

July 2005

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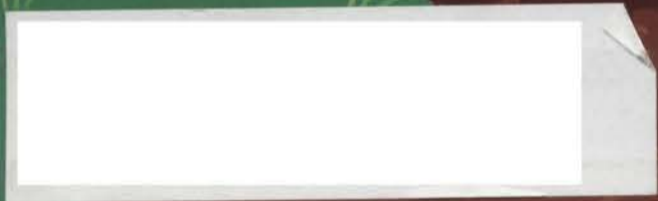
# GOLF

## COURSE NEWS

Serving the Business of Golf Course Management

### IN THIS ISSUE

SOIL TESTING • TOURNEY PREP  
TOPDRESSING • ENVIRONMENTAL REGULATIONS



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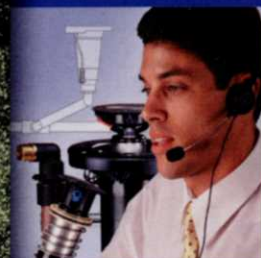


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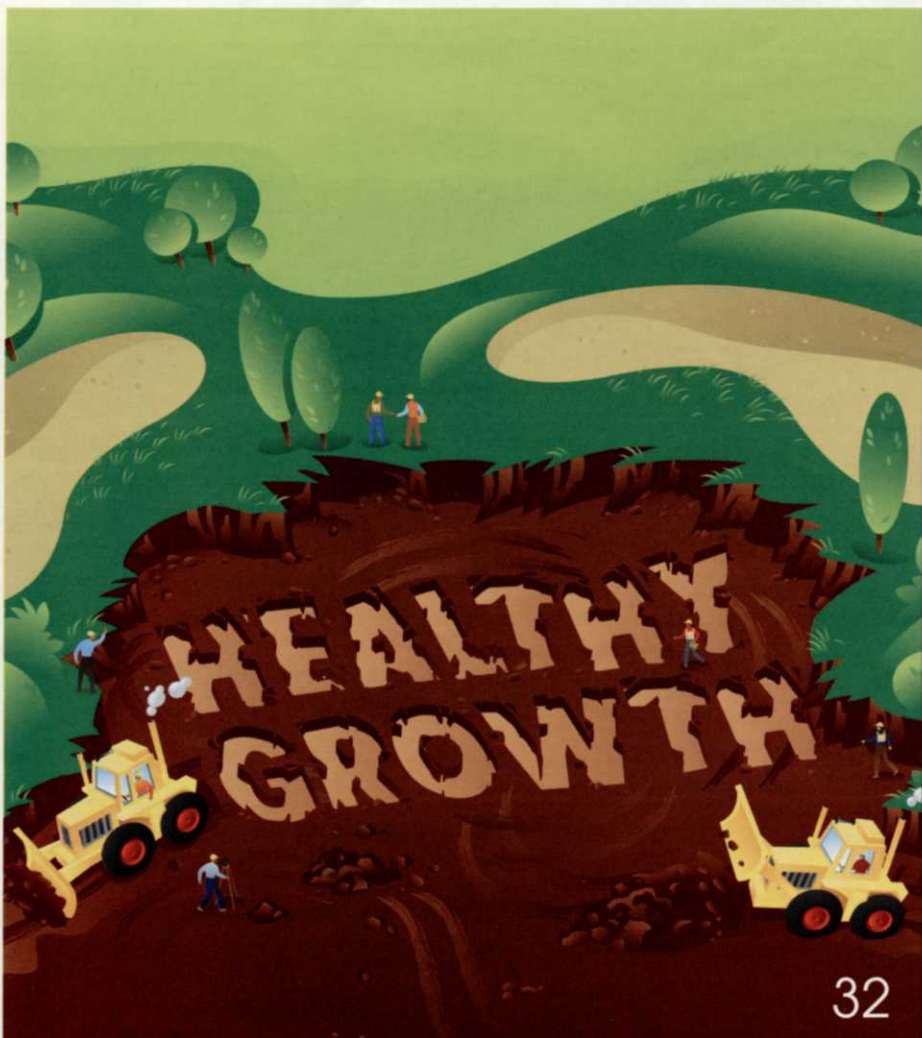
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32



55



36

Development update: feature

# HEALTHY GROWTH

**32** Builders and architects are keeping busy despite a slowdown of golf course development.

Course management: Q&A feature

**28** **FAR AND AWAY**

GCN interviews Louise Lam, golf course superintendent at Tianjin Warner International Golf Club and finds out what it's like to be a superintendent in China.

Design case study: feature

**36** **OUT FROM UNDER WATER**

Flooding delays the opening of White Clay Creek Country Club in Wilmington, Del., and spurs design changes to the course.

Course management: feature

**40** **PREP TIME**

The extra effort and hours logged by superintendents and their staffs lead to better experiences come tournament time.

Nutrient management: feature

**46** **SOIL TESTING TAKES CENTER STAGE**

Environmental issues increase awareness of soil fertility and nutrient imbalances in turfgrass.

Turfgrass maintenance: feature

**52** **AN AGE-OLD PRACTICE**

Topdressing materials and methods evolve and change.

Environmental regulations: feature

**55** **BECOMING ENGAGED**

Superintendents need to be more active politically to help prevent unnecessary pesticide regulations.

Cover illustration by Chris Musselman.

