business of Golf Course Management

*I WISH HE'D FIX THAT  
THEY SPRAYED OUR YARDS  
HE DOESN'T LISTEN  
YOU KNOW WHAT THE PRO SAID*

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budget pressure

What's new in  
fairway mowers

Grande Pines  
makeover

**How  
are you  
doing  
and how do  
you know?**







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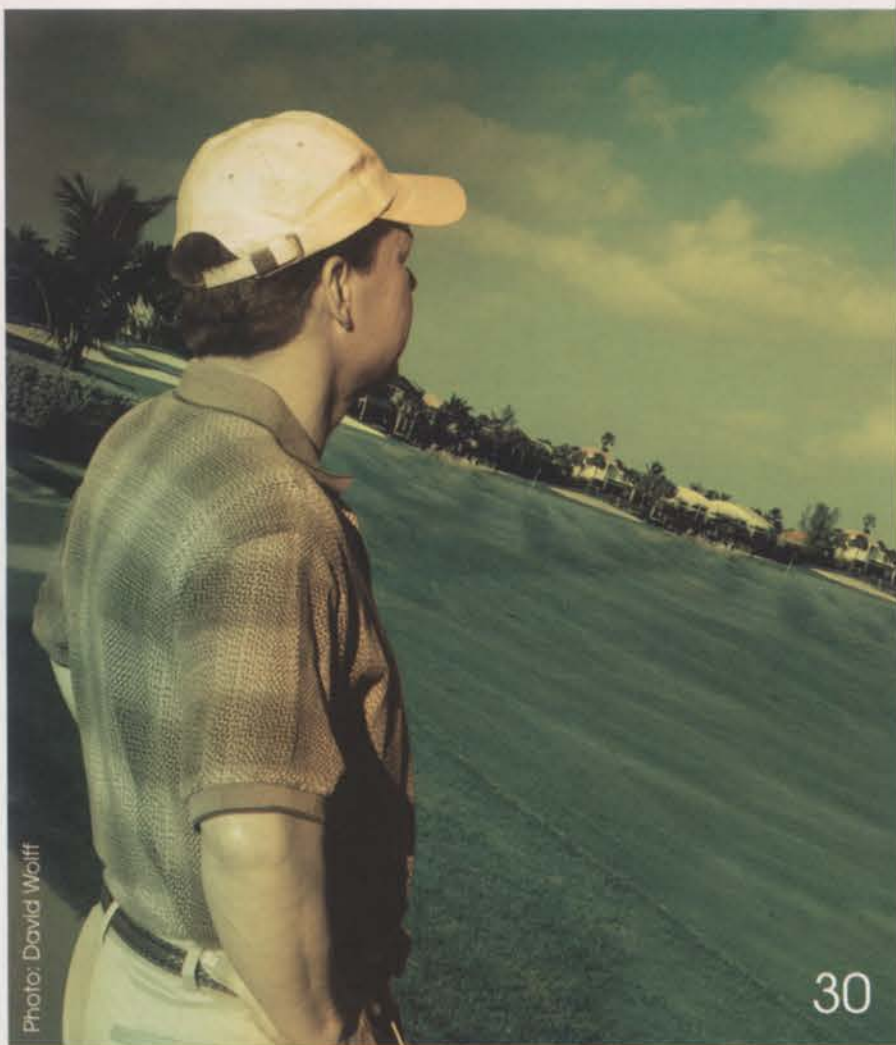


Photo: David Wolff

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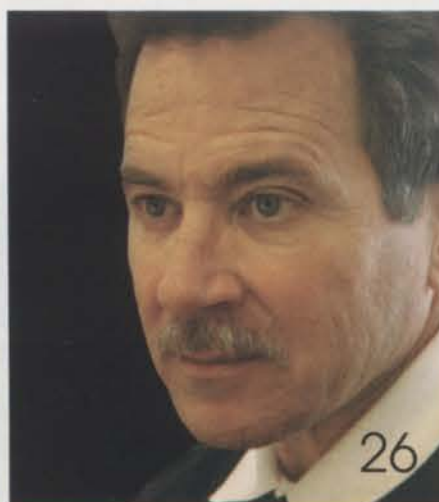
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Roger Stanley  
Editor-in-Chief /  
Associate Publisher

# The new *Golf Course News*

**W**elcome to the new *Golf Course News*. GIE Media is pleased to become the publisher and to join the dynamic golf course market.

"Dynamic" is not a word used enough to describe the golf course market these days. Compared to the roaring 1990s, golf rounds are down. New course construction is down. Fees are down. You read that. You hear it. Everyone knows the dynamics of booming growth have given way to the need to operate under new business rules.

At *Golf Course News*, we believe much opportunity still exists – opportunity that makes golf a dynamic business. Certainly expansion of the golf "pie" has slowed, but smart course owners, managers and superintendents are now focused on the size of their slice. Smart managers are not waiting and banking on a return of the boom days as the means to success.

At *Golf Course News*, we see an opportunity to serve the market. A core conviction in the magazine will be that the superintendent is the key to the successful course today. Superintendents have always played the central role in maintaining great courses, but today's superintendent wears more hats, does more with less, discovers new ways to get the job done and strives to meet the ever-increasing and often unrealistic demands of golfers. Our editorial mission is to help busy superintendents do all this and more.

We also see an opportunity for *Golf Course News*. Magazines, like markets, must change with the times and with the needs of their readers. *Golf Course News* was founded at the start of the boom in golf course construction. The need at the time was for news. Today, the need has shifted to business news — specifically information and ideas to help the superintendent meet increasing job demands.

Technology also has changed since *Golf Course News* was launched. Most superintendents now use the Internet and e-mail to gather information and communicate. So, while *Golf Course News* will continue to include news in the magazine, we're going to deliver more news faster through daily news updates on our

Web site: [www.golfcoursenews.com](http://www.golfcoursenews.com).

Some things in the magazine have not been changed. We're keeping the distinctive, "big book" tabloid format. But we've added a contemporary new design to allow us to showcase the beauty of the unique golf course market. The redesign also reorganizes the departments and features to make it easier for you to find the information you need.

Editorially, we've expanded the number of pages and are adding business management features. Each issue also will cover market news, commentary, business information, agronomic advice and updates and product news. To help us plan all this editorial content, we've surveyed readers (see page 11 for recent survey results), held focus groups with superintendents, and talked one-on-one with members of our editorial advisory board. We've also relied on the advice, perspective and help of two previous editors, Mark Leslie and Andrew Overbeck.

We're heartened by the positive response we've received from many subscribers. At the same time, we hope to hear from even more of you about the changes we've made to improve *Golf Course News*, and any additional changes that you can suggest.

GIE Media, which also publishes *Lawn & Landscape*, *Commercial Dealer*, *Snow Business*, *Interior Business* and *Pest Control Technology*, has become a leader in the green industry by paying close attention to the needs of its readers. Listening to the reader might not exactly be a rocket science concept, but listening and acting upon what we hear is the key to powerful and relevant editorial. Staying close to readers is a job that is never done, but you can help by taking a few minutes to complete and mail the stamped and pre-addressed survey included in this issue to tell us what you think.

I also invite any of you to call me directly at 216/961-4130 anytime, or send me an email at [rstanley@giemedia.com](mailto:rstanley@giemedia.com). I'm interested in your reaction to the new *Golf Course News*, criticisms, comments and ideas for feature topics.

Finally, a very special thanks to the many advertisers for their support in making the new *Golf Course News* possible. GCN

## GOLF COURSE NEWS

Serving the Business of Golf  
Course Management

Editorial Offices:

GIE Media, Inc.  
4012 Bridge Ave.  
Cleveland, OH 44113  
Phone: (216) 961-4130  
Fax: (216) 961-0364

Roger Stanley,  
Editor-in-Chief / Associate Publisher  
Email: [rstanley@giemedia.com](mailto:rstanley@giemedia.com)

Lauren Spiers  
Associate Editor  
Email: [lspiers@giemedia.com](mailto:lspiers@giemedia.com)

Will Nepper  
Assistant Editor  
Email: [wnepper@giemedia.com](mailto:wnepper@giemedia.com)

All Anderson  
Internet Editor  
Email: [aanderson@giemedia.com](mailto:aanderson@giemedia.com)

CONTRIBUTING WRITERS  
Butch Horn  
Email: [ahorn@charter.net](mailto:ahorn@charter.net)

Kevin Ross, CGCS  
Email: [kjross@vail.net](mailto:kjross@vail.net)

David Wolff  
Email: [dgwolff@charter.net](mailto:dgwolff@charter.net)

EDITORIAL ADVISORY BOARD  
Raymond Davies, CGCS  
CourseCo

Kevin Downing, CGCS  
Willoughby Golf Club

Tim Hiers, CGCS  
The Old Collier Golf Club

Lawrence Hirsh  
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Dr. Michael Hurdzan  
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Mary P. Knaggs  
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[www.golfcoursenews.com](http://www.golfcoursenews.com)

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# 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?

- A golf course superintendent
- An assistant superintendent
- Other course management (general manager, etc.)
- Other: \_\_\_\_\_

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

(1=Poor, 7=Excellent)

- \_\_\_ Editorial page
- \_\_\_ Reader Survey page
- \_\_\_ Industry News department
- \_\_\_ Market Update department
- \_\_\_ Design Column
- \_\_\_ Marketing Column
- \_\_\_ Managing Budget Pressure feature
- \_\_\_ How Are You Doing cover feature
- \_\_\_ Extreme Makeover feature
- \_\_\_ Architects and Superintendents feature
- \_\_\_ Maximize Fungicide Purchase feature
- \_\_\_ Bunker Quality Factors feature
- \_\_\_ Label Updates department
- \_\_\_ Research Update department
- \_\_\_ Fairway Mowers feature
- \_\_\_ New Products department
- \_\_\_ Making a Difference page
- \_\_\_ OVERALL ISSUE

#### 3. In future issues would you like to see more or less:

(1=Less, 7=More)

- \_\_\_ Golf market trends and data
- \_\_\_ Columnists
- \_\_\_ Golf industry news
- \_\_\_ New course and construction news
- \_\_\_ Management information and advice
- \_\_\_ Superintendent best practices and profiles
- \_\_\_ Technical and agronomic information
- \_\_\_ New product information

#### 4. Do you have any other comments?

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#### 5. Do you have any suggestions for feature stories?

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#### 6. May we contact you?

Name: \_\_\_\_\_  
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Thank you.



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# GOLF COURSE NEWS

Serving the Business of Golf Course Management

**SALES OFFICES**

GIE Media, Inc.  
6138 Riverview Road  
Peninsula, OH 44264  
Phone: (330) 657-2864  
Fax: (330) 657-2828

Kevin Gilbride  
Publisher

Phone: (330) 657-2889  
Email: kgilbride@giemedia.com

Cindy Code

Account Manager, Specialty Chemicals  
Phone: (330) 657-2584  
ccode@giemedia.com

Dave Blasko

Account Manager  
Phone: (330) 657-2864  
dblasko@giemedia.com

Annemarie Dunchack

Marketing Manager  
Email: adunchack@giemedia.com

Debbie Kean

Executive Administrator  
Email: dkean@giemedia.com

Maria Miller

Conferences Manager  
Email: mmiller@giemedia.com

**CLASSIFIED SALES**

Jennifer Halas  
Phone: (216) 961-4130  
Email: jhalas@giemedia.com

**GRAPHICS/ PRODUCTION**

Andrea Vagas, Art Director  
Helen Duerr, Production Director  
Samantha Gilbride, Production Coordinator

**CORPORATE STAFF**

Richard Foster, President and CEO  
Dan Moreland, Executive Vice President  
Jeff Fenner, COO, Director, Conferences & Seminars  
Jami Childs, Director, Business Resources & IT  
Heidi Spangler, Circulation Director  
Kelly Antal, Manager, Accounting Department

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## Three out of four superintendents say job has become more challenging

To quantify current career conditions for superintendents, *Golf Course News* commissioned an independent online survey of 4,000 readers in December 2003. The survey generated a 13.7 percent response. Three out of four superintendents say their jobs have become more difficult because of a combination of slumping course revenue, budget pressure and ever-increasing golfer expectations. Following are key questions and responses from the survey:

1. Compared to three to five years ago, has your job become more challenging or less challenging?  
More challenging ..... 73%  
Less challenging ..... 2%  
No response ..... 25%

Reasons why the job has become more challenging (specific responses):

- Increasing golfer expectations ..... 20%
- Tighter budgets ..... 19%
- Rounds down/greater competition for revenue ..... 16%
- Slump in the overall economy ..... 11%
- Job title/increasing responsibilities ..... 10%
- Course maintenance problems ..... 6%
- Labor shortages/issues ..... 5%
- More regulation/environmental issues ..... 4%
- Other ..... 9%

Reasons why the job has become less challenging (specific single responses):

- New course ownership
- Dealing with employees better
- Better tools and equipment
- Learning more
- More money in the budget
- New technology

2. How secure do feel your present position is?

- Very secure ..... 41%
- Not secure ..... 40%
- Somewhat secure ..... 11%
- Not sure ..... 7%
- No answer ..... 1%

3. As a superintendent have you ever been terminated or quit for budgetary, technical performance or personality/political reasons?

- No ..... 63%
- Yes ..... 37%

Main reasons for "yes" responses:

- Personality/political ..... 23%
- Budget ..... 7%
- Technical performance ..... 2%
- Other\* ..... 11%

\*Course bankruptcies, taking new jobs, promotions, etc.

4. Has a close friend who was a superintendent ever been terminated or left a position for technical performance, budgetary, personality/political reasons, or to take a job outside of golf?

- No ..... 4%
- Yes ..... 96%

Main reasons for "yes" responses (Note: multiple responses allow total to exceed 100%):

- Personality/political ..... 83%
- Technical performance ..... 70%
- Take job outside golf ..... 52%
- Budget ..... 43%

5. Did your formal training to be a superintendent prepare you adequately in terms of people skills?

- Yes ..... 51%
- No ..... 46%
- No response ..... 3%

6. How long have you been working in your current job as a superintendent or assistant superintendent?

Average: 8 years

7. How many years have you been working in the golf industry?

Average: 19.5 years

ALMOST HALF OF THE SURVEYED SUPERINTENDENTS SAY THEY DO NOT FEEL SECURE IN THEIR JOBS, OR THEY ARE NOT SURE



## Industry News

### EPA forms GreenScapes Alliance

The Environmental Protection Agency (EPA) has launched the GreenScapes Alliance in an effort to broaden and enhance waste reduction efforts nationwide. The goal of the alliance is to combine industry and government initiatives into a unified program geared toward reduction, reuse and recycling of waste materials in large land-use applications. These land-use activities include four million miles of roadside landscaping, brownfields land revitalization and the beautification and maintenance of office complexes, golf courses and parks.

The alliance is just one component of the EPA's Resource Conservation Challenge, which identifies innovative, flexible and protective ways to conserve natural resources and energy.

More than 100,000 businesses, including 73,000 landscape contractors and 16,000 golf facilities, are involved in these land-use activities and are potential alliance participants. To learn more, or for information on how to be a participant in the GreenScapes Alliance, visit [www.epa.gov/epaoswer/non-hw/green](http://www.epa.gov/epaoswer/non-hw/green).

### Turfgrass council raises money for Penn State

Two golf tournaments were held simultaneously in the Eastern and Western regions of Pennsylvania last October to



The Western Pennsylvania Turfgrass winning foursome are (left to right): Jeff Rivard, John Vanderborght, Terry Teasdale and David Bloom.

raise money for the turfgrass program at Penn State University. Sponsored by the Pennsylvania Turfgrass Council, the events included participants from more than 40 companies and golf clubs and had broad support from the turf industry.

The 29<sup>th</sup> Annual Western Pennsylvania Turfgrass Tournament was held in Pittsburgh, Pa., at the Pittsburgh Field Club. The 27<sup>th</sup> Annual Joseph Valentine Memorial Tournament took place the same day at Bent Creek Country Club in Lititz, Pa. Together, the tournaments raised \$15,200 for Penn State.

Numerous companies and industry associations supported the tournaments as tee sponsors. Sponsors included, Blue Ridge Peat Farms, the Golf Association of Philadelphia, the Greater Pittsburgh Golf Course Superintendents Association, Lebanon Turf Products, Simplot Partners and Syngenta Professional Products.

### Web site facilitates public comment on Roundup Ready bentgrass

Roundup Ready bentgrass is currently being reviewed by the Animal and Plant Health Inspection Service (APHIS) of the United States Department of Agriculture and is awaiting clearance for sale and distribution in the United States. As part of the review process, APHIS is accepting public comment on the product until March 4, 2004.

The Scotts Co., Monsanto and their partners developed the new bentgrass by inserting a single gene characteristic that provides tolerance to the active ingredient in Roundup PRO herbicide. Field research demonstrates that this technology can give golf course superintendents a simple, effective control method for *Poa annua*, *Poa trivialis* and a number of other troublesome weeds on greens and fairways. The new system takes advantage of the environmental characteristics of the active ingredient in Roundup PRO, which rapidly inactivates in soil because it tightly binds to soil particles, and over time degrades into naturally occurring compounds by microbes in the soil.

To facilitate public comment, a new section of the Scotts Seed Web site has been designed to allow submission of comments directly to APHIS. The Scotts Co.'s Roundup Ready bentgrass site is located at [www.scottsproseed.com](http://www.scottsproseed.com), and Roundup

Ready bentgrass information is located at [www.scottsproseed.com/products/turf.cfm](http://www.scottsproseed.com/products/turf.cfm).

The new addition to the Scotts Seed Web site also includes background on the concept of Roundup Ready bentgrass, technical issues surrounding it, answers to frequently asked questions, research results, and approval process information. In addition to helping the public become educated about the product, the site will facilitate public discussion.

"We are very pleased with the progress of our submission to APHIS to deregulate the new bentgrass," said Wayne Horman, director of seed sales and marketing, The Scotts Co. "The new section of [scottsproseed.com](http://scottsproseed.com) will not only help people become completely informed about this new turf variety, but it will allow them to participate in the process."

## Association News

### GCSAA names four government relations award winners

The Golf Course Superintendents Association of America (GCSAA) will recognize four members with the 2004 Excellence in Government Relations Awards during the GCSAA Conference & Show in February.

"Golf course superintendents are committed to working with the appropriate legislators and regulators to ensure golf's compatibility with the environment," says GCSAA President Jon D. Maddern, CGCS. "We congratulate these winners for their efforts and dedication."

Mark Esoda, CGCS, Atlanta Country Club, Atlanta, Ga., will receive an advocacy award for his work to ensure that the golf industry was represented during the formulation of a state water plan in Georgia.

Also receiving an advocacy award is James Husting, CGCS, Woodbridge Golf & Country Club, Woodbridge, Calif., who has created a government relations network, allowing for quick communication between industry members and legislators on golf-related issues.

Francis J. O'Neill, III, CGCS, formerly of Wild Quail Golf & Country Club, Wyoming, Del., will be honored with a compliance award for his efforts in bring-





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Peter Pierson, recently retired superintendent from Pequabuck Golf Club, Cromwell, Conn., also will receive a compliance award for assisting the Connecticut Department of Environment Protection in helping golf courses comply with state water use requirements.

## GCSAA awards three distinguished service awards

The Golf Course Superintendents Association of America (GCSAA) will honor three members with Distinguished Service Awards during the GCSAA Conference & Show in February.

"GCSAA succeeds because of the dedication and hard work of its members, educators and industry supporters," says GCSAA President Jon D. Maddern, CGCS. "These gentlemen's contributions to the game of golf and to the advancement of the golf course superintendent profession certainly merit this recognition."

Former executive director and past president of the Michigan Turfgrass Foundation, Gordon LaFontaine, was chosen as a recipient for his more than 30 years of dedication to the industry and efforts to unify turfgrass organizations, GCSAA chapters and state agencies across the country.

Danny H. Quast, CGCS, retired golf course superintendent and former president of the Miami Valley Golf Course Superintendents Association will be recognized for his dedication to career development for the superintendent profession through mentoring individuals in the industry and serving on numerous industry committees.

Gordon C. Witteveen, author, historian and former golf course superintendent will be recognized for his advocacy for golf course superintendents across Canada and the United States for more than 40 years. Witteveen has written four books concerning turfgrass and the superintendent profession and also has offered education through seminars and conferences.



## Golf 20/20, The First Tee commission minority interest report

Golf 20/20 and The First Tee commissioned a minority participation report conducted by the National Golf Foundation. Because minority groups are important to growing the game of golf, the study aims to identify these groups' interests in the game and will establish baselines to measure future growth and the impact of programs like The First Tee, the National School Golf Program, Play Golf America and Link Up 2 Golf.

According to the study:

- Interest in golf among minorities is high — as many as 14 million people among Asian, Hispanic and African-American populations are interested in the game.

- Percentage-wise, Asians have the highest rate of interest (24 percent), followed by African-Americans (20 percent) and Hispanics (15 percent).

- Minority golf participants tend to be younger, so junior programs should prove successful among minorities.

- The proportion of African-American and Asian-American female golf participants is above average, suggesting that they are good targets for growth.

The full text of "Minority Golf Participation in the U.S." is available free of charge at [www.golf2020.com](http://www.golf2020.com).

(For more information about The First Tee, see "Making a Difference" on page 72.)

## EIFG begins strategic planning

The Environmental Institute for Golf recently held its initial strategic planning session. The session begins the collaborative work between environmental and golf organization representatives to develop a roadmap for the organization and identify areas that need attention in the industry. Water management was unanimously recommended as the most critical area of concern, along with integrated plant management, site design, wildlife/habitat management, construction and energy and waste management.