**EDITORIAL MISSION STATEMENT:**

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



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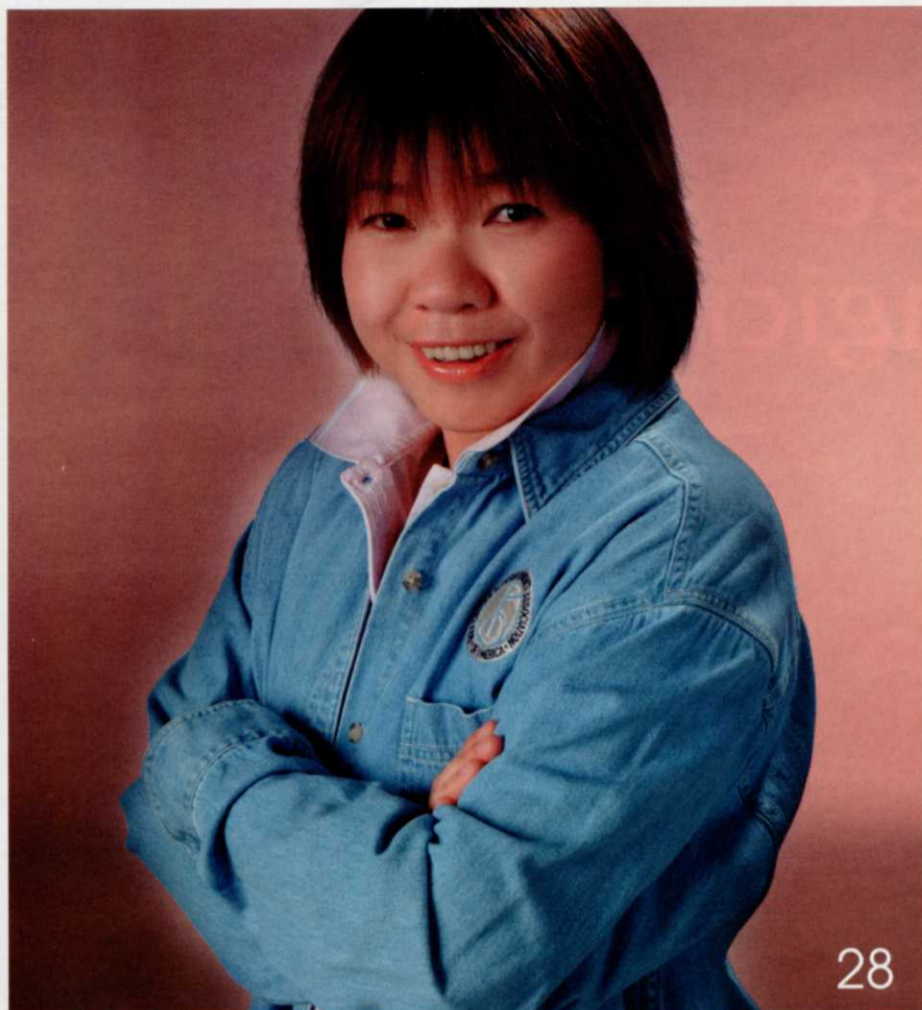
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28



40



52

**Departments:**

- 8 EDITORIAL**  
Part of the future
- 9 LETTERS TO THE EDITOR**
- 10 RESOURCES**  
Calendar of events, books and Web sites
- 11 INDUSTRY NEWS**  
Association, course and personnel news
- 26 FINAL ROUND**
- 58 TRAVELS WITH TERRY**  
Equipment Ideas
- 60 PRODUCTS**
- 60 ADVERTISING INDEX**
- 61 CLASSIFIEDS**

**Columnists:**

- 22 MARKETING YOUR COURSE**  
Jack Brennan: Marketing mistakes
- 23 DESIGN CONCEPTS**  
Jeffrey D. Brauer: Course accessibility
- 24 ADVANCING THE GAME**  
Jim McLoughlin: Sabbatical leave
- 25 HUMAN RESOURCES**  
Robert A. Milligan, Ph.D.: Treating performance
- 62 PARTING SHOTS**  
Pat Jones: Dirty little secrets

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**ONLINE-ONLY FEATURES:**

**PHASING IT OUT**

Nemacur is scheduled to come off the market by 2008. If a another nematicide doesn't replace it, superintendents could face additional problems.

**UP THE ANTE**

Bidding intensifies for renovation work because some builders are filling a void of new construction with renovations.

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# PERCEPTION



# REALITY

Some people seem to have the perception that all biological products are a little like snake oil or just "bugs in a jug". And frankly, some of them are. We've tested them. We know.

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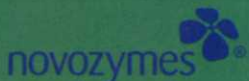


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\*\* Anthracnose control Penn State and Rutgers research trials, 2004.

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John Walsh  
Editor

## Part of the future

**F**armLinks isn't new – OK, it's relatively new – but the equipment and technologies used there are innovative. They represent the future of golf course maintenance.

The folks at Pursell Technologies, the company that runs FarmLinks, call a tour of the facility "The Experience at FarmLinks." The relaxed trip to the remote town of Sylacauga, Ala., is permeated with Southern hospitality. The tour involves golf on a Hurdzan/Fry-designed, links-style course and plenty of interaction with about a dozen superintendents, as well as distributors and suppliers at times. Presentations focus on state-of-the-art technology that will change the way superintendents maintain golf courses.

Forty weeks a year twice a week, Pursell Technologies hosts the three-day experience for superintendents. David Pursell, president of Pursell Technologies, says that since the research facility opened in 2003, about 3,000 superintendents have traveled there to learn about emerging equipment and technologies.

Those new products, which some superintendents might even be using now, help make their jobs easier and help them become more efficient and effective. They include: controlled-release granular pesticides, robotic fairway mowers, electric walk-behind greens mowers, electric triplex fairway mowers, GPS systems that track fleets of mowers, seashore paspalum and zoysiagrass varieties, subsurface soil monitoring and the latest advancements in irrigation technology to name a few.

Getting to FarmLinks seems easy. There's no charge to superintendents to go. Their local distributor pays for the travel to Birmingham, and Pursell picks up everything else. Usually, superintendents are invited by a Polyon or Toro distributor. Occasionally, Pursell will invite some superintendents itself and arrange the trip but prefers when a local distributor is involved.

But superintendents are only half the experience. Even though they're eager to learn about future products and are in charge of buying them, suppliers are the ones who make FarmLinks a truly novel and educational experience for attendees.

Suppliers have proprietary information about what equipment or technology they're working on within their research and development teams. Some suppliers

might be hesitant to show their hand *per se*, however, there's a way to inform FarmLinks and superintendents what they're working on without unveiling too much. It would be in the best interest of suppliers, superintendents and the industry for them to do that to see if their products or technologies could be used at the facility.