## Supplier News

### John Deere launches Golf & Turf One Source

February 2004 marks the launch of John Deere's full-service platform designed to meet a wide variety of needs for golf course superintendents in North America. The new division, John Deere Golf & Turf One Source includes mowing and maintenance equipment, irrigation and landscaping supplies, credit, parts and service to end users.

"One Source enables John Deere to offer customized service during every step of golf course development and maintenance," explained Greg Breningmeyer, director of sales and marketing, John Deere Golf & Turf One Source.

Breningmeyer notes that the new format will now allow golf course owners, managers and superintendents to benefit from John Deere's experience in the golf market during the conception and construction phases of development in addition to maintenance benefits after course completion.


### JOHN DEERE GOLF & TURF ONE SOURCE

"Our customers understand that we're committed to their success every step along the way — not just when it's time to buy some equipment," he comments. "This program saves them time and allows them to build strong relationships with a trusted brand."

Offering a single source for all customer service needs allows John Deere to leverage high-volume buying power and provide competitive pricing for its customers. With product partners that include Advanced Microbial Solutions, Aquamaster, Howard Fertilizer, Hunter Irrigation, John Deere Landscapes, Nuro, Profile Products, Spring Valley and Turf-Seed, One Source customers benefit from fewer vendor contacts, which boosts efficiency and increases bottom lines.

"Golf & Turf One Source is also a single source for customer service," Breningmeyer says. "We have a team of strong supplier experts, distributors and John Deere staff who will offer the full support that golf course superintendents need and expect."





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As certain as the sun rises, you can count on Profile Golf's system of innovative technologies and consultation. They make turf establishment a sure thing, on-going maintenance less of a chore and soil erosion a thing of the past.

#### **In the Ground**

The agronomic benefits of Profile Porous Ceramics soil amendment have been reinforced on thousands of golf courses around the world. As part of a new greens mix or used in your top dressing program, Profile has proven to be more effective than peat or other inorganic amendments at resisting compaction, improving drainage and enhancing nutrient uptake without breaking down.

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Through PECS™ (Profile Erosion Control Solutions) Profile offers site expertise and unsurpassed products including Futerra®

Revegetation Blankets and Flexterra™, the industry's only Flexible Growth Medium™, to make turf establishment as reliable as sod—for a fraction of the cost. Testing and experience prove they help seed germinate faster and more completely to hold soil in place, helping eliminate the threat of erosion.

#### **By Your Side**

Our turf specialists work directly with you to analyze your needs and provide turn-key service in reaching a solution. Our commitment to you is underscored through our participation in FarmLinks and ArborLinks, purpose-built facilities dedicated to product evaluation and hands-on superintendent education.

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For support that runs deep and covers a lot of ground, call us at **1-800-508-8681**. We'll send you more details and an offer for FREE product trials.



## DuPont purchases Griffin LLC

DuPont has acquired Griffin Corp.'s interest in Griffin LLC, thereby becoming the sole owner. Financial terms were not disclosed. This purchase will enable DuPont Crop Protection to provide its customers with a broader product portfolio in key segments, including cotton, fruit, vegetable and professional products. Griffin LLC's product line will complement the existing crop protection business. Griffin LLC, formed in 1998, has five manufacturing sites in North and South America.

"Purchasing Griffin Corp.'s equity interest in Griffin LLC will provide opportunities for profitable top line growth," says James C. Borel, president, DuPont Crop Protection. "This action is consistent with our objective to grow our specialty markets business globally, and these additions to our portfolio will help us serve customers better."

## Syngenta and EIFG partner for e-Learning

Syngenta Professional Products is partnering with The Environmental Institute for Golf to fund an expansion of the Golf Course Superintendents Association of America (GCSAA) e-Learning online education program. Beginning in spring 2004, GCSAA's e-Learning program will include a Webcast "Lunch & Learn" series consisting of a 90-minute presentation held the second Thursday of each month at noon, CST. After pre-registering, members can log onto the Internet and participate in the live event taught by experienced GCSAA seminar faculty. Attendees will be able to respond to online polls and surveys, ask questions of the instructor and use the Internet as a resource in the virtual classroom.

"The partnership between Syngenta and the e-Learning initiative of the Environmental Institute for Golf is very much in tune with our ongoing stewardship activities and commitment to delivering up-to-date technical knowledge and education to golf course professionals," says Joe DiPaola, golf market manager for Syngenta. "The e-Learning endeavor is a natural fit with the Syngenta online technology platform. We appreciate the opportunity to work with the

GCSAA and the Environmental Institute for Golf in bringing this exciting opportunity to golf course superintendents."

"Affordable and accessible education for superintendents continues to be one of our key goals," says GCSAA CEO Steve Mona, CAE. "We're pleased that Syngenta and The Institute are helping us to acquire new technology to help make this possible."

## Bayer awards five GCSAA show grants

Bayer Environmental Science has picked up the tab for five lucky golf course superintendents to attend the Golf Course Superintendents Association of America (GCSAA) Conference & Show.

The five winners, selected at random from a pool of over 400 applicants are:

- Patrick Reilly, Juniper Golf Course, Redmond, Ore.
- Brent Vermeer, Meadows Country Club, Merville, Iowa.
- Wilfred Williams, Spring Hollow Golf Course, Spring City, Pa.
- Jamie Pavlas, CGCS, Paul Harney Golf Club, East Falmouth, Mass.
- Larry Olson, Penticton Golf & Country Club, Penticton, British Columbia, Canada

Only head superintendents who had not attended a GCSAA show in the previous two years were eligible to apply. Winners receive airfare, six nights hotel accommodation, full conference registration, two educational seminars, two tickets to the GCSAA Dinner Show and \$200 spending money.

"The grant is part of Bayer's commitment to furthering the opportunities available to golf course superintendents," says Brian Gooch, programs manager for Bayer Environmental Science. "We believe the GCSAA Conference & Show is the best way to enhance professional development for this industry."

## Deere begins Web-based ethics training

Deere & Co., has signed an agreement with Integrity Interactive Corp., to roll out Integrity Interactive's ethics and compliance training courses as part of Deere's enterprise-wide compliance and ethics program. The comprehensive program will

assist Deere in its continuing efforts to raise employee awareness of important ethical and legal issues in the workplace. Integrity Interactive's Web-based training courses will allow Deere to more easily reach its employees for training on business conduct guidelines.

## Tee-2-Green sponsors golf tournament



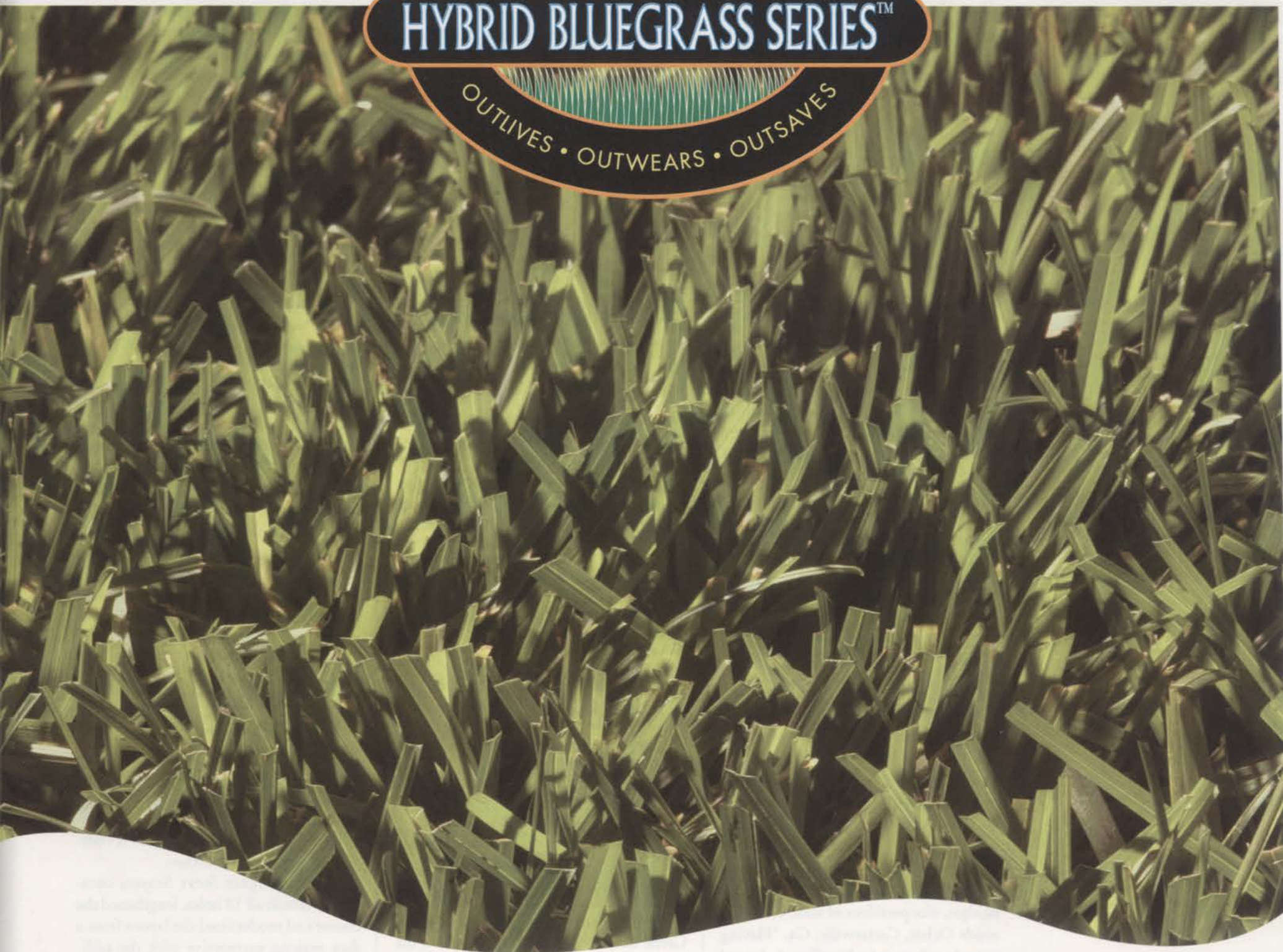
Photo: Tee-2-Green

Tee-2-Green was among the sponsor's of the annual Musser/Whitworth Memorial Golf Tournament held in October 2003 at the Arrowhead Golf Club in Molalla, Ore. The tournament helps contribute money to a scholarship fund to benefit turfgrass research graduate students' studies. This year's tournament raised \$9,270, 75 percent of which will go to the Musser Foundation. The remaining 25 percent will go to the Norm Whitworth Memorial Scholarship fund. The tournament has raised more than \$700,000 since its inception 28 years ago. The tournament is co-named for professor H.B. Musser who helped develop Penncross, the first Penn bentgrass variety marketed by Tee-2-Green, in 1955. Norm Whitworth was a supplier of turfgrass products in the Northwest for over 30 years and is a recent inductee into the Oregon Golf Course Superintendents Association Hall of Fame.

## Redexim Charterhouse adds two area distributors

Redexim Charterhouse recently announced the addition of two area distributors that will carry the company's full line of professional turf equipment. The two new distributors are Simpson Norton





## Introducing a bluegrass that pushes the Transition Zone farther south.

Thermal Blue™ is the first high-quality bluegrass that stands up to the heat and humidity of tall fescue regions as well as the cold of northern climates. Nearly a decade in the making, Thermal Blue is the first in Scotts' Hybrid Bluegrass Series™ bred with specific trait characteristics designed to meet tough growing conditions. It is the latest example of Scotts' commitment to provide turf managers with truly unique turf grass varieties.



Tested at NTEP, university and commercial sites throughout the U.S., Thermal Blue excelled under low-input maintenance in traditional bluegrass areas and professional turf maintenance programs in southern regions. It exhibits elite Kentucky bluegrass quality with an aggressive rhizome system for recoverability that beats tall fescue. It is an ideal alternative to fescue and warm season grasses south of the Transition Zone or as an addition to fescue mixtures everywhere.

Contact Scotts at 608-215-3918 or Landmark Seed at 1-800-268-2379 for all the details on this innovative new variety from the Hybrid Bluegrass Series...only from Scotts Seed.

[www.scottsproseed.com](http://www.scottsproseed.com)

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Corp., located in Goodyear, Ariz., with branches in New Mexico and Nevada; and Turf professionals Equipment Co., based in Hazelwood, Mo., with five branches throughout Illinois, Kansas and Missouri.

## Aquatrols announces scholarship essay contest

Aquatrols is sending out a call for papers for its first Aquatrols Scholarship Essay Contest. The essay competition is open to children of turf management professionals who will be attending an accredited college or university during the 2004-2005 academic year. Entrants will compete for a grand prize of \$2,000 and two runner-up prizes of \$1,000 each. Full instructions, rules and eligibility requirements are available on the Aquatrols Web site, [www.aquatrols.com](http://www.aquatrols.com). The deadline for submissions is March 1, 2004.

## New Riverside Ochre creates golf division

New Riverside Ochre announced the creation of a new division, Riverside Path Solutions. Beginning in 2004, Riverside Path Solutions will be responsible for all golf-related sales, including marketing of natural pigments used in concrete golf cart paths. "We are excited to create a new venture to specifically handle our golf industry products," says Mark Bridges, vice president of sales, New Riverside Ochre, Cartersville, Ga. "Having a product line and sales effort dedicated to this industry will enable us to better meet the needs of our golf clients."

## Avendra creates new golf offering

Avendra LLC has completed a group of golf contracting deals that includes nearly 60 golf suppliers representing over \$65 million in annual purchases. The golf offering now comprises suppliers for golf course needs ranging from pro shop apparel and clubs to grounds and landscaping needs, fertilizer and maintenance equipment.

"In the past year, Avendra doubled its

base of golf customers," comments George Pfeiffer, vice president of golf services procurement. "I think our customers can see that we have broadened our offering of quality suppliers and are serious about the golf segment."

Avendra's Vice President of Sales John Maier explains, "Our now completed golf offering gives Avendra's golf customers a one-stop solution for everything a golf facility will need."

New partners in the deal include RedMax, LESCO, Flowtronex and The Toro Co.

## Eagle One Golf now carries Wittek Golf line

Eagle One Golf announced that it will now also carry the Wittek Golf product line. The new product line includes three styles of ball pickers, four types of ball dispensers and two sizes of ball washers. Products will ship from the Midwest with minimal lead time.

## Course News

### Barton Creek receives Audubon certification



Photo: Barton Creek

The Fazio Canyons golf course at Barton Creek Resort & Spa, Austin, Texas is the first resort course in Texas to achieve distinction as a Certified Audubon International Signature Sanctuary after meeting strict environmental criteria.

Signature certification is awarded only to new developments, which are designed, constructed and maintained according to Audubon International's precise planning standards and environmental disciplines. Wildlife conservation, habitat enhancement, resort conservation and environmental improvement are integral parts of the project development and regular reports and site audits are required to maintain the certification.

Additionally, Barton Creek's three other courses received Certified Audubon Co-

operative Sanctuary designations.

"Barton Creek's strong commitment to environmental stewardship and ingenuity has been apparent at every step along the five-year process," says Nancy E. Richardson, Signature program director for Audubon International. "The entire Barton Creek team is committed to protecting the environment while at the same time setting new standards in the field. It is impressive to see the blend of environmental responsibility and project development this resort has achieved."

## ACC receives Gold Hard Hat Award

American Civil Constructors received the Gold Hard Hat Award from *Colorado Construction* magazine for the construction of Fossil Trace Golf Course in Golden, Colo. The new course is on a historic site where five dinosaur tracks and palm frond fossils were discovered on the 12<sup>th</sup> and 15<sup>th</sup> holes during excavation. ACC Golf was diligent in maintaining the integrity and uniqueness of this site throughout construction.

## Updated Isleworth course reopens

Isleworth Golf & Country Club, Windermere, Fla., home course to more than a dozen PGA Tour pros including Tiger Woods and Mark O'Meara reopened in December 2003 after a complete course reconstruction.

Course designer Steve Smyers completely rebuilt all 18 holes, lengthened the course and modernized the layout from a shot making perspective with the addition of fairway bunkers.

In terms of turf, Tifeagle Bermudagrass replaced Tifdwarf on the putting surfaces while fairways, tees and roughs were converted from Tifway 2 to 419 Bermudagrass.

Smyers rerouted many of the 18 holes, which now plays to a par-71 of over 7,000 yards.

"We gave the course a brand new look and feel," Smyers says. "It's a strong layout with the type of challenges modern players, even resort golfers want to see."

Smyers also reconstructed the former International Golf Club in Orlando, Fla., which reopened as Grande Pines in January 2004 (see feature on page 36).



# There are times when bigger is better.



## Riverdale has grown into Nufarm Turf and Specialty

As Nufarm Turf and Specialty, we're a global enterprise that draws on the resources of 13 Nufarm locations – worldwide. Over 2,500 Nufarm employees formulate and distribute turf and crop protection chemicals in more than 100 countries. So, we have an expanded ability to keep weeds, pests and disease under control all year long. And you can still depend upon familiar products like Millennium Ultra, Manor, Corsair and Magellan to keep your weeds down and your greens free of pythium.

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## Singing Hills reopens after wildfire

Following the worst wildfires in Southern California history, Singing Hills Resort & Country Club at Sycuan, Calif. has reopened its doors.

Singing Hills was closed for nearly a week due to the raging fires, though the resort was left undamaged. "While we were closed to the public, we were fortunately able to accommodate and host members of the California Department of Forestry, the U.S. Forestry Department and clean-up crews," says General Manager Mike Rookus. "Now that the smoke has cleared and the fire danger has subsided, we have reopened our doors and returned to business as usual. Intensive clean-up work continues in nearby areas, but our operations are up and running at a normal pace."

## Freedom Golf Services adds two properties

Freedom Golf Services, Hershey, Pa., has added two more clubs to its growing portfolio with the signing of the 36-hole facility at Bowling Green Country Club, Front Royal, Va. The facility features two independent 18-hole courses and clubhouses. Each course measures approximately 6,200 challenging yards with scenic views of the Blue Ridge Mountains.

## Clickitgolf.com adds 12 Courses

Clickitgolf.com added 12 South Carolina courses to its growing list of affiliates. The new courses include: Beach Creek Golf Club and The Links at Lakewood in Sumter, S.C.; Carendon Golf & Country Club, Royal Oaks Golf Course, The Players Course at Wyboo and Wyboo Golf Club in Manning, S.C.; Lake Marion Golf Club, Santee Cooper Country Club and Santee National Golf Club in Santee, S.C.; Foxboro Golf Club in Sumerton, S.C.; and The Wellman Club in Johnsonville, S.C.

"The Low Country of South Carolina offers golf for all players and all preferences," says Robert Browning, vice president, Clickitgolf. "Our partnership will

not only drive more golfers to these courses but will also allow us to continue our efforts to grow Clickitgolf into a paramount Web site for golfers."

Clickitgolf plans on expanding geographically to feature golf courses in markets including Arizona, Ohio, Texas and Florida. Currently, visitors to clickitgolf.com can purchase rounds of golf at more than 150 golf courses throughout North and South Carolina and the Mid-Atlantic.

## Personnel

**Terry Boehm** has been named vice president of business development for Primera Turf, a green industry purchasing cooperative. He will be based in Salem, Ore. In his new position, Boehm is working with Chief Executive



Boehm

Officer Frans Jager to bring together cooperative member distributors and supply partners. Boehm will also focus on developing exclusive brands, generating greater value for end user members and managing the cooperative's West Coast business.

ValleyCrest has appointed **Gregory Pieschala** as president of the company's golf course maintenance division. Pieschala joined ValleyCrest in 2000 and is taking over the golf course division after the company entered several new markets last year and added a number of courses to its roster.

Rain Bird's golf division has made two personnel additions recently. **Shawn Emmack** was named district sales manager for the company's golf division. Emmack will be based in Atlanta and oversee sales in the southeast region. "Our existing team of technical irrigation experts continues to grow and strengthen and we're pleased to have Shawn join the mix," says Stuart Hackwell, Rain Bird Golf's eastern regional sales manager. Emmack brings 11 years of industry sales experience to his new



Emmack

position. Also, **Doug Richmond** joined the company as senior product engineer for golf. Richmond will help conceptualize new product development and engineering that supports the company's water conservation efforts. "Doug's extensive product development and R&D experi-

ence makes him a valuable addition to the Rain Bird Golf team," says Engineering Manager Lynn Roney. "We are excited to welcome him."

**James Henderson** joined Columbia ParCar Corp., as west coast regional sales manager. With more than 25 years of experience in customer service and sales-related fields for small-vehicle manufacturers, Henderson will assist in handling all sales and marketing activities in Columbia's west coast territory. This includes working and developing dealership customers and customer support throughout the region.

**Denise Soldenski** of the golf division at Rain Bird Corp., recently became a certified golf irrigation auditor (GCIA) through the Irrigation Association. The Irrigation Association created the GCIA program in cooperation with the Golf course Superintendents Association of America and focuses on analyzing turf irrigation water use tailored to the unique conditions found on golf courses. "We are proud of Denise for becoming a certified golf irrigation auditor," says Jeff Kiewel, Rain Bird Golf's national sales and marketing manager. "Her new skills will allow her to more effectively measure the performance of an irrigation system and make improvement recommendations."

**Monroe Miller**, superintendent at Blackhawk Country Club in Madison, Wis., has been selected to receive the Green Section Award from the United States Golf Association. The annual award recognizes distinguished contributions to golf through work with turfgrass. Miller is the editor/publisher of The Grass Roots, the official publication of the Wisconsin Golf Course Superintendents Association. Miller also spearheaded a campaign to raise \$100,000 in matching funds for a University of Wisconsin field turfgrass facility. After overseeing construction of the O.J.Noer Research Facility in 1991, Miller led an effort to raise \$1 million, which when matched and invested, will generate annual support for four graduate research fellowships.

**Harold Vaubel**, CGCS, has been appointed owner/operator of HGM Consulting. Vaubel has been involved in the construction of eight golf courses in the west and 16 PGA Tour and Champion Tour events. A new company division is opening to handle contract maintenance on golf courses, sports fields and driving ranges in the southwest.

GCN



# The Microbial BioFungicide That Controls Dollar Spot



DOLLAR SPOT PROGRAM at 3 disease levels		
Disease Level	Rate per 1000 sq. ft.	Application Interval
<b>LOW</b> when light disease symptoms are evident or when conditions suggest a likely occurrence	20 oz.	14 days
<b>MODERATE</b> when significant disease pressure becomes evident	20 oz.	7 days
<b>HIGH</b> when high disease pressure becomes evident	20 oz.	3 - 4 days

**University Research shows that EcoGuard Effectively Controls Dollar Spot, and aids in the Suppression of Brown Patch and Anthracnose**



# Golf project report

The scorecard for 2003 course construction and closings is final, and according to the National Golf Foundation (NGF), a combination of reduced course openings (18-hole equivalent) and higher course closings result in a net gain of just 125.5 18-hole equivalent courses for the year, by far the lowest gain in the past decade. On an 18-hole equivalent basis, the nation's total course supply remains at about 15,000 courses.

As of its January 19, 2004, Golf Project Summary Report, NGF says 370 courses are proposed, of which 96 would be 9-hole courses, and 274 would be 18-hole courses.

A total of 429 courses are in the planning stage. Of that, 136 are to be 9-hole and 293 would be 18-hole courses.

Courses under construction total 413, with 183 being 9-hole and 230 are 18-hole.

Three new 18-hole courses opened in the first few weeks of 2004. GCN

## 1993-2003 Course Openings/Closings (18-hole equivalents)

	Open	Closed	Change
1993	262.5	20.5	+242.0
1994	262.5	14.5	+248.0
1995	336.0	27.0	+309.0
1996	319.5	33.5	+286.0
1997	316.0	31.0	+285.0
1998	327.5	23.0	+304.5
1999	375.5	23.0	+352.5
2000	398.5	23.0	+375.5
2001	284.0	24.0	+260.0
2002	220.0	47.0	+173.0
2003	171.0	43.5	+127.5
<b>Total</b>	<b>3,273</b>	<b>310</b>	<b>+2,963</b>

Source: National Golf Foundation

## U.S. Course Supply Year-End 2003 (18-hole equivalents)

	Daily Fee	Municipal	Private	Total
Regulation	7,429	1,972.5	4,150.0	13,551.5
Executive	505.0	119.0	105.5	729.5
Par 3	375.5	103.5	67.0	546.0
<b>Total</b>	<b>8,309.5</b>	<b>2,195.0</b>	<b>4,322.5</b>	<b>14,827.0</b>

## Top 10 States for 2003 Openings

	Public	Private	Total
Florida	10.0	5.5	15.5
Texas	9.5	4.5	14.0
Arizona	4.0	5.0	9.0
Wisconsin	8.0	1.0	9.0
California	4.5	2.5	7.0
Minnesota	6.0	1.0	7.0
Virginia	4.5	1.5	6.0
New York	4.5	1.0	5.5
Indiana	3.0	2.0	5.0
Kentucky	5.0	0.0	5.0



## 2003 Golf Course Year-End Scorecard (18-hole equivalents)

	Openings			Under Construction			In Planning			Proposed		
	New Expansion Total			New Expansion Total			New Expansion Total			New		Expansion Total
Daily Fee	78.5	32.5	111.0	176.5	52.0	228.5	239.5	31.0	270.5	221.5	29.0	250.5
Municipal	12.0	4.0	16.0	24.0	5.0	29.0	42.5	6.0	48.5	41.0	6.0	47.0
Private	34.5	9.5	44.0	56.5	13.5	70.0	51.0	9.0	60.0	17.0	8.0	25.0
<b>Total</b>	<b>125.0</b>	<b>46.0</b>	<b>171.0</b>	<b>257.0</b>	<b>70.5</b>	<b>327.5</b>	<b>333.0</b>	<b>46.0</b>	<b>379.0</b>	<b>279.5</b>	<b>43.0</b>	<b>322.5</b>



# Your master plan

**G**olf course renovations can follow natural disasters that damage the courses, or start with an owner's commitment to maintaining a course in "tip top" shape. One sign of a well-run course is having a long-term Master Plan in place to anticipate the improvements needed to stay current in the marketplace, and where and how to invest wisely to meet long-term goals.

Some clubs don't recognize a pattern of declining interest in their courses early enough, making it difficult to catch up. Unlike buildings, where shifting foundations or leaky roofs are painfully obvious, golf course problems often are overlooked. Some think golf courses are "natural" and take care of themselves. And clubs that have invested substantially in the past may mistakenly believe that the course is "set for life." In many cases the superintendent actually masks underlying problems by keeping the existing course in such great shape!

The solution is a master plan created with the help of a golf course architect. You can find an architect experienced in

the superintendent is spending more time fixing the course than maintaining it.

What should you expect from the architect? You'll receive a letter of agreement detailing the services and owner responsibilities. The course may designate its superintendent as its key representative in working with the architect, but at a minimum, you will need to be involved and to start the process by obtaining information required for design, including:

- A recent scale aerial photograph, a topography map and property lines, showing locations of existing buildings, trees, rights-of-ways, easements and any encroachments
- Utility information, including existing and planned utility lines, both above and below grade
- Environmental information, including wetlands and floodplains
- Testing of natural conditions, including soil tests for lakes and subsurface rock

From there, the golf course architect will guide a sequential process with input and approvals by you, your green committee, pro and general manager.

tive plan – the beautiful colored plan that you often see in the clubhouse. While someone is guaranteed to comment at this stage, "They hung the master plan, because they couldn't find the architect," the plan should incorporate the features your club desires most.

Some clubs stop the process here, wanting only to get an idea of what might be possible "someday." But any course serious about improvements should go further and plunge into a complete renovation, or set the stage for long-term improvements by completing a full master plan, which should provide:

- Written descriptions of proposed changes, with reasons and benefits. A solid master plan helps prevent whimsical changes being made by each new greens committee
- A phasing plan with renovation programs ranging from one to 10 years. This plan details which and how many improvements should be undertaken. This is usually driven by most pressing need, but these improvements can be dictated by construction efficiency. Most phasing plans identify limited projects the superintendent can do while waiting for big projects to be funded. This work can include extending cart paths, planting trees, creating turf nurseries and landscape areas, and even providing "permanent" temporary greens for use when other greens are out of play.

Superintendents gain peace of mind when they can fix the most pressing needs, knowing the work fits within the final configuration of a particular hole.

- Most architects estimate construction costs using area or volume estimates and recent unit pricing from similar projects. However, pricing will be affected by the architect you retain, the scope of work and amount of work to be handled in-house.

To sell the master plan requires a club presentation with the involvement of key club members, the superintendent and the architect. With club approval of the master plan and with financing in place, construction can begin. The superintendent is typically even more involved at this point as the club's daily on-site representative working closely with the architect and builder. Renovating a course is a great opportunity that no superintendent should pass up. GCN

'Some clubs don't recognize the pattern of declining interest in their courses early enough, making it difficult to catch up. Unlike buildings, where shifting foundations and leaky roofs are painfully obvious, golf course problems are often overlooked.'

golf course renovations by contacting the American Society of Golf Course Architects (ASGA) by phoning 312/372-7090, or on the Web at [asgca.org](http://asgca.org), but choose carefully. Each ASGCA member offers unique design skills that might be important for your course. Developing a master plan means entering into a long-term relationship, so finding and sticking with the right architect is good business.

If you do not have a master plan, the time to start one is now. A master plan is more than a good idea. Cosmetic and/or playability upgrades may already be necessary if your tees sheets and membership lists aren't full, if you can't raise dues or fees, if you can't attract new members or players, and if guest players hear comments like, "This course was great in its heyday." A master plan also is overdue if

Before design can begin, the architect will evaluate your site, goals, schedule, construction options and budget. He will determine if specialized consultants need to be added to the team.

In the preliminary planning phase, the architect will present a schematic re-routing study, if applicable. Next comes the preliminary feature design study, which illustrates the proposed feature designs and configurations of tees, greens, fairways, lakes, hazards and proposed improvements to drainage, cart paths, grassing and landscaping. The architect also may depict the clubhouse, maintenance, parking and entry areas, but he or she is usually not responsible to design these features.

You'll likely go through several plan revisions before the greens committee approves it. Approval leads to the illustra-



Jeffrey D. Brauer is a licensed golf course architect and president of GolfScapes, a golf course design firm in Arlington, Texas. Brauer, a past president of the American Society of Golf Course Architects, can be reached at [jeff@jeffreydbrauer.com](mailto:jeff@jeffreydbrauer.com).





Jack Brennan founded Paladin Golf Marketing, Plant City, Fla., in 1989 to help golf course owners and managers market their courses more effectively. He can be reached at jackbrennan@ij.net.

## Superintendent as marketer

Successful courses today require agronomic, management and marketing functions. Some courses still do not understand the need for marketing, but an increasing number of public and even some private courses are putting more emphasis on marketing for several reasons. Competition has increased among courses in any given locality. Golfers, like any other consumer group, have become much more demanding. And more courses now depend on revenue streams beyond the game itself.

Having said that, the essential product is still having a course that can command the necessary club and greens fees. To produce a quality course — agronomics and management — the superintendent and general manager must negotiate a happy medium between “I need this” and “We can’t afford that.” Once they arrive at a happy medium, then the marketing plan determines how to drive new and incremental business. Reaching the next level of success takes more than a written plan — the owner, general manager, superintendent, pro and sales team have to execute the marketing plan together.

In my consulting work, the owner hires me. Typically, the next meeting will be with the general manager. Then I meet with sales. Lastly, I meet the superintendent. Sometimes meetings with the superintendents must be delayed because they have to release crews before they can take time, but about 50 percent of superintendents do not care to take part in the meetings at all.

Even though about half of all superintendents want to pigeonhole themselves in their department, I still request that they participate in the discussions and planning. Superintendent participation is important because he or she is responsible for producing the end product that is central to the marketing plan. Put another way, a superintendent’s job is to produce the right product, and having the right product is essential if the marketing effort is to be effective.

This connection between the product and marketing strategy can be overlooked. To many people, marketing is little more than advertising and promotion. But this view ignores the fact that

golfers will shop until they find what they want. Many golf course owners, managers and superintendents could take a lesson from foreign car manufacturers like Honda and Toyota. These companies make quality and customer satisfaction the center of their marketing efforts by making sure that engineering and manufacturing communicate with target customers about the design and performance of different vehicle models.

My experience in working with superintendents shows that most have, or can quickly gain, a working knowledge of the advertising, sales and business side of the business. True, superintendents weren’t hired to market or sell, but in today’s competitive market, especially on public courses, a superintendent that sees how he or she can contribute to the course’s overall success is a major competitive advantage for that course in that marketplace. The smart superintendent also realizes that he or she has a vested interest in marketing, because the course’s revenue and profitability determine the maintenance budget, funding of improvements, and salary increases and bonuses.

Like it or not, the superintendent

uct will result in dissatisfied customers who will leave. Conversely, over-investment in terms of client expectations means lost profitability. The superintendent is uniquely positioned to match course conditions to customer expectations most efficiently — given sufficient budget, of course.

Superintendents who work in synch with the general manager, pro and sales staff will improve customer satisfaction. For example, I’m surprised at how many courses lack a master calendar. Without a master calendar sales may be selling an outing in late October when the course is going to be overseeded, which simply means you are going to have unhappy customers. If the customers know the course is being overseeded, then they can decide whether to play or not, and if they do, their expectations will be adjusted to the course conditions.

Better still, overseeding might be a good time for sales to schedule a charity marathon on the course. The course might discount their day rate for a charity, and thereby make a few thousand dollars when they might have made a few hundred. And the charity wins by getting a deep discount for

‘Superintendents weren’t hired to market or sell, but in today’s competitive market ... a superintendent that sees how he or she can contribute to the course’s overall success is a major competitive advantage.’

should be a member of the marketing team for a very practical reason. Marketing begins with the customer, and the superintendent can make sure the product matches the their expectations. I consulted with one course that only could get players to pay \$45 for a round, but the course was so beautiful the fee should have been \$90. In this situation, the maintenance costs were too high, but the situation can more easily be the reverse — who is willing to pay \$90 to play a \$45 course?

Effective marketing requires matching the product and price with the customer. On a premier course, a substandard prod-

their special cause.

The master calendar should be created jointly by the superintendent, general manager and sales staff, and updated frequently. It should include weddings, social outings, special events, tours, aeration and all major, non-emergency maintenance. The superintendent should train sales on their work and why it is done so they can explain this to golfers.

The key to marketing is to plan, set business goals, coordinate efforts and cooperate. With all this in mind, it’s easy to see why effective marketing requires the active participation of the superintendent. GCN





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## Managing budget pressure

THE BEST DEFENSE AGAINST BUDGET CUTS IS A DETAILED OPERATING BUDGET TIED TO SPECIFIC COURSE MAINTENANCE STANDARDS

by  
ROGER  
STANLEY

GCN INTERVIEWS  
TOMMY WITT,  
SUPERINTENDENT OF  
NORTHMOOR C.C.

**Q** What should superintendents facing budget pressures do?

TW: It's paramount to sit down with your employer to determine where the appropriate reductions should take place. Too many times, the default answer is that it should come from labor because labor is such a significant amount of the maintenance budget. The problem with that thinking is that when you reduce labor, it affects virtually every task on the course. If the superintendent can sit down with the appropriate parties, then he or she can recommend options that will have the least impact on the course. That's my ideal way to handle budget cuts.

**Q** Can't the superintendent just make the cuts?

TW: Certainly, the superintendent is the person most familiar with how budget reductions will impact the golf course. However, by involving as many members of the decision-making team as possible, then all appropriate players can have a buy-in and a familiarity with how the decisions will impact the golfing experience. For example, from the golf course maintenance perspective, if it is decided that the bunkers will be raked five days a week instead of seven because of budget reductions, then that's something I want the golf professional to be aware of, and I expect him to help support what we are doing on the course.

Years ago, I worked at a course where I was told to cut the annual operating budget by \$200,000. There was no negotiation and there was to be no mention of the budget reduction to the club owners

or the members. There was also no discussion about the possible impact on the course conditioning.

We made those reductions and we also kept the news to ourselves, but I know our members could not help but notice that many of the detailed tasks did not receive attention. Personally, I would rather deal above board and out in the open. If there are legitimate reasons for budget reductions, I think golfers are more than willing to accept the situation if they understand the problem. The superintendent shouldn't be left to take the blame for budget cuts and how they may affect the condition of the course.

**Q** Why is the maintenance budget a frequent target?

TW: In many instances, the superintendent manages the largest operating budget at a golf facility. Too often, it may be assumed that costs can be reduced without any significant impact to the course conditioning. Rarely do significant spending reductions come without some compromise in conditioning. In reality, when budget cuts at a facility are deemed necessary, then all facility operations should be scrutinized.

A second reason the superintendent's budget often is targeted for cuts is that the golf course maintenance operation might be viewed as a big spender rather than a revenue generator. In reality, the golf course superintendent maintains the facility's greatest asset, the golf course. The quality and conditioning of the golf course is directly related to and significantly influences revenue. Without the golf course very few golf shops or clubhouses or grills would survive. Significantly reducing the golf course operating

budget over an extended period of time only should be initiated following careful consideration. The condition of the golf course is tied directly to revenue generation for all departments of the facility.

**Q** Do prior maintenance budget cuts reinforce the perception that maintenance can be cut year after year?

TW: To an extent that's true. If you had to cut your pesticide purchases by 10 percent last year, and you were lucky and everything worked out fine with the weather and minor pest activity, then people begin to think that you should be able to do without that 10 percent again this year.

The fact is, if you are facing a budget cut this year as a one-time issue, then I would recommend you approach the solution differently than if this is the second or third consecutive year of managing under reduced spending. Successfully cutting corners or saving money one year does not mean even the most experienced and hard working superintendents can do that year after year.

**Q** What's your approach to meeting budget cuts?

TW: Most superintendents are good at making adjustments. As professionals, they also are best equipped to decide what they can and should do when budget reductions are mandated. My advice to superintendents is to consider all possible areas. You have to look at labor, but do so carefully. Rather than cutting people I would try to cut overtime. See if your people will agree to work 40 to 42 hours a week rather than 50-plus hours. Overtime is costly, but eliminating it or reducing it requires getting employees to



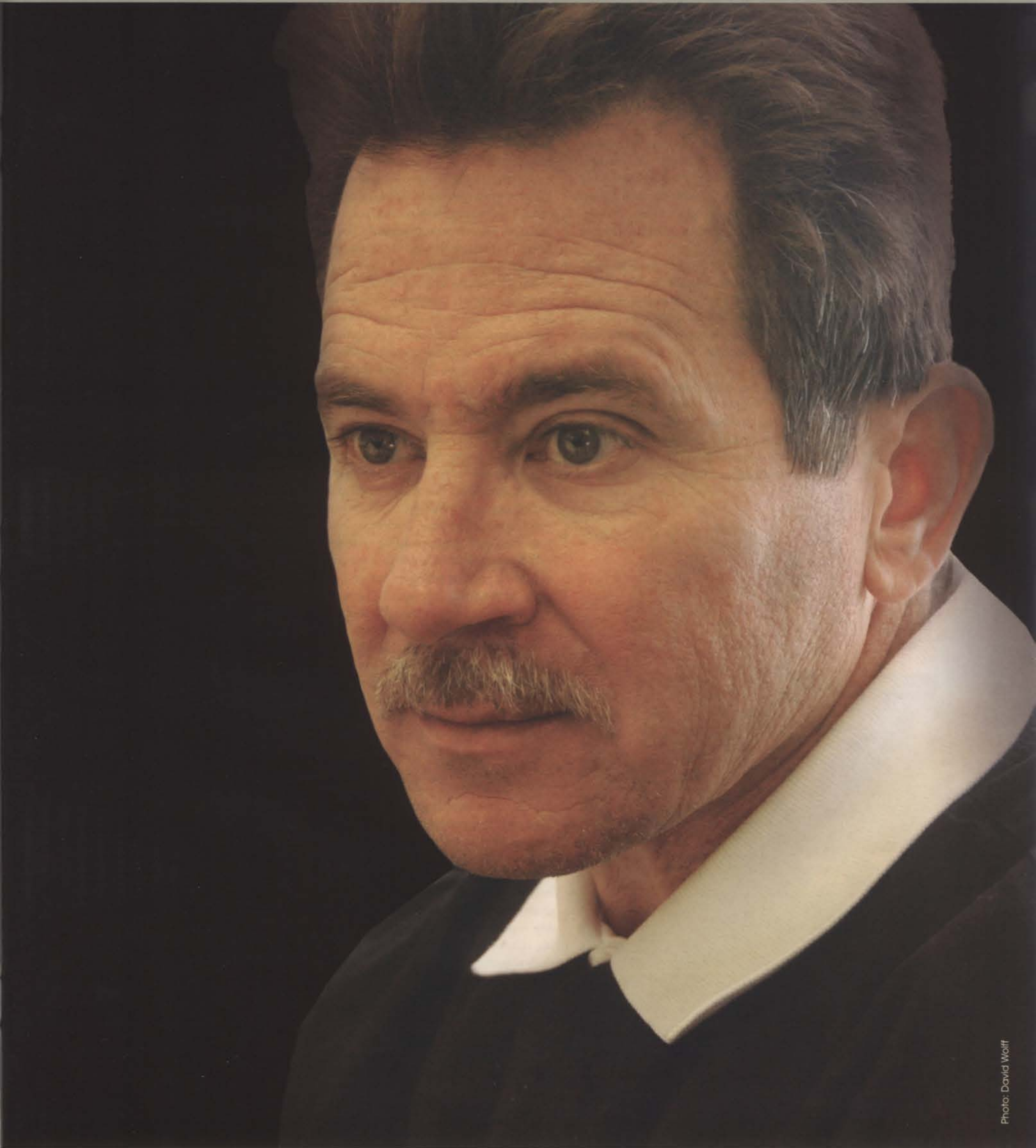


Photo: David Wolff



agree to stay on the job at what amounts to less pay for them.

Another area to consider is scheduling. Can you mow fairways two times per week instead of three, or three times instead of four times, depending on your standards and your budget? Can you start mowing earlier in the day to keep ahead of golfers and eliminate so much mower stopping and starting? Can you rake your bunkers five times a week instead of seven?

Trade-outs are another consideration. Take types of mowers, for example. Can you afford to have four or five employees mow the greens with walk-behind mowers, or save labor by having two men do the same task with riding greens mowers?

What about the potential trade-off in quality? Is your employer willing to accept that trade-out? The superintendent does not have to make this decision alone or he becomes responsible for it. Instead, he should educate the employer about the

plusses and minuses of trade-outs and come to an agreement on what to do. There are some things you can give up and things you cannot.