The interaction between suppliers and superintendents at FarmLinks is different than say the Golf Industry Show. Although there are fewer products at FarmLinks, superintendents can see how a supplier's product is used in the field in a real-life setting instead of just being showcased in a trade show booth.

There are many suppliers that aren't represented at FarmLinks. Granted, some might not be able to take part in the program because of exclusive contracts, but suppliers, big and small, should find out what it takes to be a part of the FarmLinks operation. If a product of theirs is used at the facility, it would be a coup and a marketing advantage for them.

Pursell Technologies isn't going to single-handedly pick these innovative products either. It's smart about the process and has put together an advisory panel of eight superintendents who will help select the products they think are innovative enough to be used at FarmLinks in the future.

There's a need for superintendents and suppliers to get together more often to talk about golf course maintenance problems and solutions, which is good for both groups. For suppliers, it's an opportunity to hear first-hand from superintendents throughout the country. And for superintendents, it's a chance to receive product and practice input from sources other than the ones they usually use.

So here's to the superintendents who travel to FarmLinks and provide input to help shape the products they'll use in the future. And here's to those suppliers who will be creative and innovative enough to be part of the FarmLinks experience. It will improve their business, assist superintendents with their jobs and help make the industry more fun and exciting. Besides, what supplier doesn't want to be part of the Epcot Center of the golf course maintenance world? GCN

*John Walsh*

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



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### Keeping *Poa annua* out

I read Kevin Ross' article "Analyzing a nemesis" (page 40 in the March issue). I completely agree with the gist of his greens management program. It works. During the 1970s, I employed the same approach at Pasatiempo in Santa Cruz, Calif., and most recently have directed a similar program being used by the city staff at the newly renovated Harding Park Golf Course in San Francisco.

In the case of the latter, the greens at Harding remain 100-percent pure bentgrass after more than two years since establishment. I credit Roy Goss, Ph.D., of Washington State University in the 1960s and '70s for laying the program foundation. Goss was a genius who manipulated a subtle, natural weakness in *Poa annua* as a pest-control mechanism. He advocated spoon feeding nitrogen in foliar sprays with high levels of iron (bents naturally have a slightly higher tolerance of high iron levels than *Poa annua*). Here's the approach I advocate, which is in lock step with what Ross wrote:

- Frequent, light foliar applications of nitrogen with chelated iron – Goss used iron sulphate. A synergistic plant uptake is enhanced;
- Light, frequent sand topdressing (dusting) – the work of John Madison, Ph.D., at UC Davis and the efforts of Jack Butler, Ph.D., at Colorado State in the 1960s;
- Light, frequent overseeding with selected bent varieties – always use two to avoid monoculture populations for natural diversity pest protection;
- A solid regime of cultural practices as required to physically manage root profile, salts, percolation, etc., (coring, sanding, light vertical mowing);
- The key is irrigation management – keep the fingers off the water button to encourage deep rooting. Cycle wetting and drying, deep watering like nature;
- Keep phosphorus levels at a bare minimum (near starvation levels) to discourage seed head (flowering) production of *Poa annua*;
- Keep pH in a range of 5.5 to 6.2 using a rotation of basic and acidifying soluble fertilizer (i.e., calcium nitrate and potassium nitrate for basic, ammonium sulphate and urea for acidic). I give Jon Scott, vice president of Championship Agronomy for the PGA Tour, credit for the aspect of pressing to keep pH low; and
- Daily hunting (scouting) to hand pick *Poa annua* out of greens (by cup changer

– only takes two to five minutes per green).

In two years at Harding Park, with the Dominant X-treme blend of varieties Providence and SR1119, we've been 100-percent effective keeping *Poa annua* out. Additionally, we have seen little pest activity, have spot sprayed a minor outbreak of Necrotic ring spot about 15 months ago and only had to apply Heritage once last fall for a beginning manifestation of take-all patch.

Jim Prusa

Director of agronomy  
Harding Park Golf Course  
San Francisco

### Instruction improvement

I enjoyed Jim McLoughlin's column "Golf's driving engine" (page 24 in the May issue). He's right on with his observations and comments.

Golf professionals must continue to excel and lead in golf instruction as part of our qualifications and expertise, and tools are important to continue that leadership and continued growth. Golf professionals are so burdened today with budgets, revenue development and cost minimization that we sometimes fail to recognize that one of our original professional services is golf instruction, along with playing the game of course.

His column stresses the importance of golf professionals in the industry as leaders in golf instruction as part of our professional responsibility.

The statistics piece is a tool that will add to golf professionals' methods of helping golfers improve and recognize their abilities, as well as adding another component to the game that will create interest for golf consumers. Everyone desires to compete, be entertained and compare, and this tool will bring that as a dimension to the game.

Tom Addis

Past president of the PGA  
President  
Medallion Golf  
San Diego

### Correction

The photo of the Cushman in the Travels with Terry column on page 60 of the March issue was inadvertently used. It doesn't accompany the text about the pump. GCN

### Readers with comments are invited to write to:

GCN letters to the editor  
4012 Bridge Ave.  
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Letters can also be  
faxed to 216-961-0364  
or e-mailed to  
jwalsh@gie.net.  
Letters might be edited  
for space or clarity.



## Calendar of events

**July 13-27**

### **Invasive Plant Identification and Control**

Chicago Botanical Gardens  
Glencoe, Ill.  
Contact Trish Burns at 847-835-6928 or visit [www.chicagobotanic.org](http://www.chicagobotanic.org).

**July 26-29**

### **Turfgrass Producers International 2005 Summer Convention and Field Days**

Grand Summit Resort Hotel  
Park City, Utah  
Call 800-405-8873 or visit [www.turfgrassod.org](http://www.turfgrassod.org).

**July 28**

### **ITI/ISU Extension Field Day**

ISU Turfgrass Research Station  
Ames, Iowa  
Call 800-605-0420 or visit [www.iowaturfgrass.org](http://www.iowaturfgrass.org).

**Aug. 1**

### **Western Washington GCSA Fifth Annual Equipment Field Day**

Glendale Country Club  
Call 360-705-3049 or visit [www.wwgcsa.org](http://www.wwgcsa.org).

**Aug. 9**

### **Western Washington GCSA OSU/WSU Turf Field Day**

Corvallis, Ore.  
Call 360-705-3049 or visit [www.wwgcsa.org](http://www.wwgcsa.org).



**Aug. 10-14**

### **Golf Course Builders Association of America's Summer Meeting**

Hyatt Regency Jersey City (N.J.)  
on the Hudson  
Call 402-476-4444 or visit [www.gcbaa.org](http://www.gcbaa.org).

**Aug. 17**

### **University of Rhode Island's 74th Annual Turfgrass Field Day**

Skogley Turfgrass Research Farm  
Kingston, R.I.  
Call 401-874-2755 or e-mail [brownreb@mail.uri.edu](mailto:brownreb@mail.uri.edu).

**Sept. 6-9**

### **RISE 15th Annual Meeting**

The Ritz-Carlton, Lake Las Vegas  
Call 202-872-3860 or visit [www.pestfacts.org](http://www.pestfacts.org).

**Oct. 14-16**

### **International Lawn, Garden & Power Equipment Expo**

Kentucky Exposition Center  
Louisville, Ky.  
Call 800-558-8767 or visit [www.expo.mow.org](http://www.expo.mow.org).

**Oct. 19-20**

### **Turfgrass, Landscape and Equipment Expo**

Fairplex  
Pomona, Calif.  
Call 800-500-7282 or visit [www.turfcouncil.org](http://www.turfcouncil.org).

**Nov. 15-17**

### **NYSTA 2005 Turf and Grounds Expo**

Riverside Convention Center  
Rochester, N.Y.  
Call 800-873-8873 or visit [www.nysta.org](http://www.nysta.org).

**Nov. 15-17**

### **Penn State Golf Turf Conference**

Nittany Lion Inn  
State College, Pa.  
Call 814-238-2402 or visit [www.paturf.org](http://www.paturf.org).

**Jan. 10-12, 2006**

### **Eastern Pennsylvania Turf Conference and Trade Show**

Valley Forge Convention Center  
King of Prussia, Pa.  
Call 814-238-2402 or visit [www.paturf.org](http://www.paturf.org).

**Jan. 26, 2006**

### **Northeastern Pennsylvania Turf Conference and Trade Show**

The Woodlands Inn and Resort  
Wilkes-Barre, Pa.  
Call 814-238-2402 or visit [www.paturf.org](http://www.paturf.org).

## Books

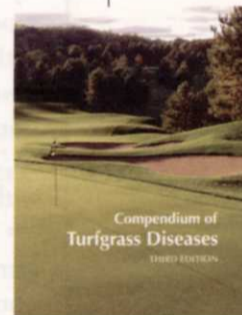
Compendium of Turfgrass Diseases, 3rd Edition, is a reference for the treatment of turfgrass diseases. Recent advances in turfgrass pathology have been incorporated in this updated edition. The book is devoted entirely to the diagnosis and control of about 80 specific diseases affecting grasses

maintained on golf courses, residential and commercial lawns, sod farms, and other areas. It's intended to serve as a general and practical reference for anyone involved in maintaining fine turf. Those who have little training in plant pathology or plant pathologists

who are inexperienced in diagnosing turfgrass diseases will find this reference useful because it combines descriptive language with clear, concise terminology of plant pathologists.

Accompanying dichotomous keys for select grasses and pathogens enable readers to accurately identify grasses and pathogens to species, as well as identify turfgrass diseases by environmental parameters, symptoms and signs.

For more information, call 800-328-7560, e-mail [aps@scisoc.org](mailto:aps@scisoc.org) or visit [www.shopapspress.org](http://www.shopapspress.org).



## Web sites

Golf course designer Thomas McBroom Associates launched a Web site ([www.thomasmcbroom.com](http://www.thomasmcbroom.com)) that includes news, photos and information about courses being unveiled in Canada and throughout the world, along with projects in progress.

Contact Rob Thomas, associate editor, at [rthomas@gie.net](mailto:rthomas@gie.net) or 800-456-0707 to submit resource information.



# Gene flow, confinement discussed at symposium

by PETER BLAIS

New Haven, Conn. – Genetically modified grass, which many believe could become a major source of golf course turf, was the topic of a symposium, “Gene Confinement for Genetically Modified Grasses,” at Yale University.

Government, university and private-sector researchers from throughout the country discussed the controversial issues about the testing and production of genetically engineered grasses and how to avoid their spread to areas where they’re not wanted. Specifically, the concept of gene confinement and gene flow for genetically modified grasses and mechanisms for gene confinement were discussed.

“This is a major issue that must be resolved,” says Joe Duich, Ph.D., professor emeritus from Penn State University. “I hope it will be resolved on a technological rather than political basis.”

## Genetic restriction

Harry Collins, Ph.D., vice president of technology transfer at Delta and Pine Land Co., is responsible for intellectual-property issues and is working with Syngenta on an insect-resistance trait. Collins discussed the politics of genetic use restriction technologies, which is defined as methods that regulate gene expression. GURTs can be seen as a mechanism that occurs naturally in any organism, not as a domestication of the regulation of gene expression. Plant breeders have, until now, focused their activity on the introduction and recombination of genes. GURTs will allow them to work on the expression or nonexpression of genes at any stage of crop development or generation. Some potential applications of GURTs could be:

- Increased production of specific molecules;
- Regulation of the expression of resistance genes so that resistance is expressed only when necessary;
- Preventing the spread of unwanted plants created by cross-pollination between genetically modified plants and nongenetically modified ones; and
- Improved protection of intellectual property rights.

“What we’re talking about might be academic, but we feel testing is needed,” says Collins, noting some groups are try-

ing to place a moratorium on GURT testing.

At an international meeting about the subject in Montreal, Collins says a report included many negatives and few positives about GURTs. Organizers recommended, in view of lack of data, GURTs not be tested for commercial use. The movement for a moratorium was stopped later at the Subsidiary Body on Scientific Technical and Technological Advice meeting in Bangkok, he says.