Purchasing also can make a difference in cost and financial terms. While I may have a number of friends and acquaintances who work for suppliers, and whom I may want to patronize, I feel it's my responsibility to negotiate the best packages and deals possible for my employer. Sometimes the best deal is price. Sometimes the best deal is service.

You should also look closely at your options and not get caught up in your old habits or preferences. You don't always have to buy the same color of equipment. Sharing or co-oping certain pieces of equipment may be an option for some courses.

Perhaps one option to reduce spending is to consider reductions in out-of-the-way areas. For example, if you allocate \$30,000 in tree work every year, can you forgo that work for a single year? But if you do this, then this work needs to be picked up in the budget the following year. Don't lower your budget without your employer understanding that you will do everything you can to keep conditions as good as possible, but at some point in time you will need to have the budget restored to its original amount to provide desired golfing conditions.

Many trade-offs are possible for a year or two, but to maintain your course for extended periods with less money each year gets a course headed in the wrong direction, even when the facility is being managed by the best of superintendents.

**Q What is the single biggest budget mistake?**

TW: It is essential that superintendents learn how to formulate a detailed operating budget. When we are able to write a budget that correlates with specific golf course maintenance standards, we have a better chance of matching budgets to course conditioning. I would suggest that any superintendent take whatever training is necessary to equip them with the skills required to become proficient in the budgeting process.

**Q What's the biggest opportunity in budgeting?**

TW: Opportunity is believing that the course is the lifeblood of the business; that the superintendent is the lifeblood of the course; and that the maintenance budget is the lifeblood of the superintendent.

The superintendent has to stand on principle. On my first job right out of Texas A&M, I worked for Stewart and Sherman Hunt, two of the most successful businesspeople in the country. My general manager was a retired four-star Air Force general. As a 24-year old superintendent, what chance did I have to deal with people with so much experience, charisma and power? But superintendents must prepare themselves to be able to communicate with the most experienced business executives. These are not skills that are taught in every golf course management program at universities across the country.

Today, I know that smart decisions on a golf course can't be made based on power and charisma. Smart decisions are made on the basis of setting goals, educating others and negotiating for what you need. As a superintendent, I've made it my personal responsibility to teach all my assistants to use this approach.

**Q How do you approach the budgeting process?**

TW: There are a lot of ways you can successfully budget in this industry, but I prefer doing a budget like a business plan. Managing a golf course has many similarities with managing other businesses. I place significant emphasis on identifying expenses as they relate to mission statements, goals and the maintenance standards.

I rely on detailed maintenance records, documentation and historical data. You also have to have an accounting system with integrity. Budgeting becomes increasingly difficult if numbers are shuffled from year to year. You have to have confidence in the numbers you are working with.

The final essential is an open and honest working relationship with management. In my experience, the closer this working relationship is, the easier budgeting will be — and budget cutting if that becomes necessary. GCN

*Tommy Witt is the golf course superintendent at Northmoor Country Club, in Highland Park, Ill. Witt has been a superintendent for 25 years and is a past president of GCSAA. He can be reached at TommyWitt@hotmail.com.*



Photo: David Wolff

Superintendents should not allow themselves to take the blame for budget cuts, Witt says.



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\*source: USDA

USE READER SERVICE #17





by DAVID WOLFF

The career of even a distinguished superintendent like Gary Grigg, CGCS, can be abruptly changed in a matter of minutes. At age 50, Grigg had been a successful golf course superintendent for more than 23 years and was on the board of directors of the Golf Course Superintendents Association of America (GCSAA).

Five years into the job, Grigg had transformed a barren piece of land into a *Golf Digest* Top 100 course. But when the owner turned the facility over to a management company, Grigg was informed that his pay exceeded the company's acceptable salary scale. His option was to take a 50 percent pay cut or resign.

Despite his many contributions, Grigg says he was given no indication from management that a management company was being considered, or the changes that would mean. The lesson, he says, is that hard work and performance are not enough to ensure job security in the golf course business.

"I gave that course five years of blood, sweat and tears and made it a first class

facility," he says. "I supervised construction, grew in the course and developed a maintenance program. But the job of a management company is to save money and it's easier to just promote the assistant."

Fortunately, Grigg says his story had a silver lining. Using the many industry contacts he had built up over the years, he found a better superintendent position and spent another 10 years in the profession. Along the way he earned the Master Greenskeeper distinction, became president of the GCSAA, and eventually started his own business.

"Getting fired isn't always bad news," Grigg says, "but it is all too common for superintendents in today's market."

In a December 2003 *Golf Course News* online survey, 37 percent of superintendents reported they have been terminated or left a position because of technical performance issues, budgetary changes or personality/political reasons (see page 11). Of all causes, personality/political was cited as the most common reason, by 23 percent of the respondents.

# How are you doing and how do you know?

YOUR CAREER AND JOB SATISFACTION DEPEND  
ON MORE THAN GREAT COURSE MAINTENANCE



Asked if a friend who was a superintendent has ever been terminated or left a position for personality/political reasons, 96 percent of those surveyed responded yes.

The arbitrary termination of a successful superintendent can be for a number of reasons:

- "He's a great person; he just can't communicate."
- "He doesn't do well in meetings."
- "He got buried in club politics."
- "He's competent but not well known by the members."

The GCSAA has attempted to quantify turnover among superintendents. Statistics the association compiled from January to June 2003 list the following reasons for superintendent job openings:

- 50 percent were voluntary resignations
- 31 percent were new openings
- 13 percent were terminations
- 6 percent were promotions

Reasons for termination included:

- 27 percent for technical performance
- 13 percent for poor communication
- 20 percent for lack of professionalism
- 40 percent for non-specified reasons

Grigg, now a vice president and agronomist with Grigg Brothers Corp., an Idaho-based fertilizer company, offers his insight into these statistics.

"I have to take issue that 50 percent of the resignations were voluntary," he says. "Like me, a good number of superintendents were offered that choice as opposed to being fired. As for the 40 percent figure for non-specified reasons, I believe most were let go for economic reasons, specifically salary."

With regard to being terminated for "professionalism," Griggs believes something as simple as appearance is a major factor.

"I know of one superintendent whose golf course was immaculate, but he was short and overweight," he says. "He was terminated because of his lack of a 'professional' image."

To counter image issues, Grigg advises superintendents to always have a fresh change of clothes in their office. "Don't go to meetings in your work clothes and dirty boots," he says. "Clean up your act."

Experienced superintendents cite seven pitfalls which can hinder a career or even result in loss of your job. It's important to be aware of these problem areas, and for superintendents to take action to improve their standing with management, golfers, workers, neighbors and your local community. The seven common pitfalls are:

### Pitfall No. 1 — What we have is a failure to communicate

The GCSAA data shows that most superintendents don't lose their jobs because of poor course conditions. Most are fired or forced to resign because they can't or don't communicate with the owner, general manager, greens committee chairman or golfers.

Unfortunately, most agronomic educational programs do not adequately prepare superintendents for this aspect of their careers. The recent *Golf Course News* survey shows that 46 percent of the respondents considered their formal training inadequate in terms of people skills. Because they are not trained to deal effectively with people, these skills must be mastered on the job if superintendents are to succeed.

Bruce Williams, CGCS, superintendent of Los Angeles Country Club, Los Angeles, Calif., and a past president of the GCSAA, says a root problem is personality. The typical superintendent is introverted, he notes, while the typical golf pro is extroverted.

"Superintendents need to learn to be people persons," he explains. "They should take every opportunity to get in front of people. Give speeches, address boards and committees, coach a youth team. Golf courses are begging for superintendents with communication skills."

Tommy Witt, CGCS, and also a GCSAA past president, is superintendent of Northmoor Country Club, Highland Park, Ill. He says superintendents need to be the source of information about what's going on at the golf course.

"Superintendents need to attend board and committee meetings because you don't want someone else answering questions for you," Witt says.

### Pitfall No. 2 — Perception is not always reality

Many superintendents don't understand the difference between perception and reality. They may be putting in 60-hour weeks, but nobody knows it. It's important to be seen in the right places at the right times, such as in the locker room, in the pro shop or on the first tee. Superintendents should write articles for their clubs' newsletters, make use of their clubs' Web sites and e-mail, and post photos on the progress of course projects. They must develop strategies to counteract a negative perception.

"In an appropriate way, remind management and golfers of what you do and how well you do it," Witt says. "It's amazing to me that everyone knows the golf pro, but many times, they do not know the

superintendent's name. How can we be valuable if no one knows who we are?"

There are other ways for superintendents to step out of their comfort levels and increase their visibility. If they are golfers, they should make an effort to play with all segments of the membership. If a superintendent negotiates a good deal on a greens mower, let the club know you've spent their money wisely. Make your employers aware of your financial management skills.

"It is imperative that your employer understands in a subtle but effective way that your skills and experience are key components to managing their most important asset — the golf course," Witt says. "They have to realize that they just can't hire anyone off the street to do your job."

Grigg adds, "your employer needs to understand the value an experienced superintendent brings to the operation in areas such as staff training, protection from potential lawsuits and safety compliance issues."

### Pitfall No. 3 — The customer is always right

Failure to build strong relationships can be a job killer.

"Rarely do superintendents lose their jobs for bad greens," Williams says. "More often, it's because they're not skilled in customer service disciplines. You have to find out what governing bodies or golfers want. If you close the course for minor situations, you have to be visible and be prepared to defend your decision. For example, make sure everyone knows your aeration schedule. Publicize it in the club newsletter, post it in the locker room."

### Pitfall No. 4 — I never saw it coming

"You have to know when to hold, and know when to fold," Williams says. A superintendent may think he's doing a good job, but he has to be able to read the attitudes of the governing boards, whether it's a public or private course. A bad performance review, a change in board personnel or grumblings golfers should cause him to look for possible issues that are developing.

"Many superintendents have told me they saw the signs but didn't do anything about it," Williams says. "It's not hard to see the red flags when you hear griping and complaining. If you find out something is not working, be proactive. The negativity is tough to take, but you have to effect change."

While club politics are unavoidable, superintendents must be careful not to be drawn into the web of private agendas. For



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## How to know how you're doing:

### With golfers and club members:

1. Survey visiting, active and previously active golfers about course conditions.
2. Learn who the opinion leaders are and their agendas for the course.
3. Be visible at major golf and non-golf events.
4. Suggest creation of a master plan for your course.
5. Write a column for your course's newsletter and invite feedback.

### With owners, management and the pro:

1. Meet for lunch just to talk.
2. Attend board meetings and respond to any issues.
3. Communicate your continuing education achievements.
4. Get an annual personnel review that includes goals for the coming year.

### With employees:

1. Ask your crews what golfers are saying about the course and what they think.

### With residents and the community:

1. Attend meetings and invite questions.
2. Visit residents and neighbors periodically.
3. Ask local police to call you about any emergencies on or near your course.
4. Be sensitive about the environmental impact of planned actions.
5. Join professional golf organizations to stay on top of legislative and legal issues.

example, if a club is disorganized and the green chairman has a pet project, not all board members will agree with his direction. But if the chairman is dominant and does all the talking, he may position the superintendent on one side on the issue, sometimes even without the superintendent being aware of the situation at all.

"Superintendents can often find themselves in no-win situations," Witt says. "But in the end, honesty is always the best policy. My advice is to give the pertinent information factually and professionally, and never give an ultimatum. Usually this strategy leads to wise decisions."

### Pitfall No. 5 — I'm OK, you're OK

Complacency can result in superintendents losing their jobs. When a club makes a change in the general manager or director of golf operations positions, superintendents need to be sensitive to what this can mean to their job standing.

"What superintendents need to recognize quickly is that this is the new person's kingdom, and he or she is king. They are the boss and things will run their way. Be prepared to embrace change," Witt advises.

On average general managers change jobs every three years and they often bring in their own managers, associates they have worked with from previous operations, and people they trust and with whom they have personal relationships.

"A friend of mine was superintendent at a high-end club in Atlanta for 29 years and had an impeccable reputation," Witt says. "The club hired a new general manager, and the superintendent was gone — replaced by a friend of the new manager. The lesson is to embrace change in the management structure. You have to be able to adapt."

At private clubs, turnover among staff and boards of directors can be a huge factor in the political scene. Compounding the issue is that turnover reduces opportunities for superintendents to build trust and confidence with management. In response, superintendents need to ask themselves what has to be done to meet this person's

expectations this year?

### Pitfall No. 6 — Check your ego at the door

There is a growing trend in the industry for golf professionals to name themselves directors of operations. Trying to emulate that, some superintendents have taken on the title of "director of golf course maintenance," and then name an assistant as the superintendent.

While this strategy to increase professional stature may work at a multiple course operation, it may backfire at an 18-hole course if the general manager eventually comes to the conclusion that he has two superintendents, eliminating the \$90,000 per year director of golf course maintenance, and retaining the superintendent who is making \$50,000.

"Some general managers and owners are intimidated by competent, experienced superintendents," Witt says. "The superintendent may be better educated and confident, and this can strike fear in some people. Remember that and tone it down."

### Pitfall No. 7 — You don't own the course

Beware of an overbearing sense of ownership; it's not your course. In some cases, because the superintendent built and grew in the course, or has a long tenure, he views himself as the key person and considers the course to be his own. This can be a huge mistake.

"Anyone who thinks this way won't be around long," Grigg says. "The superintendent has been entrusted with the maintenance of the golf course, but it's not his course. It's good to have pride in your course, but remember, you're not indispensable."

### Plan your future

In addition to his responsibilities at Los Angeles Country Club, Williams advises superintendents on career planning.

"The average tenure of a superintendent on a course is now about 6 1/2 years, according to GCSAA," he says. "Know that you're likely to change jobs several times in your career, and approach your present job like you're preparing for the next one. The more well-rounded and broad-based your experience, the better off you'll be."

"At the same time, work to develop a niche. Do you have construction experience? Have you hosted an important tournament? Look at your job as a career and take the steps to build your portfolio."

The reality is that there is an oversupply of superintendents. A bumper crop of young people with degrees and little experience are flooding the market, and they work for less

money. Those on the bubble are the established superintendents in the 45- to 50-year age range and having correspondingly higher salaries than younger superintendents.

"Concentrate on doing a good job and the word will spread about your reputation," Witt advises.

About 15 to 20 percent of superintendents change jobs every year. In considering your next job, try to find a position working for good owners and managers. Does the employer put a premium on character and substance? Are the expectations realistic? What is the organization's track record for how it treats people? What is the turnover ratio?

Interview potential employers as carefully as they interview you. That way, you won't accept a bad job and put yourself in a position to lose.

### Professional training

With so many demands being made on superintendents, a key to career success is to identify your shortcomings and work on training and skills development to overcome them. For example, a superintendent might never learn to enjoy giving presentations, but he or she can learn to become an effective presenter and to be more comfortable giving them.

A number of career-building resources are available for superintendents. GCSAA offers a free booklet on communication — the "cornerstone of professional relationships" — and a free booklet on career development. GCSAA also offers kits on weathering economic downturns, effective employer/superintendent relations and employment resources.

For career development, the association offers educational seminars, workshops, and forums covering technical information and "softer" people and management skills. Workshop topics include: "How to Manage Your Relationship with Your Employer," "Recruitment and Retention Tips," "Public Speaking Strategies," and "Crisis Communication Strategies."

Williams urges superintendents to take advantage of seminars and workshops offered in their areas. "Attend local chapter meetings and browse the business sections of bookstores for self-help, motivational and management books," he advises. "Take charge of your career." GCN

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



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USE READER SERVICE #20



# Extreme Makeover

A CLEAR GOAL, COMMUNICATION AND ARCHITECT-SUPERINTENDENT COOPERATION DELIVER AN OUTSTANDING GRANDE PINES RENOVATION

by  
MARK  
LESLIE

Robert Waller's first impression of the International Golf Club in Orlando, FL, was that the course was in a perfect location — on International Drive in the midst of vacation heaven. Waller, Marriott Golf's director of golf course grounds operations and construction, says the course itself was a mess.

"It needed to be blown up," Waller says.

"An overgrown mess with poor drainage," adds architect Steve Smyers, of Smyers Golf Design, Lakeland, FL, who worked with Waller in 2003 to recreate the 18-hole course as the centerpiece for Marriott Vacation Club International's new Grande Pines Resort.

Waller is a veteran of numerous course renovations. He was superintendent of Atlanta Athletic Club's Highlands Course when it was renovated by Rees Jones in 1995, and he has overseen four renovations since joining Marriott Golf seven years ago. Through that experience Waller says he has developed an approach

as the superintendent that makes a maximum contribution to the project's success:

- Serve as the owner's representative and consultant.
- Maintain ongoing communication — "the absolute key to success" — between the superintendent, architect, builder and club members.
- Stay focused on what it will take to maintain the new course for a 30-year period. "Don't get sidetracked into critiquing the design," Waller advises, "but as a superintendent I want to focus on maintenance issues that will help make the course successful and profitable in the long-term."

- Contribute to clearly defined goals of what the renovation is to accomplish. "A renovation is an opportunity to improve traffic flow, airflow, sunlight and other environmental factors," he says. "You're going to close your books and shut the course down in a renovation, so seize the chance to do the work that will keep that course open for many years to come."

- Get ahead of the curve on permitting. "Do not wait on permits. Also consider the value of hiring consultants knowledgeable about water management, zoning or any other specific issues you face," he recommends.

- Work with the architect and builder to set a realistic timeline that factors in rain or other unavoidable delays. Grande Pines was built during the fourth-wettest summer of the last 109 years in Florida, but Waller, architect Smyers and the contractor, Weitz Golf International of North Palm Beach, FL, anticipated such delays in their construction schedule.

- Pre-qualify to select the right contractor. "Open up projects to bids to give everybody a chance, but be wise in your final decision."

- Apply the old business success adage — location, location, location — even down to the placement of the putting greens. "Decisions made on the front end — re-routing the course and setting the greens in place — affect the long-term health of the course. As the superintendent you want to look at tree management, the tilt of the greens, drainage and traffic. Planning can avoid fighting endless environmental or traffic problems," Waller says.

## Clear goal and vision

The keys to making everything work more efficiently are establishing a clear goal in the planning stage and ongoing communication throughout construction.

"Everybody has to understand the vision up front — what the property will

give," Waller says. "What you do with the golf course goes straight to the bottom line. We've all seen projects that ended up as maintenance nightmares. To avoid this, the superintendent must be empowered. The tendency early in the process is that the architect is the only voice and the long-term function of the golf course falls off their radar for a time. The superintendent's role is to bring that voice back."

Architect Smyers agrees. "Waller understood the goal — to create a dynamic, world-class course. He also wanted a course that could be maintained to world-class standards."

## Ongoing communication

Living in nearby Lakeland, Smyers and his top landscape architect, Patrick Andrews, were constantly on site, which made ongoing communication easier.

"The cooperation between all parties and the high level of enthusiasm were ultimately reflected in the quality of the final product," Smyers says. "We had gone through the whole design with Waller before we started construction to make sure we were all on the same page. Then, whenever we were about to build something, Waller would come out and look at it and react. He has been through construction processes before and knew what to look for. He has a good set of eyes both as a superintendent and as an accomplished golfer. We worked together to address situations such as existing vegetation, what we had to clear out to get adequate sunlight, what type of plant materials might be invasive, those sort of questions."

To be on board in time for the entire grow-in period, Waller hired Chuck Wagnmiller in March 2003 to serve as Grande Pines' superintendent.