“My point is to alert people that if companies don’t get involved, people who want to ban GURTs will have their way,” Collins says. “Everyone needs to be aware of what’s happening.”

## Seed movement

Virgil Meier, Ph.D., is a biotechnologist with the Risk Assessment Group of the United States Department of Agriculture, Animal Plant Health Inspection Service, Biotechnology Regulatory Service. Before working for the USDA, he was manager of turfgrass variety development and seed research activities with The Scotts Co. During Meier’s discussion about the biology of grasses related to gene flow, he says perennial turfgrasses used on golf courses are of particular interest from a biotechnology perspective. They include bentgrass, bluegrass, fescues, ryegrass, Bermudagrass, zoysiagrass, St. Augustinegrass, buffalograss, bahiagrass and centipedegrass. Gene flow and movement of these grasses take place through pollen, seed or vegetatively, Meier says.

Most grasses are pollinated, and pollen typically survives one to three hours, but can travel a significant distance during that time. Grass also can move vegetatively via wind, water, animals, natural growth, soil, equipment and trucks.

But it’s gene flow through seed that concerns Meier most. Grass seed generally is tiny, which makes it mobile. Creeping bentgrass, for instance, has 6.1 million seeds per pound compared to wheat, which has 11,360 seeds per pound. Seed movement is affected in natural ways by wind, water, soil and animals. Movement also is caused by seeding and harvesting equipment, trucks and airplanes.

“Basically there’s no limit to how far seed can travel,” Meier says. “And dry

seed can survive 10 years. Seeds are one of the major concerns I have in terms of gene flow.”

Meier says removing flowers could confine pollen movement, preventing flower formation, bagging flowers, encouraging male sterility and isolation. Seed movement can be confined by removing flowers, preventing flower formation, bagging flowers, using dedicated equipment, equipment cleaning, test-location selection, border-area establishment, proper seed containers and storage.

## Bentgrass

Lidia Watrud, Ph.D., a principal investigator for the U.S. Environmental Protection Agency in Corvallis, Ore., leads research about ecological effects of gene flow from bioengineered crops. Watrud



Albert Kausch, Ph.D., says the need for gene confinement in transgenic turfgrass is important.

Photo: Epic Creative Communications

focused on pollen-mediated gene flow in creeping bentgrass.

Bentgrass is a highly outcrossing, wind-pollinated turfgrass variety that reproduces sexually and asexually. Studies on test plots in Oregon of Roundup Ready Creeping Bentgrass, a genetically engineered bentgrass resistant to the herbicide Roundup, found gene transfer in resident (noncrop) and sentinel plants. Of the sentinel plants, 54 percent showed signs of RRCB genes.

A lesson learned from the trial was that exposure can take place to a viable genetically-modified pollen over a regional area from one of the first perennial genetically modified crops, Watrud says.



Among the potential concerns regarding genetically modified turfgrasses in agriculture is contamination of neighboring farms by genetically modified pollen or seed, which might require alternative herbicides and new label uses to control, Watrud says. There also are potential concerns along waterways, on public/private lands and on golf courses.

"All we have done is measured exposure, not the effects," says Watrud, noting the next step is ongoing monitoring and repeating the Oregon test.

### Seed scatter

Carol Mallory-Smith, Ph.D., a professor of weed science at Oregon State University and president of the Weed Science Society of America, has researched gene flow from transgenic creeping bentgrass and discussed the contribution of seed scatter to gene flow in perennial grasses.

Seed scatter is the loss of seed at any time, from production through final end use. It occurs through natural dispersion, seed-production practices and a

combination of various factors.

Perennial grass-seed production requires seeding equipment, application equipment, harvesting equipment, trucks, seed-cleaning equipment and seed distribution. Seed scatter from any of these steps isn't preventable, although it can be controlled, Mallory-Smith says. Seed scatter also isn't preventable in the various uses of turfgrass, including golf.

With regard to 400 test acres of RRCB planted in Oregon in 2002, Mallory-Smith says plants testing positive for Roundup resistance were found widely distributed in 2004, the year after a major wind. Most of the resistant plants are believed to be the result of seed scatter, with positive hosts found a mile or more away. It's yet to be determined what the impact will be.

Even with safeguards in place, researchers learned seed couldn't be contained. Natural dispersal, coupled with production practices, led to increased seed dispersal. An effective mitigation plan must be in place and control measures need to be developed for all test sites.

"The scatter of creeping bentgrass seed isn't an ecological disaster nor will it create a major problem," Mallory-Smith says. "We have learned some important lessons. Genetically altered grasses with drought, salt and disease tolerance that give an economic fitness advantage could have more of an impact. Seed will move. Pollen will move. But if the final answer is, 'we cannot tolerate that,' then we can't do these studies or release these crops."

### Concerns

The next question is, "Does gene flow matter?" and if so, "How can we confine it?" according to Albert Kausch, Ph.D., professor in the department of cell and molecular biology at the University of Rhode Island and one of the symposium chairs. The need for gene confinement in transgenic turfgrass is important because of environmental concerns, public perception and commercial trespass seed inadvertently making its way from one country to another, a potentially major problem, Kausch says. *GCN*

## Industry news

### Tests eliminate *Poa annua*

Hubbard, Ore. – After three years of testing, Turf-Seed announced a program for eliminating *Poa annua* in ryegrass fairways and re-establishing more desirable species. The trials tested the



Ryegrass fairways could be free from *Poa annua* with the help of Velocity.

herbicide Velocity at Arrowhead Golf and Athletic Club in Molalla, Ore.

The program consists of applications of Velocity every two weeks at the rate of 10 to 15 grams per acre, in addition to using a spiker/seeder to incorporate bentgrass or perennial ryegrass seed into the treated areas, which will germinate and replace the dying *Poa annua*.

The program allows superintendents to eradicate and replace *Poa annua* without the dramatic and sudden loss of grass. Throughout the trials, it was discovered seeding must precede spraying Velocity to avoid plugging the spiker/seeder with drying *Poa annua*.

"Once we figured out the right combination of application rate and timing, we knew we could replace the *Poa annua* pretty easily," says J.D. Clarizio, superintendent at Arrowhead Golf and Athletic Club and trial host since 2002. "This process will make converting ryegrass fairways relatively easy compared to a total renovation project."

Turf-Seed also sponsored a similar research to eliminate *Poa annua* in bentgrass fairways.

For more information about the program, visit [www.turf-seed.com](http://www.turf-seed.com).

### NTF requests funding research

Beltsville, Md. – For fiscal year 2006, the National Turfgrass Federation again has requested funding for 12 turfgrass research positions with the U.S. Department of Agriculture, Agricultural Research Service. The funding is for

critical research outlined in the National Turfgrass Research Initiative. To obtain the funding, the NTF filed statements with the Senate and House Agriculture Appropriations subcommittees. Additionally, the NTF and members of the turfgrass industry contacted Senate and House members asking for their support. The turfgrass industry also requested restoration of the \$760,613 in ARS turfgrass research funding not in the president's proposed budget. For more information, visit [www.turf-research.org/initiative.htm](http://www.turf-research.org/initiative.htm).

The NTF asks superintendents to contact their senators and congressmen and ask for their support of USDA, ARS turfgrass research funding and the National Turfgrass Research Initiative.

### Syngenta, LESCO end relationship

Greensboro, N.C. – The relationship between Syngenta and LESCO will conclude over a transitional period. At the end of this period, which has yet to be determined, the full line of Syngenta products will no longer be distributed by LESCO in the marketplace. "After a valued relationship, Syngenta has



determined that it's best for the business relationship to come to a close," says Bill Lewis, vice president of Syngenta Professional Products. "We appreciate LESCO's long-time support of Syngenta and its products and services. We have decided, however, that LESCO's strategies in the marketplace are inconsistent with Syngenta's."

"We are surprised and disappointed by Syngenta's decision," says Michael DiMino, president and c.e.o. of LESCO. "This change is not something that we take lightly, but ultimately this will prove to be in our customers' – and the industry's – best interests."



The strategies of the companies had diverged, according to Michael Vanausdeln, manager of corporate communications for Syngenta.

"We're committed to a traditional business model," Vanausdeln says. "We're mounting a long-standing strategy of providing high-quality branded products and value to our customers. LESCO is more retail driven. We think more in terms of long-term value and service to the customer. We bring more than the product to the customer. We provide an overall service package. Syngenta wants more one-on-one interaction with its customers."



"We believe the distributor – whether it is LESCO or another distributor – is responsible for the customer relationship," DiMino says. "The customer buys from us, gets a bill from us and pays us money. However, Syngenta seems to believe they own customer relationships, and distributors don't provide value to the market."

## Institute opens trial membership

San Diego – The PACE Turfgrass Research Institute initiated a free trial program providing turf professionals a sample of membership benefits. Interested individuals who register at [www.paceturf.org](http://www.paceturf.org) will receive PACE's weekly updates for three weeks. The updates are the core of PACE's member benefits and feature current news and research about pest and turf trends throughout the country, as well as information about tools that manage them.

Annual membership for PACE is \$325. Members receive the weekly updates

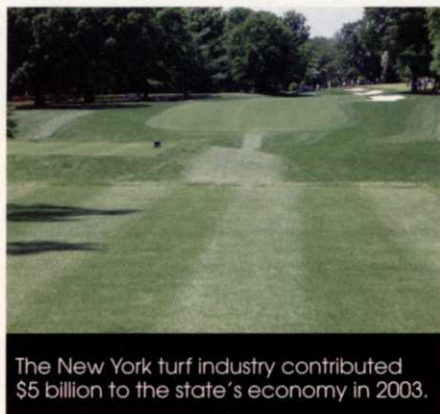
and online services that include site-specific weather, pest and agronomic information, a reference library of best products and practices, pest management guidelines, turf management tools and monitoring procedures, and archives of PACE publications. Web forums allow members to discuss PACE's information, as well as their own experiences. Members also receive printed materials that include technical reviews about turf management topics; writings to educate golfers and managers about the rationale behind turf management practices; and reference publications about soil, water, monitoring equipment, weather models and product evaluations.

Five percent of all member fees are donated to turf research programs, and the results are posted on the PACE Web site. An online turf research journal that helps turf managers in the design, implementation, interpretation, summarization and publication of turf research experiments also is available.

## Survey documents turfgrass' impact

Latham, N.Y. – The New York Turfgrass Survey – sponsored by the New York Turfgrass Association and the New York State Department of Agriculture and Markets in cooperation with the New York Agricultural Statistics Service – evaluated the magnitude and economic importance of the turfgrass industry in New York State. The 80-page report, "Turfgrass Final Publication," which can be viewed at [www.nass.usda.gov/ny](http://www.nass.usda.gov/ny), illustrates the turf industry employed 43,000 people and contributed \$5 billion in turf maintenance expenses to the economy in 2003. Other facts include:

- Turfgrass covers 3.43 million acres



The New York turf industry contributed \$5 billion to the state's economy in 2003.

Photo: John Walsh

in New York;

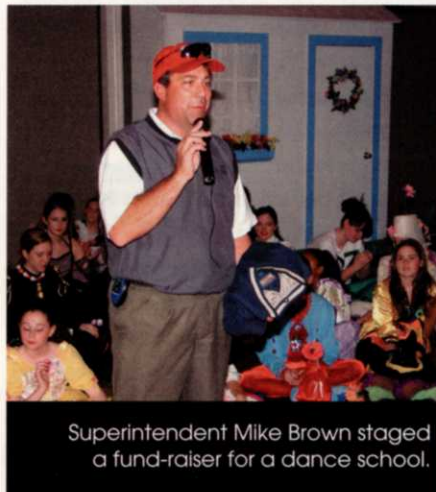
- 93 percent of the 3.43 million acres are private lawns and golf courses;
- More than 843,000 new turf acres were established in 2003, costing \$1.56 billion;
- Turf equipment value owned by all sectors surveyed is more than \$6.3 billion; and
- The total payroll for turf employees was almost \$467 million.