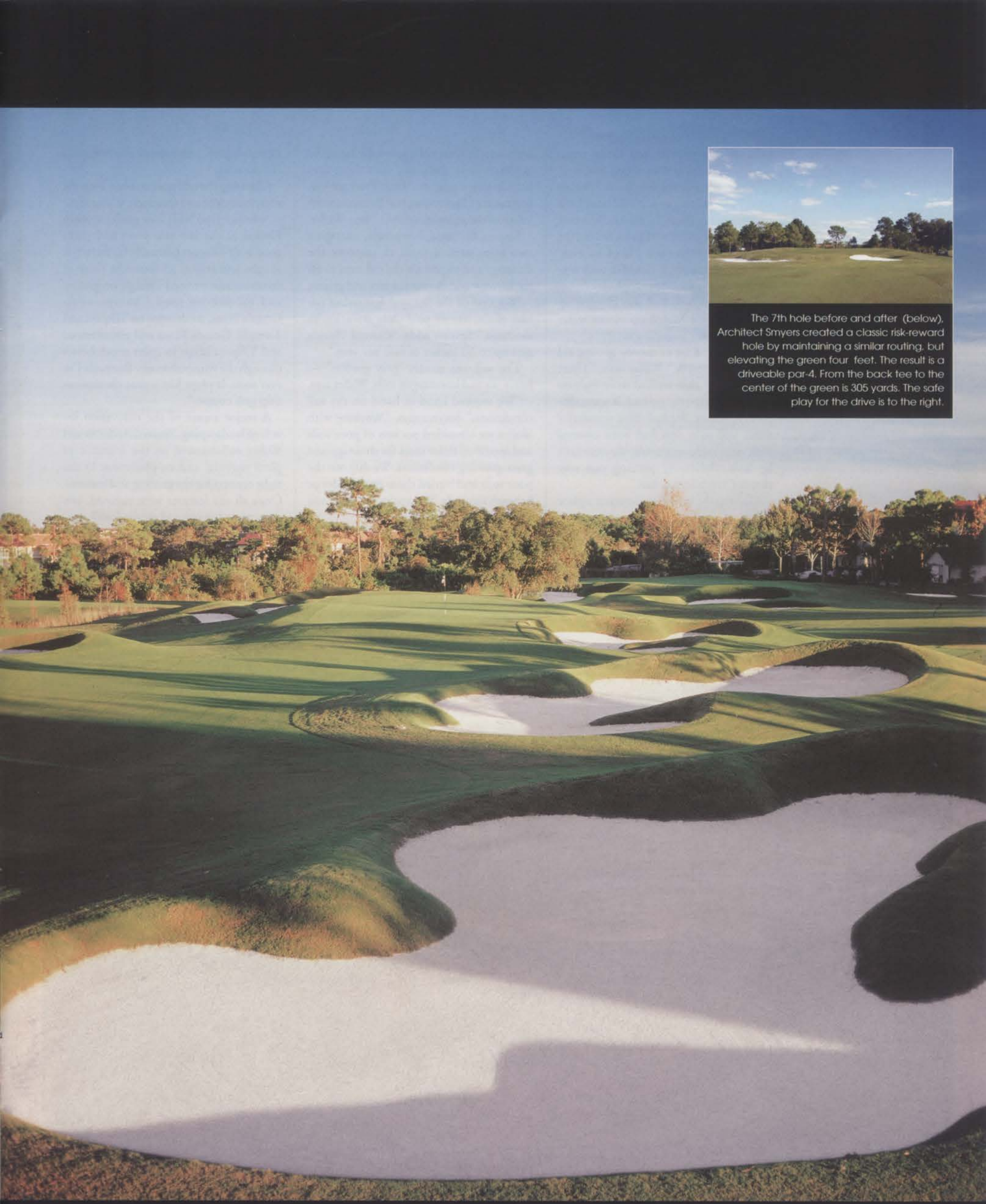
Communication was important in resolving challenges that included wetlands,

### AT A GLANCE:

#### Marriott Grande Pines Golf Club

Location:	Orlando, Fla.
Course type:	Public
Course closed:	December 2002
Course re-opened:	January 2004
Yardage:	7,012; 6,593; 6,070; and 5,418
Par:	72
Number of bunkers:	70
Greens:	Tifeagle Bermudagrass
Fairways and tees:	TifSport Bermudagrass
Slope:	To be rated
Rating:	To be rated
Superintendent:	Chuck Wagnmiller
Golf Course architect:	Steve Smyers
Landscape architect:	Patrick Andrews
Builder:	Weitz Golf International





The 7th hole before and after (below). Architect Smyers created a classic risk-reward hole by maintaining a similar routing, but elevating the green four feet. The result is a driveable par-4. From the back tee to the center of the green is 305 yards. The safe play for the drive is to the right.



extreme overgrowth, too many trees, poor turfgrasses and outdated bunkers.

"Drainage was the key issue," Waller says. "The existing course had been built to different standards. By the time Marriott purchased the property the area around the course had taken on a life of its own. The corridors were so closed in with vegetation that it was claustrophobic."

The overgrowth had also clogged up waterways and fouled up storm water management.

"We spent a lot of money getting rid of the overgrowth," Waller says. "There was so much that we had to investigate what plant material we had. It was a discovery process. We had some wonderful pines and oaks that had been covered with vines and overgrowth. We went hole by hole, delicately picking our way through trash and debris."

Clearing the land gave the water a place to go.

Where drainage swells had become

wetlands, Smyers redesigned the layout to enhance those areas and turn them into functioning wetlands. "Even the State Department of Environmental Protection saw value in the reconstruction," says Waller.

Smyers designed five ponds, averaging two acres in area each, to improve the drainage and to provide the soil used to lift the fairways and elevate the tees and greens.

"Because of the flat and featureless nature of the site we paid close attention to drainage," Smyers adds. "Central Florida gets up to 50 inches of rain per year."

The soil was mostly "gray gumbo" — heavy silt and low-oxygen soils, Waller says.

"We worked hand-in-hand on the soil conditions," Smyers says. "Working with Waller we identified pockets of poor soils and modified those areas for drainage and grass-growing conditions. We dug out the poor soils and buried them to the sides or beneath mounds. We stockpiled good soil and capped the course with it."

Because the course had aged, Waller says it had 17 different cultivars of Bermudagrass. Weaker strains of

Bermudagrass had limited the height of cut possible.

Choosing the turf type involves both the superintendent and architect, Waller says.

"Marriott has built four golf courses in Florida in the last two years and we've gone with TifSport Bermuda for fairways, roughs and tees at all four. On three of those courses we used Tifeagle on greens, and on one we used Champion. At Grande Pines, we decided on TifSport and Tifeagle. Grande Pines will not overseed and TifSport keeps its color much better through the winter than any Bermuda I've ever seen. It plays like a true championship golf course."

A major aspect of the renovation involved landscaping. Smyers, Andrews and Waller collaborated on the selection of plant material and its placement in the right context for the grading and features. Once all the features were exposed, low areas were dug out and marked with wetland material. If a ridge was created, the vegetation patterns were changed to create a pleasant feel and to allow golfers to



The 15th hole before and after (below). The par-3 hole was lengthened from 172 to 214 yards and the putting surface exposed. Tee space was doubled and native grasses provide low-maintenance aesthetics.







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The par-3, 4th hole before and after (above). Improvements included lateral shelves and wetlands in front of the green, elevating the green six feet, clearing overgrowth and lengthening the hole from 155 to 189 yards.

more easily read the course. Key plant materials selected included broomsedge, mully grass, coregrass, Fachahatchee grass, oaks, pines, magnolias and sable palms.

The \$1-million landscaping budget also included creating 40-foot buffers around ponds, Waller says. The aesthetics of the wetlands were enhanced with cypress trees, swamp lily, Golden Canna, arrowhead, pickerel plant, Eleocharis and Blue Flag Iris.

### The art of compromise

Compromise between the superintendent and architect, and between the vision and budget, are facts in any renovation, Waller says. How well the compromise is handled often depends on their relationship.

The Grande Pines renovation required several compromises. Smyers is known for his bold and dynamic bunkering that sets a course apart from its competition. At the same time, maintenance concerns

were noted by Waller.

“Waller felt that bunkers are a pain no matter what kind you build,” Smyers says. “But he agreed that without great bunkers we would never be able to build the reputation for Grande Pines that we wanted. His was an extremely switched-on attitude toward design. Waller understood the game plan.”

In a number of areas Waller and Smyers worked at creative compromises to gain dynamic design and viable maintenance.

One compromise involved poor drainage issues on the first and second holes, where the soils were the heaviest.

“Florida is so flat you don’t have runoff,” Smyers says. “So you try to create a pitch that will move water from the two- to four-inch rains we get. On these two holes, Waller and I worked together to get not only the right pitch but also the right soils in place.”

Another compromise was handling the divide between parallel 13<sup>th</sup> and 14<sup>th</sup> holes.

“The 13<sup>th</sup> is a par-5 dogleg right, and the 14<sup>th</sup> is a par-4 dogleg left. On the earlier course, players would cut the corner off the 13<sup>th</sup> — something we all wanted to

change,” Waller says.

“Smyers had a design goal, and I looked at it through a superintendent’s lens. I didn’t want to have to build a satellite maintenance facility in that area just to maintain two holes. Severe sloping was a possibility, but it would have created too much handwork. Smyers was great in helping to solve this issue. He designed a series of bunkers, a 22-foot fill, and a lake to the right of the 13<sup>th</sup> green, which prevents cutting off the dogleg. Steve got the separation of the holes he needed, and I’m happy because we can now mow 90 percent of the area.”

Working together to overcome a variety of obstacles, Waller and Smyers say they accomplished the Marriott vision of creating a standout golf course that serves as the cornerstone of a future vacation property. GCN

*Mark Leslie is a freelance writer specializing in golf. Based in Monmouth, ME, Leslie served as the founding editor of Golf Course News. He can be reached at gripfast@ctel.net.*



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## The architect and superintendent mix

LEADING ARCHITECTS AND SUPERINTENDENTS SHARE THE SECRETS OF SUCCESS IN TEAMING UP FOR A GREAT GOLF COURSE RENOVATION

by MARK LESLIE

**W**hat makes great golf courses great is creative design. What keeps them great is excellent maintenance. In a course renovation the challenge is to create an innovative course that can be maintained to its original specifications. And that requires teamwork between the architect and superintendent.

Walt Wilkinson, superintendent at the 36-hole Indian Creek Golf Club in the Dallas suburb of Carrollton, Texas, says the place to begin is by selecting an architect who is the best fit in terms of design capability and chemistry with the superintendent.

"The architect-superintendent relationship is critical in a renovation," says Wilkinson. "Choosing an architect who is going to be the best fit is not a question of the biggest name, but rather who you can work with to provide the end product that you and your membership want."

"My favorite renovations — the ones I love — are ones where the superintendent and I think the same way," agrees Jeffrey D. Brauer, owner of GolfScapes, an Arlington, Texas-based architectural firm. Brauer worked with Wilkinson to renovate Indian Creek's 18-hole Creek Course in 2002-2003. "Walt was a true partner in the design. I had the same great relationship with superintendent Dave Downing at WildWing at Myrtle Beach, and superintendent Brian Malloy at Great Southwest Golf Club in Grand Prairie, Texas. It's been my experience that renovations that turn out the best are those in which the superintendent is integral to the process."

One critical value the superintendent brings to the process is realism, says Ron Forse, a Hopwood, Pa., architect known for restoring classic courses.

"Our experience has been that it's a real joy to work with superintendents who have their feet fully in the real world and have a high appreciation for creative design. Those situations produce incredible teamwork."

"I had to enter into Forse's world of design," agrees superintendent Mike

McNulty, who successfully worked with Forse and Design Associate Jim Nagle, to restore nine holes each year for three years at the William Flynn-designed 27-hole Philadelphia Country Club.

Forse and McNulty say both parties should bring their expertise to the process with an open mind. The superintendent has an intimate knowledge of his property's microclimate, subsurface conditions, air circulation, drainage, other agronomic elements and the peculiarities of the club's membership. The architect's challenge is to take maximum advantage of the site's natural character — or to restore features according to the philosophy of the classic architect who designed it.

The superintendent's knowledge is invaluable, says architect Barry Serafin of New Albany, Ohio, who teamed up with superintendent Jim Cola of Worthington Hills Country Club in Columbus. Cola was able to show Serafin the location of underground springs and rock outcroppings, factors affecting the final design.

"I try to be sensitive to air circulation, traffic and shade," adds Brauer, "but the superintendent can tell you about the real and potential problems right away."

"The architect and superintendent are in a give-and-take relationship," says Rees Jones, nicknamed the "Open Doctor" for restoring classic courses that are preparing to host U.S. Opens. "The architect must have a melding of the mind with the superintendent because he will be the one left to maintain the course."

That melding should begin even before the architect is hired, advises Forse, who has renovated more than two dozen courses designed by Donald Ross, as well as others crafted by Alister Mackenzie, A.W. Tillinghast, C.B. Macdonald and Seth Raynor.

### The superintendent's role

From an architect's perspective, Forse says the superintendent's ideal role includes the following:

- Being the liaison between the architect

and the club's greens and executive committees.

- Serving as the club's representative.
- Being realistic — "understanding perspective and not allowing the architect to go wild."
- Knowing construction procedures.
- Understanding specifications.
- Serving as the purchasing agent.
- Selecting the proper turfgrasses.
- Communicating project status to club membership.
- Continuing maintenance of the course during construction.
- Pre-applying fertilizers and amendments.
- Controlling staging, storage and traffic.
- Being on top of the irrigation system.
- Researching materials, suppliers and outside expertise.

Faced with several hundred trees on the course that didn't exist when it was originally built, McNulty brought in ArborCom of Toronto, whose Shademaster software determined the agronomic impact of trees. The result was removal of 700 trees to improve sunlight and air circulation.

If the course creation involved a famous architect, McNulty adds, "gain a familiarity with the original designer." McNulty once dug into the history of his club and uprooted documentation and aerial photographs of the course. Doing such homework is invaluable. "Research will help you better understand what the architect is trying to say, and he will respect you more."

### Communication hub

The importance of communication by the superintendent starts at the concept stage, says Forse, because he or she is often a key person in getting membership approval of the master plan. The superintendent's central role in communication then continues throughout construction.

"Usually my main line of contact with the club is the superintendent, who is the go-between between me, the club pro and the greens chairman," says Serafin. "A good



superintendent knows the members, their likes and dislikes, and keeps an open line of communication with the club during the renovation.”

“A superintendent can be on top of everything that’s happening because he is there constantly, while we are in and out of the site,” Forse adds.

Ken Mangum, director of golf courses and grounds at Atlanta Athletic Club (AAC), where Jones has renovated both 18-hole courses, says educating club members about the whole process is a challenge. Mangum, who just completed his Riverside Course renovation in mid-November, used a Web site to keep members informed on a daily basis using photographs of the work and progress.

“Public relations goes along with coordination of the construction,” Mangum says. “I also gave tours for members every two or three weeks.”

At Indian Creek, architect Brauer altered superintendent Wilkinson’s vision for the course, and then Wilkinson, in turn, sold that idea to city officials.

“My original vision within the initial budget was to resurface the greens and tees, and leave most of the rest of the course untouched,” Wilkinson says. “The city wanted to turn the course’s fortunes around and Brauer understood how much money that would require. He was able to say we could get a lot more for our money and go to the next level. I grabbed his vision — to rebuild the tees, redesign the greens complexes, add bunkers, modify the layout and add drainage. Once we shared that vision, I worked to get people talking about the possible changes.”

Working together, Brauer and Wilkinson have seen their vision accomplished.

While the superintendent should serve as the liaison between the architect and club, sometimes the project is best served by the architect’s personal contact with members. “In some situations the membership won’t believe their superintendent about the club’s needs,” he says. “But the architect is viewed as the expert since he’s the consultant — the guy from out of town who is carrying the briefcase. In such a situation, the architect can help the superintendent sell an idea to improve the course. Sometimes it’s easier for the architect to ask.”

### Overseeing all details

In a renovation the superintendents are usually the best overseers of details because of their knowledge of local suppliers and contractors. They are familiar with traffic

patterns. And they know the course — prevailing winds, angles of the sun at different seasons, the best types of turfgrasses and the maintenance program.

To select the right turfgrasses, Wilkinson scrutinized the National Turfgrass Evaluation Program’s Bermudagrass results, while McNulty visited other courses and tested varieties on one fairway before choosing the cultivars.

“Matching grass selections to the superintendent’s maintenance program is crucial,” Brauer says, “as well as types of bunkers. Do you build them flat, or with slope that is more attractive, like cape-and-bay bunkers? You need to balance design aesthetics versus maintenance concerns and budget. Similarly, if we go with cape-and-bay construction, what equipment do you have to use to mow around the bunkers? A good architect wants the superintendent to feel comfortable that the golf course is one that can be maintained.”

In the renovation of his course, Wilkinson suggested moving the second green about 30 yards for better sunlight and circulation. The move had not been evident to Brauer because of the time of year he made his preliminary site visit, but it was adopted into the final design.

### In-house construction?

While Wilkinson’s course renovation was built entirely by GolfWorks, Inc., Austin, Texas; and Mangum served as general contractor at AAC; McNulty handled most of his renovation in-house, with some functions subcontracted.

“We tried to accomplish two things — keep our staff intact and save the club some money,” Mangum says. “We subcontracted the major work. The benefit was that our guys got involved, were part of the process and had more pride in the finished product.”

If a course is considering whether to handle work in-house, Forse says the superintendent should take into consideration several issues:

- The amount of work involved in major projects like irrigation
- The need to maintain the course during construction
- The overall size and scope of the work
- Crew abilities and experience
- The time of year
- Available equipment
- Member expectations in terms of construction quality

Smaller projects are easiest to handle in-house, including green expansion and modification, tree removal, fairway expansion, tee

construction, light irrigation and sod cutting, removal and placement.

Forse does not recommend that grounds crews undertake bunker renovation or construction because of the intricacy involved, and the need to maintain a style.

### Respecting design issues

While teamwork means the architect is open to the superintendent’s ideas, Forse says maintenance considerations cannot dictate the design.

“Some superintendents fear that sand will wash out of bunkers,” he says, “so they want unnatural, severe lips. That hides the sand, but it looks homemade and is unnecessary if the bunker is built properly. Features need to be maintenance-friendly, but never at the expense of proper design.”

Another frequent superintendent suggestion is to be able to mow around the bunkers with riding mowers.

The need to hand-mow is a real maintenance issue, Forse says, so architects have to go to bat for the superintendent to ensure that sufficient maintenance budget will be set aside to allow hand mowing. “Without hand-mowing, bunkers look anemic and unnatural,” he says.

By sharing a common vision, superintendents and architects can accomplish uncommon success.

“The process is similar to restoring a classic car,” McNulty says.

Forse adds, “Superintendents care about what they’re working on, so they’re going to be very attentive to the needs of the project. We see the genuine love they have

By sharing a common vision, superintendents and architects can accomplish uncommon success.

for their golf courses. It’s a tough job, but a labor of love as well.”

In a renovation, the superintendent and architect are “in the same boat,” Mangum concludes. “You can’t afford to be fighting in that boat. In our renovation I didn’t claim to be a designer, and Rees didn’t claim to be a superintendent. It’s all about teamwork. Being able to bond and form a great friendship improves the end result.”

GCN

*Mark Leslie is a freelance writer and consultant specializing in golf. Based in Monmouth, ME, Leslie was the founding editor of Golf Course News. He can be reached at [gripfast@ctel.net](mailto:gripfast@ctel.net).*



## How to maximize your fungicide purchases

COMPARISON SHOP YOUR FUNGICIDE PURCHASES BY COMPUTING THE COST PER OUNCE, COST PER DAY AND TOTAL APPLICATION COSTS

by  
GREGG  
PHILLIPS,  
JR., AGRN.

**W**ith maintenance budgets under pressure, fungicide purchases can be a major factor in a golf course maintenance program. Often, superintendents or their purchasing agents consider the case, bag or unit price to determine which product is the most economical to use. Getting the most for your money requires a range of considerations.

### Use vendor price lists to simplify comparisons

One way to comparatively shop fungicides is to distribute a price list for vendors to submit to you. In putting a price



Smart fungicide purchase decisions require making apples-to-apples comparisons.

list together simply list the product name, an estimate of the number of units you will need for the coming year and an estimated delivery date. Giving the vendor a delivery date allows them to consider delivering the product through their own trucking schedule, which can save you commercial shipping costs. Because shipping costs add up very quickly be sure to note whether the vendor's price includes

shipping, and also ask for a copy of their shipping policy. Organizing delivery dates will ensure products will be on hand when you need them and keep your inventory down.

Your bid list should also include the quantity per unit. For example, one vendor may give you a price for Banner Maxx per 2-gallon case while another may give you a price per gallon. Being specific will cut down on confusion and ensure you are getting an apples-to-apples comparison. An example bid list can be found in Table 1.

You may also include a letter or a note on the sheet to encourage any special financing available and a copy of their payment policy.

Traditionally fungicide prices are in vendors hands in November for the following year. This allows you to send out the bid list in November with a request for responses by mid-January and have time for questions and budget considerations.

The chemical group a fungicide belongs to is defined by its mode of action on a fungus. There may be differences among products in a particular group. However, all products in that group will attack the fungus in the same manner. For this reason, the differences between products within the same chemical group are usually agronomically insignificant. For example, the fungal group of Dithiocarbamates includes the active ingredients Mancozeb, Maneb and Thiram. The trade names of products with these active ingredients include Fore, Dithane, Manex, Spotrete 75 and Thramed. When forming your price list be sure to consider the other products are within the same chemical group. This will give you the ability to not only compare vendor prices, but prices among several manufacturers as well.

Having the unit prices from your vendors is one element of the equation. Other considerations include:

- Past performance of the fungicide

- How long will the fungicide control the pathogen once applied to the turf
- What the fungicide controls
- What rotation will be required to insure resistance does not occur

### Computing the cost per ounce price

After you have the cost of the product containers you should convert the price to a cost per ounce basis. For example, Curlan/Touche comes in 11-ounce soluble packets, four to a pack and four packs in a case – giving you a total of 176 ounces per case (11 oz x 4 x 4=176 ounces). Now, take the total price per case and divide it by the total ounces in the case. (Price / 176 ounces = cost per ounce). This will give you the cost of the product per ounce. Once you found the price per ounce you are ready to begin to compare the other factors in the cost equation.

### Consider the effect of application intervals

Fungicide labels specify recommended application intervals based on how long the fungicide can be expected to control the pathogen and thus when the next application should be made. However, the actual application interval can vary by area and is dependent on heat, humidity and other environmental conditions. Look at the application interval as a guide in your consideration.

A key element when looking at the application interval is how long is the fungicide likely to control a particular pathogen. For example, compare two different fungicides/active ingredients used to control brown patch: Mancozeb (Fore, Dithane) and Vinclozolin (Touche, Vorlan, Curlan). Products with Mancozeb as the active ingredient will give seven days of control before the next application is needed, according to the label. Products with the active ingredient Vinclozolin need to be applied every 14 to 28 days depend-



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USE READER SERVICE #22

## course maintenance

TABLE 1.

### EXAMPLE BID LIST

Product	Size	Approximate Delivery Date	Projected Min. Quantity Needed	Unit Price	Total Price
Heritage	1 lb	May 30, 2003	1		
Signature	4 x 5.5 lb	May 30, 2003	4		
Manicule or Daconil	2 x 2.5 gal	May 30, 2003	2		
Touche or Curlan	11ozx4x4	April 1, 2003	2		

ing on disease pressure, according to the label. With the application interval in mind we need to then consider the application rate of the product.

### Compare the label application rates

Variables in application rates are based on the product used, disease pressure and even the particular fungus. Taking our example between Mancozeb and Vinclozolin, let's look at the application rate for each chemical. Mancozeb, according to the label, will need to be applied it at 4 ounces per 1,000 square feet to control brown patch. The label rate for Vinclozolin is 1 ounce per 1,000 square feet.

### Computing cost per day

The cost of control per day of a fungicide gives you a valuable indication of the cost of the fungicide. This amount can be calculated for each fungicide you are considering. The cost of control per day is calculated by taking the application rate then multiplying it by the cost of the product on a per ounce basis then dividing the result by the recommended application interval. This will give you a cost per day to control a pathogen.

Using our earlier example of Vinclozolin and Mancozeb, Table 2 illustrates the equation. When comparing the two fungicides we can see it would cost \$0.08 cents per day to when using Vinclozolin, and \$0.23 cents per day when using Mancozeb to control brown patch.

### Computing total application costs

Using the costs illustrated in Table 2 on a course with 130,000 square feet of greens we can calculate and compare

how much it would cost to control brown patch over a 21-day period. As indicated in Table 3, a club could control brown patch over a 21-day period for \$336.70 less using Vinclozolin rather than a Mancozeb product.

### Control methods and fungicide use

Control methods must be designed and executed by the superintendent based on differences from course to course and even turf area to turf area. The two basic program options are preventive or curative. In a curative program, no treatment is made until the turf damage symptoms are noticed. In a preventive program, fungicide applications are made when environmental conditions are favorable for fungal growth.

It may seem logical that a curative approach would ensure that fungicides are only used when absolutely necessary, resulting in less fungicide use and lower costs. However, this may not be the case for three key reasons: First, preventive rates are frequently one half the curative rate. Second, once fun-

gus is prevalent enough in a turf area to cause symptoms or turf damage, two treatments at the curative rate are often required. Third, turf weakened by fungal damage is less able to fight off future infection which can result in more fungicide use to maintain turf quality.

The adage that an ounce of prevention is worth a pound of cure holds truth. For example, let's say course A on May applies a preventive 2 ounce per 1,000 square feet application of Daconil for dollar spot that yields 14 days of control. Course B, using a curative method, waits until the disease appears and applies a curative rate of 4 ounce per 1,000 square feet Daconil on May 4. Both courses receive 14 days of control for each application. On May 15, course A applies another 2 ounces of Daconil as a preventive treatment. On May 20 course B has another outbreak of dollar spot and applies another 4 ounces. In order to control dollar spot in the month of May, course A used a total of 4 ounces of Daconil while course B used 8 ounces. In addition, course A had no dollar spot damage.

### Conclusion

Putting all of these factors and techniques together will ensure you have all of the information you will need to make an effective evaluation of the prices among vendors and products. Setting up delivery dates, knowing the actual application costs of products in advance and ensuring they are available when needed, and executing an efficient fungal program will make the most of your purchase decision. GCN

*Greg Phillips Jr. Agrm., is a golf and sports turf consultant from Buckhannon, WV. He can be contacted at [turf guru@yahoo.com](mailto:turf guru@yahoo.com).*

TABLE 2.

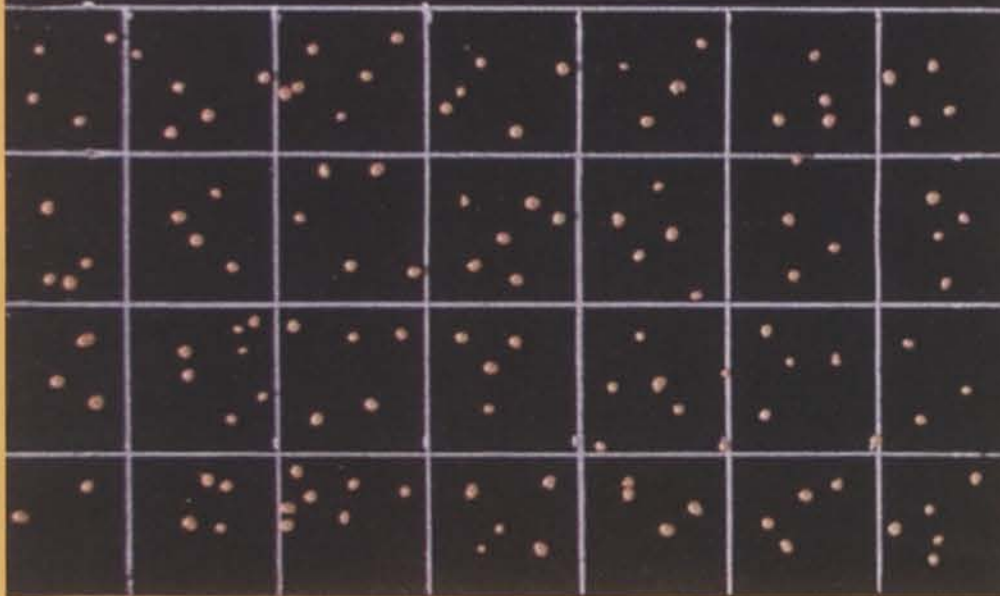
### CALCULATING FUNGICIDE COST PER DAY OF CONTROL

	Application Rate oz/1,000	Cost/oz*	Application Interval in days	Cost Per Day of Control
Mancozeb	4	\$0.40	7	\$0.23
Vinclozolin	1	\$1.70	21	\$0.08

\*Cost of Mancozeb is based on a 768 oz case at \$306.00 Vinclozolin based on a 176 oz case at \$299.75

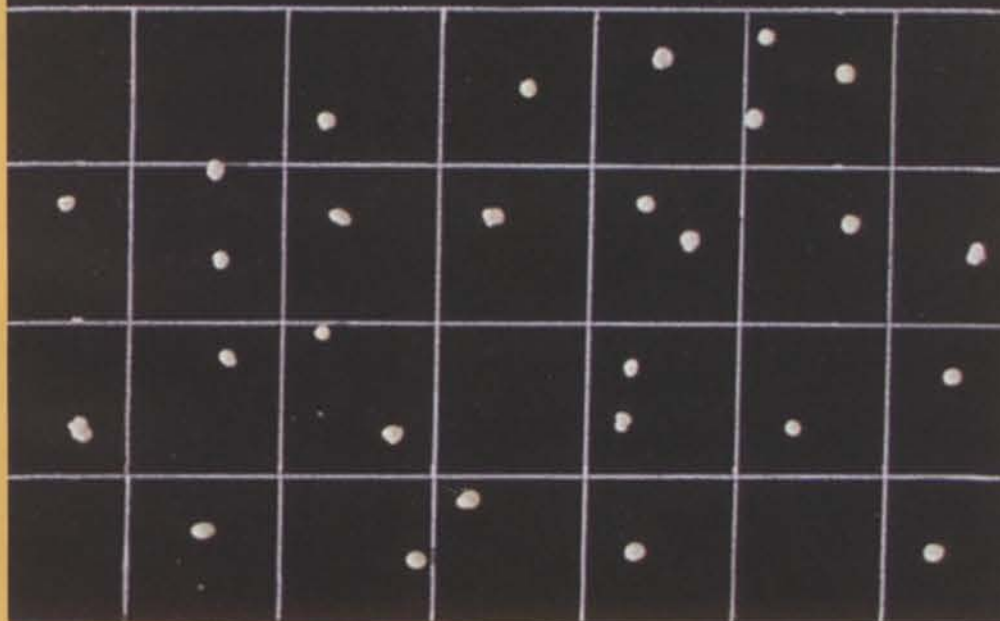


Andersons 150 SGN 37-0-0 Poly-S @ 200 Lbs. Per Acre



(Gridlines are marked in one inch increments)

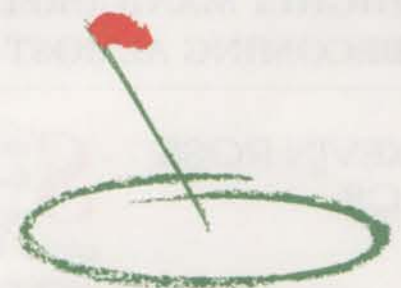
Competitor's 240 SGN Product @ 200 Lbs. Per Acre



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## Bunker quality factors

HIGHLY MANICURED BUNKERS WITH GREAT SAND QUALITY ARE BECOMING ALMOST AS IMPORTANT AS GREENS MANAGEMENT

by KEVIN ROSS,  
CGCS

**S**and bunkers are a growing concern for golf course superintendents, right along with the conditions of greens. Bunker quality involves some controversy, mostly among golfers who tend to view sand in bunkers as being too soft, hard, wet, dry or inconsistent. Some golfers also will complain that there is too much or too little sand in the bunker. The solution for superintendents is

to sometimes remind golfers that sand bunkers are a hazard. At the same time, bunkers need to be made a fair hazard.

The major issues with making bunkers fair hazards are sand quality and playability. Obtaining quality bunker sand is no easy task, and certainly not as easy as most of the golfing public thinks. There are very few places in the United States that have natural sand deposits that meet specifica-

tions for great bunker sand. Today, most premium bunker sand is manufactured in only a few locations across the country. These manufactured sands, along with a few rare natural deposits, make the process of finding great bunker sand very difficult and expensive.

What makes great bunker sand? The answer is complex. The USGA considers a list of seven factors when selecting bun-



ker sand: particle size, particle shape, crusting potential, chemical reaction and hardness, infiltration rate, color, penetrometer value and overall playing quality. Depending on the location and climate, how a superintendent ranks these factors may vary.

The one common denominator of great bunker sand, and probably the single biggest factor, is the "fried egg" test, or in technical testing terminology, the penetrometer value. The penetrometer is a tool that measures the energy required to bury a ball in sand. This value shows the ability of sand to resist the golf ball from burying, or in more scientific terms, its resistance to compression.

It's important to note that the penetrometer itself sparks controversy, and some think a better device is needed. Its chief limitation is that it does not factor in ball spin, which has major input on the resulting lie in a bunker.

Particle shape is the sand characteristic that influences the penetrometer value the greatest. Highly angular sand compacts easily, and therefore has a high resistance to burying a golf ball. However, this sand also has a tendency to become a very firm playing sand, which may be a concern to some players.

At the other end of the spectrum, well-rounded sand has a tendency to bury a golf ball, due to its inability to compact. Round sand also tends to be unstable on bunker faces.

Sand quality is the most important factor in bunker play, and surprisingly it can be the most difficult issue to solve. According to Dr. Norm Hummel of Hummel & Co., Trumansburg, N.Y., "There are probably only a half a dozen sands in the United States that meet the criteria for an excellent bunker sand. Of all the sands we test for bunkers, we only approve about five percent, and even some of those are marginal."

Clubs that settle for less than perfect sand in bunker construction create a difficult situation.

Adding to the issue, not all golfers like the same sand. PGA Tour professionals and most low handicap players prefer firm sand, allowing spin to be produced on the ball. Higher handicap golfers who cannot develop the clubhead speed needed to get through a firm sand bunker shot prefer slightly softer sand. Comments from players often reflect the type of sand used. If you have firm sand, disgruntled players will insist there isn't enough sand in the bunker. With softer sand, players may insist that there is too

much sand in the bunker. In both cases the sand depth may be an identical six inches.

**GIVEN THE VARIABLES,  
BUNKER CONSISTENCY  
TENDS TO BE MORE  
IMPOSSIBLE THAN  
POSSIBLE**

### The effect of shot trajectory

Another issue in obtaining consistency is shot trajectory into a bunker. Since each hole is designed differently, different shots will enter bunkers differently. The worst angle a ball can enter a bunker is at a 90-degree angle to the sand slope. This angle offers the least reaction between the ball and the sand.

The speed of the ball when it hits the sand is another factor. A physics lesson isn't needed to explain this. A similar example is how different shots react on a green — they certainly are not all the same. Ball trajectory into a bunker can determine the outcome of a lie in a bunker, and this factor interacts with other variables already mentioned. For example, one of the worst scenarios is a par 3 that measures 130 to 150 yards, is slightly downhill, and is a southern-exposed/angled green complex. This results in a very high golf shot trajectory, with the golf ball hitting sand that

tends to stay dry at about a 90-degree angle. This is one of the worst situations for "fried egg" lies. Even sand with decent specifications

can have trouble overcoming these factors.

A totally different scenario could be a par 4 that measures 445 yards, with an uphill second shot to a green complex that faces north and has plenty of shade. Most players are hitting long irons and fairway woods for the second shot. Such bunkers would offer little chance for a buried ball, even with inferior quality sand. The playability would also be very different from, or "inconsistent" from, the above-mentioned par 3.

### Bunker contamination

Bunkers constructed from even the best of sands can be damaged by contamination from washouts. Many areas of the country are susceptible to summer two-inch-plus gully wash rains within a short timeframe. Such downpours wreak havoc on bunker conditions, even for the best-built bunkers with the finest drainage. When a bunker is washed out and be-



A brief bout with Mother Nature can change the playability of a bunker instantly.

Photo: Kevin Ross





Photo: Kevin Ross

Some golf course design principles have a "what you see is what you get" and "play it where it lies" bunker theme.

comes contaminated with silt, its playability changes immediately. Most clubs cannot afford to bring new sand in to replace the contaminated material, so the bunker is repaired, and the club lives with it. Comparing the playability of this bunker to one that didn't wash-out, there certainly would be an instant change in consistency.

Most golf course superintendents agree that the No. 1 complaint from players regarding bunkers is that playability is not consistent. Again, no one has said that bunkers should always be consistent, and most superintendents agree that trying to make them consistent is nearly impossible. Many factors affect the sand condition in a bunker, including sunlight, sun angle, shade, irrigation, bunker design, bunker depth, drainage and more. Even if you have the best bunker construction and the ideal sand, you probably won't have perfect consistency.

### Bunker design

Another factor affecting consistency is bunker design. Golf course architects don't clone one type of bunker and use it throughout the course. Each bunker is designed differently to offer various strategies to a hole, and various player penalties. The golfer argument may be, "Well, sure they are different in design, but the sand should be consistent." The fallacy in that argument is that no golf course is expected to offer 18 greens that are identical in playability, so why is bunker consistency expected?

In conclusion, is it possible to have consistent sand from bunker to bunker? While anything is possible, given all the variables, bunker consistency tends to be more impossible than possible. And from a playability perspective, the need for consistency is a matter of opinion. GCN

*Kevin Ross, CGCS, is director of golf course management at Country Club of the Rockies, Vail, Colo., and a contributing writer to Golf Course News. He can be reached at [kjross@vail.net](mailto:kjross@vail.net).*

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# Golf Course Pesticide Label Update

Brand Name/ Manufacturer	Active Ingredient/ Formulation(s)	Label Change/ Date Made	Geography	Benefit/Purpose
Carbait 5 insecticide Agrisel USA (877) 480-0880 www.agrisel.com	Carbaryl (5% granular)	New product registration (July 2003)	U.S.	Control of mole crickets and 120 insect pests with broad labeling.
Insignia fungicide BASF (800) 545-9225 www.turffacts.com	Pyraclostrobin (20% WDG)	New EPA registration (October 2003)	U.S./state registrations pending	Extended control of 15 turfgrass diseases and suppression of dollar spot.
Emerald fungicide BASF (800) 545-9225 www.turffacts.com	Boscalid (70% WDG)	New EPA registration (July 2003)	U.S./pending registrations in CA, HI & SD (no active registration in NY)	Preventive control of dollar spot and new chemistry for resistance management.
Pedulum AquaCap BASF (800) 545-9225 www.turffacts.com	Pendimethalin (EC)	Added state label (July 2003)	California	Now registered for non-residential use in all states (except Alaska) for preemergence control of 40 grassy and broadleaf weeds.
Proxy PGR Bayer Environmental (800) 331-2867 www.bayerprocentral.com	Ethephon (21.7% Liquid)	Tank mix with Primo MAXX (Syngenta) (November 2003)	U.S./state registrations pending	Slows cool season growth to reduce mowing and suppress <i>Poa annua</i> and white clover seed head development
Compass fungicide Bayer Environmental (800) 331-2867 www.bayerprocentral.com	Trifloxystrobin (50% WDG)	Label amendment (July 2003)	U.S.	Suppression of dollar spot on bentgrass greens, tees and fairways.
Chipco Signature fungicide Bayer Environmental (800) 331-2867 www.bayerprocentral.com	Aluminum tris (80% WDG)	Tank mix with Bayleton fungicide (September 2003)	U.S.	Broad spectrum disease control.
Revolver herbicide Bayer Environmental (800) 331-2867 www.bayerprocentral.com	Foramsulfuron (2.25% SC)	New EPA registration (February 2003)	U.S./state registrations pending	Postemergence selective removal of cool-season grasses from warm-season grasses.
Curfew soil fumigant DowAgroSciences (800) 255-3726 www.dowagro.com/turf	1,3 dichloropropene (EC)	Added state labels: (FL February 2003) (SC March 2003) (GA November 2003)	FL, GA & SC	Nematode control for improved playing surface and healthier turf.
Dimension herbicide DowAgroSciences (800) 255-3726 www.dowagro.com/turf	Dithiopyr (EC & WSP)	Remove golf green use (2003)	U.S.	Turf safety.
Dimension herbicide DowAgroSciences (800) 255-3726 www.dowagro.com/turf	Dithiopyr (EC) (Ultra 40WP)	New use direction for <i>Poa annua</i> (EC February 2003) (WP April 2003)	U.S.	Extended control of <i>Poa annua</i> .
Spotlight herbicide DowAgroSciences (800) 255-3726 www.dowagro.com/turf	Fluroxpyr (EC)	New EPA registration (November 2003)	U.S./state registrations pending	Improved postemergent broadleaf control, especially on clover.
Eagle fungicide DowAgroSciences (800) 255-3726 www.dowagro.com/turf	Myclobutanil (20EW)	New formulation (June 2003)	U.S./state registrations pending	Dollar spot and brown patch control in 2.5 gallon container.
Power Zone herbicide PBI Gordon (800) 821-7925 www.pbigordon.com	Carfentrazone, MCPA, MCPP & Dicamba (EC)	Reduced rates/added weeds (July & September 2003)	U.S.	Lower rates for sensitive weeds and 22 weeds added.
Monument herbicide Syngenta (800) 334-9481 www.syngenta.com	Trifloxysulfuron-sodium (75WG)	New EPA registration (November 2003)	U.S./state registrations pending	Sedge control in warm season turfgrasses, overseeding management in the transition zone, and selective broadleaf control.
Primo MAXX Syngenta (800) 334-9481 www.syngenta.com	Trinexapac-ethyl (MEC)	Tank mix with Proxy PGR (Bayer) (November 2003)	U.S./state registrations pending	Slows cool season growth to reduce mowing and suppress <i>Poa annua</i> and white clover.



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USE READER SERVICE #26



**SUMMARY**

Annual ryegrass and intermediate ryegrass transitioned faster than most perennial ryegrass varieties.

**DATA**

2000-2001 and 2001-2002 from 10 southern and western sites. Sponsored by USGA, NTEP and GCSAA.

**SOURCE**

Kevin N. Morris, Executive Director of the National Turfgrass Evaluation Program.

**MORE INFORMATION**

[www.netp.org/onsite/ost./htm](http://www.netp.org/onsite/ost./htm) or [kmorris@netp.org](mailto:kmorris@netp.org).

## On-site testing of grasses for overseeding bermuda

Overseeding bermudagrass fairways is a common practice throughout the southern half of the United States. This project evaluated new cultivars on bermudagrass fairways at ten (10) golf courses in the Southern and Western U.S.

The evaluation trials were jointly sponsored by the Golf Course Superintendents Association of America (GCSAA), the United States Golf Association (USGA) Green Section and the National Turfgrass Evaluation Program (NTEP). Trials were positioned strategically in the following areas: southern California; Arizona; Houston, Texas; Dallas, Texas; Mississippi; central Florida; Myrtle Beach, S.C.; Virginia; Atlanta, Ga.; and St. Louis, Mo.

The trials were located on active play sites where golfers hit fairway golf shots and/or drive golf carts. The forty-two (42) entries were established in fall 1999 and then again, in exactly the same physical location, in fall 2000. Grass species entered included perennial ryegrass, intermediate ryegrass, annual ryegrass, *Poa trivialis* and blends and mixtures of these species.

Data from 1999-2000 and 2000-2001 was compiled and published via hard copy, and posted on the NTEP web site ([www.netp.org/onsite/ost.htm](http://www.netp.org/onsite/ost.htm)). Variety performance varied from location to location, however, a number of trends emerged:

Perennial ryegrass entries, in general, provided the highest quality turf averaged over the entire season.

*Poa trivialis* entries and perennial ryegrass/*Poa trivialis* mixtures were slower to establish, reducing their quality ratings at most locations. However, at three locations, due to other factors, the *Poa trivialis* entries finished on top, complicating the ability to predict where *Poa trivialis* may be used effectively.

Annual ryegrass and intermediate ryegrass entries transitioned faster than most perennial ryegrass entries.

At some sites, the entries that contain *Poa trivialis* transitioned back to bermuda faster than perennial ryegrass, while at other sites, the opposite was true. This leads us to believe that the transition phenomenon is highly weather and management-related.

**SUMMARY**

Update on second year of low cut trials for Kentucky bluegrass cultivars.

**DATA**

2000-2002 National Kentucky Bluegrass Test. Sites in Colorado, Maryland, Michigan, Nebraska, New Jersey, New York and Wisconsin (study to continue through 2005).

**SOURCE**

Kevin N. Morris, Executive Director of the National Turfgrass Evaluation Program.