The data can be used to position the turfgrass industry as a growing agricultural commodity in New York State and enable the public, industry and government to work together to ensure its growth.

## Superintendents put kids on course

Liberty, S.C. – In April, Carolinas golf course superintendents helped children in their communities, increased awareness of the profession and raised more than \$10,000. Superintendent Bob Wallace organized a field trip for about 80 elementary schoolchildren to study nesting bald eagles at the Golden Bear course at The Golf Club at Indigo Run in Hilton Head, S.C. Wallace arranged for a local wildlife biologist to provide expert instruction to the children.

Awareness of the positive role golf can play in communities and the environment was the theme when superintendent Jeff Connell hosted



Superintendent Mike Brown staged a fund-raiser for a dance school.

Photo: Carolinas GCSA

about 50 elementary-school students at Columbia Country Club, S.C., a week later. Connell had help from colleagues Craig Taylor from The University Club, Chris Taylor from Charwood Country Club and Chris Williams from Spring Valley Country Club. The visit was part of "Kids on Greens" day during South Carolina Golf Week and was designed



to introduce city children to the game and the contributions of golf course superintendents.

Mike Brown, certified golf course superintendent at Starmount Forest Country Club in Greensboro, N.C., staged the third annual fund-raiser for the On Stage School of Dance. A full field competed in the golf tournament raising more than \$10,000 that helped send dancers to perform on a cruise ship to the Bahamas in June. Brown, who also is president of the Carolinas Golf Course Superintendents Association, worked with contacts at television station WFMY, which broadcast live from fund-raiser.

## Association news

### Grants awarded via foundation

Latham, N.Y. – The New York State Turfgrass Association awarded \$53,368 in grant money this year to support turfgrass research projects at Cornell University. The funds are distributed through the New York Turfgrass Foundation, an endowment fund established in 1991 with Cornell University to support turfgrass research activities at the New York State College of Agriculture and Life Sciences, the Cornell Agricultural Experiment Station and other research institutions. Contributions to the fund come from NYSTA members, POA Annual Golf Tournaments sponsored by NYSTA and New York golf course superintendent associations, businesses, and individual benefactors. The foundation has accumulated more than \$800,000 and is generating \$50,000 in interest income per year to be used annually in support of turfgrass research. Visit [www.nysta.org](http://www.nysta.org) to see the list of grants.



### Project EverGreen has new partners

Cleveland – Project EverGreen announced several programs and partnerships. This summer marks the beginning of a pilot program with the Twin Cities Chapter of Habitat for Humanity to provide landscape, lawn care and irrigation services for as many as five homes.

A new probable partner of Project EverGreen, America in Bloom, is a non-profit volunteer organization dedicated to planting pride in communities and institutions that beautify the country. Project EverGreen expects to take part in the 2005 awards ceremony and work with the 2006 program.

The “Project EverGreen: Because Green Matters” award program was created to recognize groups who create landscape projects that benefit green spaces. The first award was presented on Earth Day, April 22.



“Who’s Telling Your Story?” – the new Project EverGreen advertising campaign for the green industry debuted in May in trade publications.

A series of best management practices articles about irrigation, equipment, fertilization and pesticide use have been developed and will be distributed to weekly and daily newspapers throughout the country.

### GCSAA donates to relief efforts

Lawrence, Kan. – The Golf Course Superintendents Association of America made donations to those affected by the devastating storms in Florida this past fall and the tsunami in Southeast Asia late last year. The association directed \$5,000 to the Florida Hurricane Relief Fund established by Gov. Jeb Bush to assist communities in rebuilding. The relief fund provides assistance for needs unmet by other disaster relief organizations. For more information, visit [www.flahurricanefund.org](http://www.flahurricanefund.org).

The GCSAA also contributed \$10,000 to the U.S. Golf Tsunami Relief Fund, a collaborative effort of the major golf associations to address the needs of the regions affected by the natural disaster. The GCSAA joined the PGA Tour, the Masters Tournament, the U.S. Golf Association, the PGA of America, the LPGA, Tournament Players Clubs, individual players and the Tour Wives Association in participating. For more about the U.S. Golf Tsunami Relief Fund, visit [www.pgatour.com/info/company/story/8085942](http://www.pgatour.com/info/company/story/8085942).



## Course news

### Course in works on West Coast

Rosalyn, Wash. – Jacobsen Hardy Golf Course Design broke ground on the third 18 holes at Suncadia Resort, a 6,000-acre development laid out along the Cle Elum River. The Rope Rider Course will take shape amid an abandoned coal-mining operation. The layout, which is located near the Cascade Mountain range at about 2,100 feet above sea level, is scheduled to open the first nine holes in the spring of 2006. The course will join two existing 18-hole tracks at Suncadia, the Prospector, designed by Arnold Palmer, and Tumble Creek, designed by Tom Doak.



Jacobsen Hardy had the task of creating a family-friendly resort course. There’s a traditional 9-hole loop on Rope Rider, and the other nine includes a six-hole and three-hole loop. This will allow golfers to play 18, nine, six or just three holes.

The firm’s master plan also calls for a six-hole junior course located within the club’s short-iron driving range. It’s also designing youth tees on all 18 holes of the Rope Rider course that are positioned 50 yards from the greens on par-3s and 160 yards away on par-5s. A nine-hole routing measures about 1,100 yards. The layout will measure 7,203 yards from the tips, with five sets of adult tees and play to a par of 72.

### Phelps Golf Design to break ground

Windsor, Colo. – Southern plantation style along Colorado’s Front Range will be the theme of Phelps Golf Design’s Shiloh Creek Golf Course. Construction is expected to start later this year or early next. Construction documents are complete, and developers have put construction of the park-style, 18-hole design out to bid, according to course architect Rick Phelps. The course and plantation-style clubhouse will serve as the centerpiece of the mixed-use Shiloh Creek Community and Golf Club.