**MORE INFORMATION**

[www.netp.org/onsite/ost./htm](http://www.netp.org/onsite/ost./htm), or [kmorris@netp.org](mailto:kmorris@netp.org).

## Low cut trials of Kentucky bluegrass

There is increased interest again in the use of Kentucky bluegrass for fairways and tees. To address this need, several locations of the 2000 National Kentucky Bluegrass Test are being maintained with a low height of cut. Seeded in fall 2000, these trials are mowed at 1 inch or less (most are maintained at 1/2 - 3/4") with 3 - 4 lbs. of nitrogen applied per 1,000 sq. ft. per year and irrigated to prevent dormancy. Trial locations include universities in Fort Collins, Colo.; College Park, Md.; E. Lansing, Mich.; Lincoln, Neb.; New Brunswick, N.J.; Ithaca, N.Y.; Brookings, S.D. and Madison, Wis.

Turfgrass quality data collected in 2001 reflected establishment rate as well as the ability to tolerate a low height of cut. In data averaged over seven of the

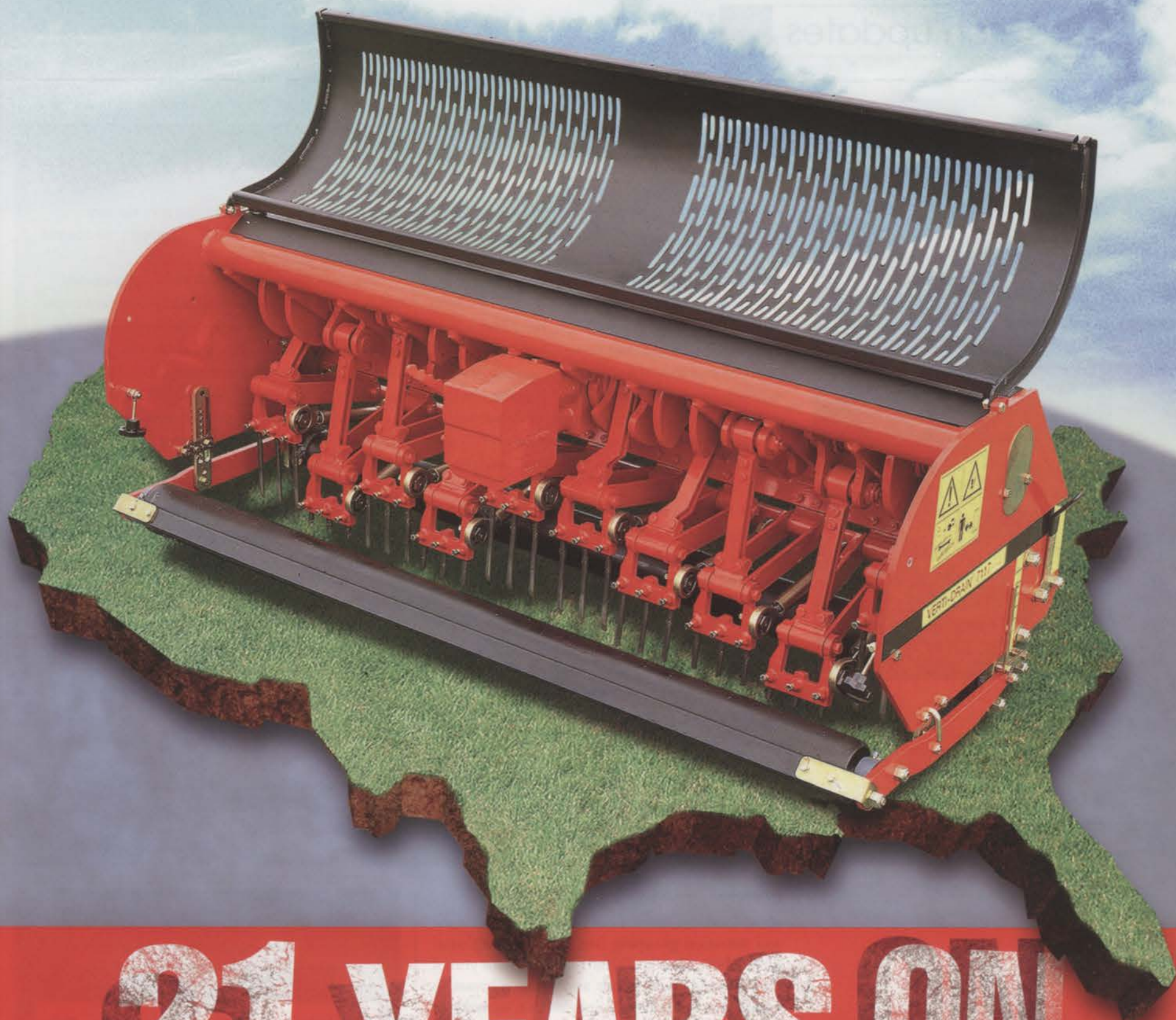
(continued on page 56)

TABLE 2.

Kentucky Bluegrass Cultivars in the top statistical grouping in both 2002 and 2003 at low height of cut NTEP locations

Bedazzled
Midnight II
Impact
J-1838
Award
Princeton 105





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USE READER SERVICE #27



**SUMMARY:**

New selective herbicide options for rough bluegrass control

**DATA:**

Summer 2002 and 2003 studies on several cultivars of *Poa trivialis* and creeping bentgrass in West Lafayette, Ind. Studies to be expanded in 2004.

**SOURCE:**

Dr. Zac Reicher, turfgrass Extension specialist, Purdue University

**MORE INFORMATION:**

[www.agry.purdue.edu/turf](http://www.agry.purdue.edu/turf) (under annual research reports), or [zreicher@purdue.edu](mailto:zreicher@purdue.edu)

## New control for *Poa trivialis*

There are two basic types of golf courses — those that already have *Poa trivialis* and those that will eventually get it. To find solutions to this significant golf course problem a number of compounds are being tested to determine control.

*Poa trivialis* is often confused with *Poa annua*, but the difference is important because controls for one do not always work for the other. The following are keys to differentiate the two: *Poa trivialis* is a gasoline or metallic green in color, goes dormant in the summer and has no visible seed heads. In contrast, *Poa annua* is an apple green, dies in the summer, and seed heads will be visible.

Field tests were conducted in the summers of 2002 and 2003 for control of *Poa trivialis*. The most promising compound was Battalion, a Monsanto product with the active ingredient sulfosulfuron. Over the course of the summer of 2002, Battalion gave more than 70 percent control.

The next two most positive controls in 2002 tests were TranXit, by Griffin, with the active ingredient, rimsulfuron, which gave 65 percent control; and a single application of Roundup Pro which gave 60 percent control.

Results in 2003 were disappointing due to record rainfall and very cool weather. In these tests Battalion still gave the most effective control, but the control level was only half the 2002 control level, and that was

achieved only after using a 2X rate from the year before. Another factor being investigated is the possible effect of the grass cultivars.

While Battalion is already a registered and labeled product, the manufacturer is delaying commercial sales until further field tests have been done regarding rates, timing and evaluation of a number of other grassy weeds. This summer field tests with Battalion will be done at more than 50 cooperating golf courses. In addition to control of *Poa trivialis*, the evaluations will include control of yellow nutsedge, tall fescue, quack grass and several other grassy weeds. Battalion has not been shown to be effective on established *Poa annua*.

Field tests to date indicate the following program has been the most effective for Battalion: Four-plus applications at 0.02/LB per AI applied at two-week intervals. Three-week intervals could be used if there is concern about turf safety for bentgrasses. There is slight phytotoxicity that must be tolerated, and the reduction of *Poa trivialis* will be gradual. Timing of applications could begin in late April or early May and continue through mid-June.

The active ingredient is also very active on creeping bentgrass in cool weather, such as applications done in mid-October.

Overseeding with creeping bentgrass can begin three weeks after final application, which would enable seeding to begin in August.

(continued from page 54)

above locations, twenty-nine entries finished in the top statistical grouping (see [www.ntep.org/data/kb00/kb00\\_02-1/kb0002t01.txt](http://www.ntep.org/data/kb00/kb00_02-1/kb0002t01.txt)). This first year of data showed some trends and some cultivars to watch, but is not enough information to make an informed cultivar decision.

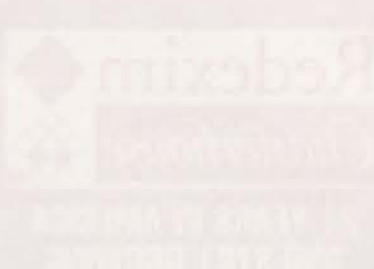
Data from 2002 showed more cultivar separation as all entries were well-established and mature turf stands. Only eleven entries fell into the top statistical grouping in 2002 turfgrass quality data with the commercial cultivar 'Bedazzled' and the experimental entry 'PP H 6366' tied at the top (rating = 6.2) averaged over eight locations (see [www.ntep.org/data/kb00/kb00\\_03-2/kb0003t01.txt](http://www.ntep.org/data/kb00/kb00_03-2/kb0003t01.txt)).

The top statistical group also included 'Impact', 'Princeton 105', 'Award', 'J-1838', 'Langara', 'Midnight II', 'North Star', 'Nu Destiny' and 'Serene' (see Table 1). Only six entries finished in the top statistical group for turfgrass quality averaged over both years of the low-cut trial locations (see Table 2). This trial will continue through 2005, and 2003 data will be released this spring. Consider at least three years of data before making cultivar decisions.

TABLE 1.

Mean turfgrass quality ratings of Kentucky Bluegrass cultivars grown at eight locations in the U.S.

(Low Height of Cut - Top Statistical Group Only)	
Cultivar Name	Turf Quality Data Mean of 2002 (1-9 Scale; 9=Ideal Turf)
Bedazzled	6.2
PP H 6366	6.2
Impact	6.1
Princeton 105	6.1
Award	6.1
J-1838	6.1
Langara	6.0
Midnight II	6.0
North Star	6.0
Nu Destiny	6.0
Serene	6.0
LSD Value	0.2







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**SUMMARY**

Recycling clippings vs. removing them reduces P fertilization requirements.

**DATA**

Tracking soil P over four years on stands of Kentucky bluegrass.

**SOURCE**

Dr. Wayne R. Kussow, Professor of Soil Science at the University of Wisconsin - Madison.

**MORE INFORMATION**

wrkussow@factstaff.wisc.edu.

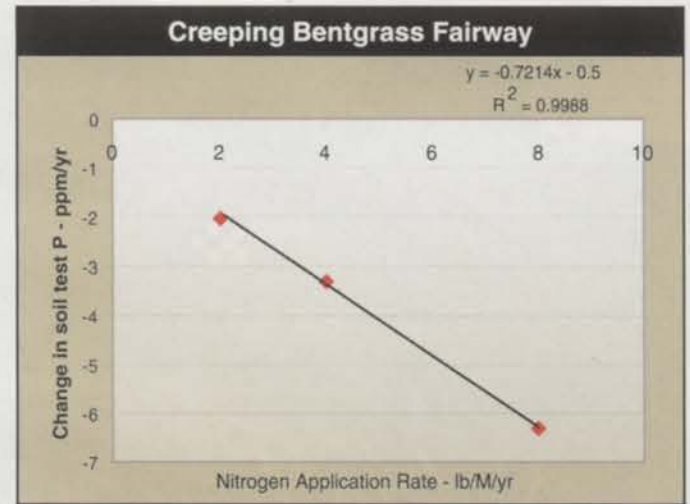
# Managing soil phosphorus

The floodgates are open. Regulation of P fertilizer use on golf courses is no longer a matter of if, but rather when. When this happens, you'll want to be in the position of being able to demonstrate that you're managing soil P wisely.

The key to managing soil P is in knowing how fertilizer P rates influence soil test levels of the nutrient. We don't have this type of information yet for all the conditions one might encounter on a golf course, but I do have some data that should get you started in the right direction.

The first piece of information comes from a stand of Kentucky bluegrass. I tracked changes in soil test P over four years when different quantities of fertilizer P were applied. The relationships I observed between fertilizer P rate and change in soil test are shown in the figures below. Note that in one case clippings were removed and in the other the clippings were recycled.

The key thing to note in these figures is the annual fertilizer P rate that resulted in no change in soil test. This represents the maintenance rate of P — that required to keep soil test P near its current level. As shown, the maintenance rates of fertilizer P were found to be 0.55 lb. P<sub>2</sub>O<sub>5</sub>/M/yr when the

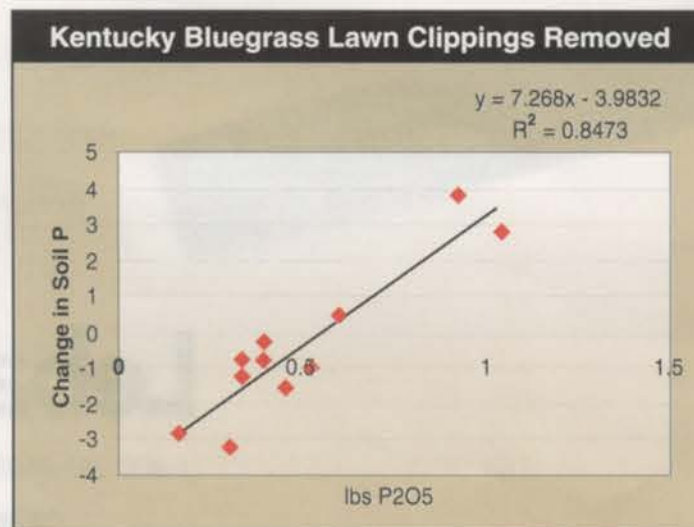
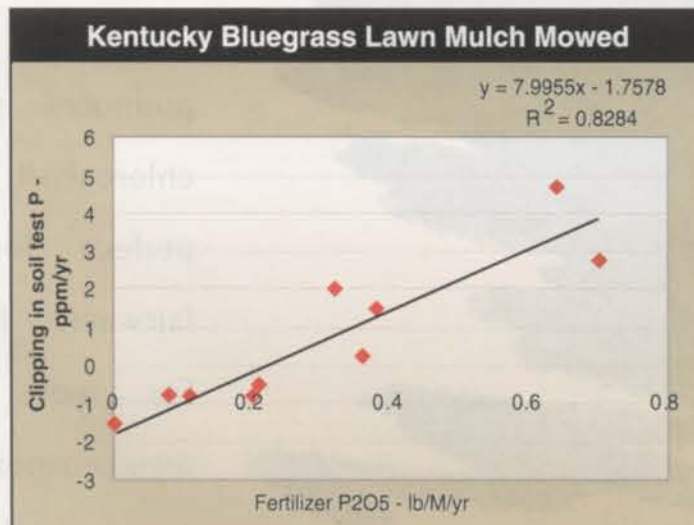


clippings were removed, but only 0.22 lb when the clippings were recycled. The difference, 0.33 lb P<sub>2</sub>O<sub>5</sub>/M/yr represents how much the clippings contributed to soil test on an annual basis.

Knowing the maintenance rate of fertilizer P allows you to make adjustments in your soil test P. Exceed this rate and soil test P can be expected to increase. If your soil test P is excessive, you may elect not to apply any fertilizer P for a while. How long you can go without applying fertilizer P depends how far your soil test P is above the optimum level. You can gauge this by using the equations in the figures. Plug in "zero" fertilizer P<sub>2</sub>O<sub>5</sub> for "X" and you get the expected annual reduction in soil test P. It's essentially a reduction of 4 lb soil test P per year when clippings are removed and 1.8 lb. when they're not removed.

Turfgrass uptake of soil P is regulated by clipping production. The more clippings produced, the more soil P the grass removes. During the growing season we typically encounter periods of heat or moisture stress that curtail turfgrass shoot growth. But over an entire growing season, the controlling factor is your annual fertilizer N rate. This is vividly reflected in the diagram below, where annual reductions in soil test P in a bentgrass fairway were strongly dependent on the annual N rate. This, then, is something you need to factor in when trying to gauge what might be a maintenance rate of fertilizer P for your turf. According to this figure, at an annual N rate of 2 lb/M, where the clippings were removed and no fertilizer P applied, soil test P decreased about 2 PPM. For every additional pound of N applied, soil test P declined another 0.72 PPM.

These numbers give you some idea of how to arrive at ballpark estimates of what may be happening to your soil test P and how you can responsibly use fertilizer P in your management program. I do need to caution you that the numbers given here are for the Bray #1 test for soil phosphorus and for turfgrass grown on a silt loam soil. Applying these numbers to soil P extracted by a different method or to soils of very different texture is not advised. GCN





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## What's new in fairway mowers

### MANUFACTURERS ANSWER DEMAND FOR GREENS-QUALITY CUT ON FAIRWAYS

**M**ore and more, fairway conditions are getting as much attention as greens. On some courses superintendents are aiming for a greens-quality cut and a striking surface appearance. To help accomplish this, mower manufacturers are introducing specialized fairway mowers or enhancing current products.

#### Jacobsen 'super lightweight' fairway mower

The Jacobsen Super LF-1880 aims to

deserve its "super lightweight" designation. At approximately 2,000 pounds, it weighs 400 pounds less than comparable two-wheel-drive models and 500 pounds less than four-wheel-drive mowers, reducing turf compaction.

Jacobsen fairway product manager Larry Jones offers some insight into the concept and design philosophy of the Super LF-1880: "Many courses that want the best quality fairway conditions use triplex greens mowers," he says. "These units are also used to mow landing areas that are

becoming larger and more contoured.

One of the challenges with triplexes in this application is that productivity is reduced because of their 62-inch cut, compared to 100 inches on a standard five-gang fairway mower. Also, triplex mowers and conventional five-gang fairway mowers are outfitted with 22-inch-wide cutting units, which occasionally limit their ability to follow fairway undulations under contoured situations."

With an 80-inch cut, the Super LF-1880 increases productivity compared to



Photo: Jacobsen

Jacobsen's Super LF-1880 has been designed for affordability and versatility. Engineered for fairways, the mower also handles green surrounds and long tee boxes.



triplex mowers, and the 18-inch reels perform better on undulating fairways, he says. The result is a better overall quality finish even under challenging conditions. In addition, an 80-inch-wide cut pattern improves visual aesthetics by adding definition.

"Again," Jones says, "compared to present alternatives, the Super LF-1880 has better productivity (80-inch cut vs. 62 inches) and better performance (18-inch, eight- and 11-blade reels compared to 22-inch, seven-blade reels)."

Joe Alonzi, superintendent of Westchester Country Club, Rye, N.Y., uses five Super LF-1880s on the West Course, which hosts the PGA Tour's Buick Classic.

"The tighter striping looks great on television," he says. "The quality of cut is better than a triplex, and with an 80-inch-wide mower, we can put more stripes in a tighter area compared to a 100-inch-wide fairway mower."

Last year's tournament was hampered by heavy rain. Alonzi says the LF-1880s allowed him to mow the fairways despite the weather.

"Water was shooting out of the cuttings and away from the mower like a boat wake," he says. "There were areas I couldn't walk across without leaving a mark, but the LF-1880s went through without leaving a mark."

Productivity is equally critical to Alonzi.

"We have to have great conditions, but with 45 holes, including a 9-hole executive course, I need more efficiency than I would get with triplex mowers," he says. "Most fairway mowers are too heavy to accomplish what we want, while triplexes require too much manpower. On our 36 regular holes, it took four to five people to mow fairways with triplex units, compared to three with a five-gang unit. Like anyplace else, we have to complete fairway mowing before golfers begin play."

At Arnold Palmer's Bay Hill Club in Orlando, Fla., quality is paramount, with productivity close behind. The maintenance staff uses three Super LF-1880s.

"This mower is the ideal choice for us," says superintendent John Anderson. "Its 80-inch-wide cut gives us the striping look we want. And because this machine is lighter, we can mow in wet conditions and not damage the course."

Anderson says his staff doesn't sacrifice productivity with the Super LF-1880. Because its five reels have a greater frequency of cut than larger mowers, op-

erators can mow at a faster ground speed.

"We mow our fairways in about the same amount of time as we did with larger units," he says, "but we get much better striping with the LF-1880s."

Quality of cut is not an issue. Anderson adds, "The mower's 18-inch reels give us a much better cut going over undulations, compared to a traditional fairway mower with larger reels. The faster reel speed provides a crisper cut."

### Deere command arm provides fingertip control

Superintendents will find increased productivity and operator comfort on John Deere's C-Series lightweight fairway mowers, according to John Deere product manager, Tracy Lanier.

For operator comfort, the command arm on 3225C and 3235C mowers puts the key switch, mow switch, throttle lever and raise/lower lever conveniently at the operator's fingertips. The patented "white box" controller is easily viewed from the operator's seat. The controller also offers quick, on-board electrical diagnosis for less operator downtime.

Additionally, a new hood constructed of strong, flexible composite material improves the appearance, sound level and durability of both machines.

Other improvements include:

- The 3225C is equipped with a three-cylinder, 38.5-hp, liquid-cooled diesel engine. It comes with a standard 22-inch, seven-blade cutting unit, or it can be specified with a 22-inch, five- or eight-blade Extra Strength Precision (ESP) units.

- The 3235C is equipped with a three-cylinder, 48.5-hp, liquid-cooled turbo-charged diesel engine. It can use the seven-blade, 22-inch standard or five-, eight- or 10-blade, 22-inch ESP cutting units.

- A large-capacity oil cooler is standard on all C-Series models. This feature is ideal for heavy-duty mowing conditions with high ambient temperatures, or when operating under heavy loads, such as verticutting or scalping for overseeding.

- Maximum mowing speed for both models is seven mph with a transport speed of 11 mph.

- Both models have an 18-gallon fuel capacity for all-day operation.



Increased productivity and operator comfort are the leading enhancements to John Deere's C-Series lightweight mowers.

- Mowing width of the new 3225C and 3235C is a productive 100 inches.

- An increased number of hard lines in the hydraulic system reduce the possibility of leaks.

- The cutting units on C-Series mowers are lifted and lowered by a single-lever joystick.

- Both units come with standard 50-watt Halogen headlights and tilt steering.

- Both models are available with optional cruise control and 4-wheel drive.

"We are committed to being on the leading edge of technology," says Lanier. "More demands are being placed on superintendents, and they want the latest features so their courses can look their best and their staff can be productive."

The Atlanta Athletic Club, Duluth, Ga., has been using the 3235B fairway mower for several years. The Highland Course hosted the 2001 PGA Championship. Superintendent Ken Mangum says several individuals have input on equipment purchases.

"The people who drive the mowers and work on them every day have a significant impact on what we buy," he explains. "Price is important, unless it is outweighed by a mower that isn't comfortable for operators to use, or easy for technicians to work on. Finally, a manufacturer can have a great piece of equipment, but if we can't get parts in a timely manner, we won't buy that mower."

Mangum says his John Deere fairway





Toro offers turf groomers on its 7-inch diameter fairway cutting units (top unit). Toro's optional powered rear roller brushes (lower) minimize unsightly grass clippings on fairways.

Photo:Toro

mowers deliver a quality cut, are dependable and easy to service.

"The number of years we have been using these mowers speaks to our satisfaction with them," he says. "We have to have backup for our equipment. The parts availability and service support we get from our dealer are superior to anything else we've experienced."

## Turf groomers are an option on Toro fairway mowers

Turf groomers are generally recognized as a device to increase green speed without lowering the height of cut. An additional benefit groomers provide on all surfaces is healthier turf. Toro now is offering turf groomers on its seven-inch diameter fairway cutting units.

Prior to turf groomers, many superintendents used verticutters to reduce thatch buildup and cut horizontal runners choking turf. Unfortunately, verticutting knives slice deeply into the turf, taking up to 30 days to completely heal.

On the other hand, a turf groomer's powered vertical knives rotate through closely spaced roller slots to remove thatch and cut horizontal runners, exposing the growth zone to more air, light, water and nutrients. The action of the turf groomer promotes a healthier, deeper root system and helps smooth out irregularities in the turf. The depth the knives penetrate the turf is fully adjustable to prevent turf damage while providing light aeration to the soil. The turf groomer's short roller base closely follows ground contours to deliver maximum results.

Toro's optional turf groomer:

- Attaches to all 03860, 03861 and 03862 cutting units used on Reelmaster 5500, 6500 and 6700 fairway mowers.
- Features tool-less engagement into

the grass and the raised position.

- Are adjustable to 3/16-inch below height of cut.
- Powers off the reel spinning in the same direction for optimal lift and quality of cut.
- Can be used with or without the Powered Rear Roller Brush Kit, Model 03876.

## Powered roller brushes fine tune fairways

Toro's optional powered rear roller brushes minimize unsightly grass clumping on fairways. Since most courses are mowed in the morning when grass tends to be wet, clippings naturally stick to rollers and build up. Then, when rollers are scraped, the sticky grass drops off in big clumps. By sweeping the rear rollers of Reelmaster units while mowing, these brushes remove grass clippings and disperse them more loosely. That's a big advantage because with roller brushes operators won't waste time and effort breaking up grass clumps left behind on fairways.

The brushes also make a big difference with other sticky substances on rollers such as bird droppings or tree seeds.

Tom Fischer is superintendent of Edinburgh USA Golf Course in Brooklyn, Minn. He says the brushes make a difference on his course.

"We don't have the clumping that we used to," he explains, "and our fairways look a lot cleaner."

Besides, an improvement in the appearance of his course, Fischer points out that the trouble-free roller brushes have cut down on his labor demands.

"We don't have to go out and pick up clippings," he says. "That was our alternative to keeping the grass off the fairways. Sometimes we even had to use a blower to

break up grass clumps."

## Easy installation

The brushes are easy to install and operate. They use a reliable belt-driven system that is powered off the reel. Simply plug a brush into the driver on the end of the shaft and adjust it when the mowers are set up. The brushes work through a range of height of cuts, so fairways are always covered.

"The power brush attachment kit is quite economical, especially when you compare it to the labor you save on clump removal and after-cut maintenance," says Toro marketing manager Tony Ferguson. "Many superintendents are familiar with power brushes for dispersing grass clippings with greens mowers, so the concept is a proven one. Used in combination with turf groomers, superintendents can make their fairways as beautiful and playable as their greens."

## National Mower introduces triplex mower

Designed with a low center of gravity and a heavy-duty front end, National Mower's 8400 hydrostatic triplex mower tackles hills, slopes, banks and edging. The mower's hydrostatic drive provides independent reel and ground speeds for an ideal cut at various speeds. Electric reel clutches turn on and off all three cutting reels simultaneously for added safety.

The 8400 includes power steering for extra control while trimming difficult areas or negotiating tight corners. The mower is powered by a 16-hp Briggs & Stratton Vanguard engine and has an 84-inch width of cut that covers 3.5 acres per hour. GCN



Designed with a low center of gravity and a heavy-duty front end, National Mower's 8400 hydrostatic triplex mower is designed to tackle the most difficult slopes, bands and edges.

Photo:National Mower



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### MarkSmart Golf Flag System

The MarkSmart Titanium Series Golf Flag system features a two-tone design with titanium-colored ribbing and web sleeve. The design allows application flexibility and flags come standard in solid colors, diagonals or checks. The Shakespeare 1/2-in. Flagstick holds the DELRIN Flag Ferrule. The system includes the new White Metal Golf Cup, and a chrome-coated zinc casting with polycarbonate crowns. **Circle 201 on reader service form**



### Custom Bridge Kits

Bridge kits from Custom Manufacturing, are designed to your specifications. Styles include flat to arched, with horizontal or vertical railings, or just a curb. Kits can be fabricated to fit existing footings. The bolt-together construction allows removal. Steel I beams are pre-drilled for deck planks, post and cross members. The lumber is arsenic-free, pressure-treated wood and all steel parts have a red oxide primer.

**Circle 202 on reader service form**



### John Deere ZTR Mower

John Deere's 717A and 727A Mini-Frame Z-Trak ZTR commercial mowers feature maximum maneuverability. Both models feature a vacuuming action that lifts grass for cutting. The 717A model has a 19-hp, vertical air-cooled Kawasaki gas engine with a 48-in. 7-IRON deck. The 727A model is powered by a 23-hp, vertical air-cooled Kawasaki and mows with a 54-in. deck.

**Circle 203 on reader service form**



### Q-Star Technology FlashCAM

Q-Star Technology's FlashCAM-530 system deters graffiti and vandalism. The battery-powered unit can be mounted on buildings, poles or trees. A motion-triggered device operates in total darkness to a range of 100 feet. When triggered it takes a series of 35 mm photographs while flashing a series of lights. A customizable voice message warns intruders of prosecution.

**Circle 204 on reader service form**



### Advanced Aer Aerators

Advanced Aer's aeration products feature a new temperature sensor located in the blower vault to provide improved average oxygen readings for the entire green. Water separator and blower motor vaults have been upgraded from plastic to stainless steel for increased durability and better sealing. Its control system now features digital satellite communications between control towers on the course and a central controller.

**Circle 205 on reader service form**



### Krogmann Flatbed Attachment

Krogmann's new Carry-all Flatbed Attachment can be used with most balebeds. The cradles feature carry and dump positions.

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### Snapper Fastback with Joystick Control

The newest commercial Snapper ZTR features a joystick control, 23- or 25-hp Kohler engines, independent hydrostatic drive systems and a 7-gauge steel mower deck. The mowers come with two 6-gallon fuel tanks and a choice of 52- or 61-in. mower decks. Circle 207 on reader service form



### IFH Storage/Dispensing System

IFH Group's Innovative Fluid Handling Systems Storage & Dispensing System features eight 65-gallon containers, drip pans to contain spills, self-closing faucets and timer shut-offs.

Circle 208 on reader service form

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### Echo CS-305 Chain Saw

The new CS-305 Chain Saw has a 30.1cc two-stroke engine and Pro-fire ignition system. An adjustable oiler automatically lubricates the bar and chain according to engine speed. The 7.8-lb. unit is equipped with a vibration-reduction system. Circle 209 on reader service form



### Midsota Grounds Keeper Series

The Grounds Keeper GF10 has a 12,000 lb. capacity and a 2,000 lb. jack. Its 6-ton hoist features a low deck height, flared 10-gauge steel sides and a dump-over gravel plate. It has a tubular steel frame and a heavy-duty 3/16 steel floor. Circle 210 on reader service form



### EarthQuake Rotary Turf Decompactor

The EarthQuake model T155 has a 62 in. working width for four-wheel drive tractors with 35 to 50 hp. It is designed to relieve root-zone and sub-soil compaction to depths of 10 inches without causing disruption to the playing surface above.

Circle 212 on reader service form

### Glenmac Box Rakes

Glenmac's new MX7 and MX8 Harley Power Box Rakes feature increased frame strength and added dual hydraulic cylinders for enhanced angling ability to accommodate the more powerful wheel and trac skid steer loaders.

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### Glenmac Hi-Lift/Picker

The new Harley Model 'B' Hi-Lift/Picker by Glenmac is designed for large-capacity stone removal with tight-turning maneuverability. It can pick stones, roots and trash that measure 1/2 in. to 18 in. in diameter. The Hi-Dump model lifts to 8 ft. with a 1 cu. yd. box. The Side Delivery model elevates to 10 ft.

Circle 213 on reader service form



### Vanguard Commercial Power

The new Briggs & Stratton air-cooled Vanguard 35HP is a V-twin engine with OHV technology. Steel-backed aluminum bearings, a cast-iron sleeve and industrial-grade solenoid shift starter motor provide durability. A 5-in. centrifugal multi-stage industrial air cleaner protects the engine from dust and dirt.

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- 25-Hotel/Resort
- 26-Par3/Executive Golf Course
- 27-Practice Facility
- 29-Other Golf Course
- 30-Golf Course Management Company
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- A-Golf Course Superintendent
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- E-General Manager
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**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
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- 3-Approve equipment for purchase

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- 1-Less than \$50,000
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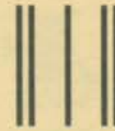
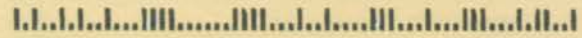


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### Designer Golf Company Signs

Designer Golf's new weather-resistant stainless steel signs do not corrode, pit, patina or rust and can be cut to any shape or size. Graphics and text, transferred to the metal through a proprietary process, eliminate limitations in detail.

Circle 215 on reader service form



### Reelcraft DGM Series Syringing System

The DGM Syringing System is installed underground in a high-density polyethylene vault. Designed to be located next to greens, it features a 6-in. diameter cover plate for access to 75 feet of 3/4 inch hose or 100-feet of 5/8-inch hose.

Circle 217 on reader service form



### Smithco Sweep Star

Model 7-600 ground level dump and Model 7-800 high-lift dump remove aeration cores, thatch debris, grass clippings, leaves and divots from formal and semi-formal turf. The hydraulic drive has a 48-in. sweeping head fitted with 4 nylon brush sections and a full-width rear roller.

Circle 218 on reader service form



### Tru-Turf Greens Roller

The GR11000 Golf Greens Roller is a sideways moving roller with an 5.5 HP, 4-stroke Honda engine, coupled to an Eaton 11 Hydrostatic Transmission. The GR7000 has an Eaton 7 Hydrostatic Transmission and a single drive chain.

Circle 221 on reader service form.



### Rain Bird EAGLE Rotor Series

The EAGLE 900 and 950 rotors handle pressure from 60 to 100 psi and are available in electric, hydraulic and Stopmatic models. The 900 unit has a radius of 63 to 91 feet. The 950 unit has a radius of 70 to 92 feet. The nozzle pop-up height for both is 3.25 in.

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### Proforma Blue Label/Gold Label

The new Proforma Blue Label, Turf and Soil Penetrant, reduces the effects of localized dry spots while reducing watering requirements. Proforma Gold Label is formulated for long-term use by altering water droplet properties and enhancing the soil moisture content.

Circle 219 on reader service form



### Bobcat Toolcat 5600

Bobcat's Toolcat 5600 functions as a loader, pickup truck and attachment carrier. It comes with all-wheel steering, four-wheel drive and a wide assortment of attachments. It has a rated operating capacity of 1,500 lbs., a cargo capacity of 2,000 lbs. and a 4,000-lb. towing capacity. Top travel speed is 18 mph.

Circle 220 on reader service form







### Shindaiwa Trimmer

The T2500 and the T2500X trimmers from Shindaiwa are designed for quick throttle response and better torque under load. The T2500X comes with a barrier bar, debris shield, blade holder and shoulder strap. Both models meet 2005 EPA standards. Circle 222 on reader service form

### All Pro Putting Greens

All Pro Greens are made with ultra-violet-treated polypropylene fiber to withstand weather. The turf is filled with top dressing, such as Black Beauty coal slag, to control speed.

Circle 223 on reader service form



### Pennington Synthetic Golf Surfaces

The Pennington Synthetic Golf Surface is designed to perform like bentgrass or Bermuda grass on tees and greens. The speed of the sand-filled surface can be adjusted by bending or straightening the fibers of the surface.

Circle 225 on reader service form



### Southern Green Soil Reliever

The Model 54 Soil Reliever attaches to small tractors and aerifies with solid or coring tines. Lighter construction allows for faster deep-tine aeration. The unit weighs 928 lbs., has a working width of 54 in. and an adjustable working depth of 1 to 10 in. Circle 224 on reader service form

### UltraTech Containment Sump

The new Ultra-550 Containment Sump captures spills and leaks from 500- and 550-gallon fuel and oil tanks. An optional Ultra-SelfBailer is available for outdoor containment. All-polyethylene construction prevents corrosion and rust and a 650-gallon capacity meets Stormwater, SPCC and EPA containment regulations.

Circle 226 on reader service form



### Ferris ProCut 20

The Ferris ProCut 20 offers two deck sizes and either a 20-hp Briggs Vanguard V-Twin engine or a 23-hp Kohler V-Twin. Features include an electric deck lift, oversized fender for operator foot protection, roller chain steering with bearings at the tail wheel and a six-gallon fuel tank with an extra large filler neck.

Circle 227 on reader service form



### Polaris Professional Series Pump

The Polaris P305 Professional Series Pump is a lightweight, compact unit featuring self-priming pump and ceramic carbon seals. Designed for flood control and irrigation, its maximum delivery volume is 264 GPM.

Circle 228 on reader service form



### Backhoe Lock

Equipment Lock's Backhoe Lock fits all backhoes and many rollers, articulating loaders and other equipment to deter theft.

Circle 229 on reader service form







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# Everything I needed to know about life...I learned playing golf!

## honesty

1. *Honesty is the quality or state of being truthful, not deceptive.* **Golf** is unique from other sports in that players regularly call penalties on themselves.

## integrity

2. *Integrity is strict adherence to a standard of value or conduct; it's personal honesty and independence.* **Golf** is a game of honesty, etiquette and composure. You are responsible for your actions and personal conduct on the golf course.

## sportsmanship

3. *Sportsmanship is observing the rules of play and winning or losing with grace.* You must know and abide by the rules of **Golf** and be able to conduct yourself in a respectful manner.

## respect

4. *Respect is to feel or show deferential regard for others.* In **Golf** it is important to show respect for yourself, your partners, your opponents and the golf course, as well as for the honor and traditions of the game.

## confidence

5. *Confidence is reliance or trust; it is a feeling of self-assurance.* Confidence plays a key role in the level of play that you achieve. You must have confidence in your abilities every time you play **Golf**.

## Building golf and a better tomorrow

**G**olf is fun. It also can teach youth about character development, success and life. That's the premise of The First Tee, a non-profit initiative of the World Golf Foundation. Since 1997, more than 280,000 children between the ages of five and 18 have participated in The First Tee instruction and play. Most of these children are economically disadvantaged, girls and minorities - those most under-represented in golf. As an integral part of the game, these children learn the First Tee's Nine Core Values: honesty, integrity, sportsmanship, respect, confidence, responsibility, perseverance, courtesy and judgment.

The goal of The First Tee is to reach 500,000 kids by 2005. To do this The First Tee is expanding beyond its 136 facilities in the U.S. - mostly three-, six- and nine-hole courses, and partnering with existing golf courses under a new affiliate program to expand access. Supporters of The First Tee include the USGA, the Augusta National Golf Club, LPGA, PGA of America and more than 70 LPGA and PGA Tour players. Individual golfers also support this worthy cause through donations of time, money and golf equipment. For more information visit [www.thefirsttee.org](http://www.thefirsttee.org) or call call 904-940-4305.

## responsibility

6. *Responsibility is accounting for one's actions and being dependable.* In **Golf**, you are responsible for yourself and your actions on the golf course. It's up to you to keep score, repair divots, rake bunkers, repair ball marks on the green and keep up with the pace of play.

## perseverance

7. *Perseverance is to persist in an area, purpose or task despite obstacles.* To succeed in **Golf**, you must learn to persevere through bad breaks and your mistakes.

## courtesy

8. *Courtesy is considerate behavior toward others. It is a polite remark or gesture.* A round of **Golf** should begin and end with a handshake between fellow competitors. Show courtesy toward others by remaining still and quiet while they prepare and execute a shot.

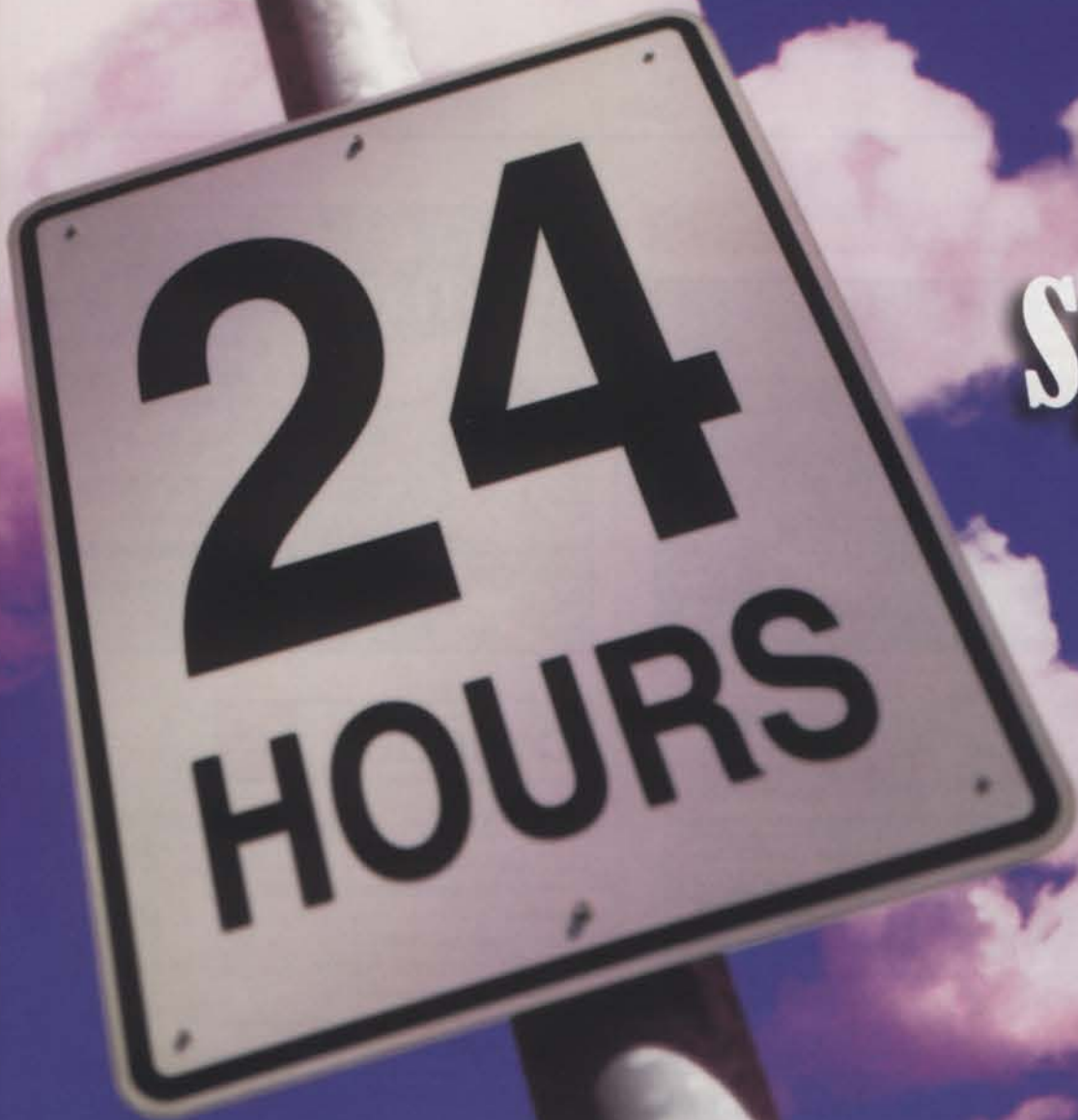
## judgement

9. *Judgment is the ability to make a decision or form an opinion.* It is a decision reached after consideration. Using good judgment is critical in **Golf**. It comes into play when deciding on strategy, club selection, when to play safe and when to take a chance, the type of shot you consider executing, as well as understanding and abiding by etiquette.



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