“Large areas of trees will separate most of the holes,” Phelps says. “We will be planting between 1,500 and 2,000 trees,



with additional plantings of flowering shrubs and ornamental grasses. But the golf holes will be relatively wide with rolling fairways and undulating greens. The Augusta National-style bunkering, water features and large undulating greens will affect the strategy of the golf holes.”

Plans are to start construction of the private, \$8-million layout routed throughout 208 acres of former winter wheat field early next year. The major dirt work, primary drainage systems and main irrigation lines, will be the focus during the first few months. The grassing is scheduled to be complete in the summer of 2006, and the course is expected to open in late 2007 or early summer 2008.

### Club approves renovation

Lawrence, Kan. – Lawrence Country Club’s membership approved \$3.1 million of golf course and maintenance facility improvements. Todd Clark of CE

Golf Design is the golf course architect on the project. He’s working with golf course contractor Mid-America Golf and Landscape.

Renovations at the 91-year-old club will include completely rebuilt greens with more pinnable area. Tees and sand bunkers also will be redone. An updated irrigation system will use water captured in a new 3.5-acre lake that also will serve to improve storm water management. The practice range will be renovated and a new short game practice facility



Greens, tees and bunkers will be rebuilt at the Lawrence Country Club.

Photo: Lawrence CC

will be added as well.

Through reconfiguration of the practice facility and several golf holes, the course will drop from a par 72 to a par 70 with minimal loss of overall yardage. Emphasizing a multiple-tee system will ensure the course plays fairly for all golfers.

### Hurdzan/Fry to design course at Fiddler’s Creek

Naples, Fla. – Gulf Bay Group of Companies, the developer of The Golf Club at Fiddler’s Creek, selected Michael Hurdzan, Ph.D., and Dana Fry to design the private club’s second championship course. The new layout, which will remain true to the environment, will complement the Arthur Hills-designed Creek Course that opened in 2002. Gulf Bay Group also plans to build a new clubhouse.

Upon completion, residents of Fiddler’s Creek will have access to the new clubhouse.



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lder's Creek will be surrounded by 72 holes of championship golf, 36 holes of which will be available to members of The Golf Club at Fiddler's Creek.

Fiddler's Creek is a resort community situated on about 4,000 acres.

## Robbins-designed courses to open

Cary, N.C. – This summer, two new courses designed by Robbins & Associates International will open. Bartram Trail, located about 10 miles west of Augusta, Ga., is part of a more-than-800-acre mixed-use housing development. The course and development will be certified by Audubon International.

Canyon Ridge Club at Tauqueta Falls had a grand opening in June. The course lies on top of Lookout Mountain, about 25 miles southwest of Chattanooga, Tenn. Many holes will be played around large rock outcrops. It was built as part of a 450-acre resort development.

Also, the Poplar Hill Golf Club in Farmville, Va., is under construction. The course is expected to be finished this summer and could have a soft opening this fall, but the most likely opening date will be next spring. The course is the centerpiece of a 1,000-acre housing development.

Additionally, Robbins & Associates is in the planning stages for several new projects. Three of the projects should begin construction this summer or fall. Country Club East at Lakewood Ranch in Bradenton, Fla., will be bid on this summer. Wilderness Trail Golf Club near Banner Elk, N.C., has been master-planned, and the golf course centerlines are being set for review in the field. The Links at Westport (Wash.) has been laid out. Clearing of the golf corridors was scheduled to begin last month.

Other projects the firm is working on include an adult community that features 18 holes of golf on 460 acres in Culpeper, Va., two large-scale projects north of Knoxville, Tenn., containing golf courses and two more master-planned communities north of Tampa, Fla.

## Oberlin Golf Club caps remodeling

Oberlin, Ohio – Oberlin Golf Club celebrated the grand opening of its newly remodeled golf course April 30. Spencer



Spencer Golf Concepts remodeled the Oberlin Golf Club in Ohio.

Photo: Oberlin Golf Club

Golf Concepts, a division of RD Zande & Associates in Columbus, created the remodeling master plan.

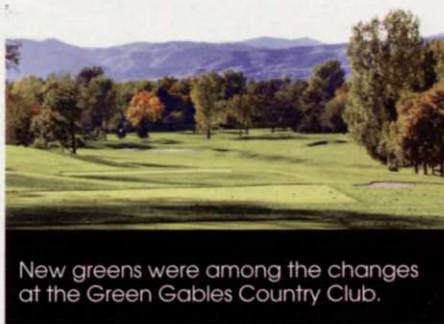
Construction began in the spring of 2003 with the building of a new ninth hole, a par-5 of 530 yards, allowing the conversion of the old ninth hole into an expansion of the practice range and a new short-game practice range. Work continued that fall with the redesign and remodeling of the bunkers on the course's front nine and the addition of several new teeing grounds. The nine holes opened for play in the spring of 2004. Holes 10 through 18 were closed last September for the overhaul of the bunkers and teeing grounds, along with the installation of additional drain lines.

Oberlin Golf Club has been nominated for Golf Digest's "Best Golf Course Remodeling Project" for 2005.

## Firm unveils design at Green Gables

Denver – The members at Green Gables Country Club went without their golf course for 18 months. The old course was replaced by a new design from Arthur Hills/Steve Forrest & Associates.

The old, flat putting surfaces were replaced with 18 green complexes of varying sizes, shapes and strategies. The course's push-up style greens were failing. When the membership decided to rebuild all 18 putting surfaces, it went a step further and authorized Hills/Forrest to design a comprehensive \$6-million makeover. Work began in September 2003, and



New greens were among the changes at the Green Gables Country Club.

Photo: Green Gables CC

the official unveiling took place May 26. Several holes were rerouted, and the front and back nine were flipped. Where the old holes had two sets of tees, the new ones have five each – all in the classic, rectangular style typical of 1920s-era design. Three hundred yards were added and 400 trees were cut down, which opened views of the Rocky Mountains. The course was lengthened 300 yards (the back tees now measure almost 7,100 yards) and features a multiple tee scheme. Women once played the course at just under 6,000 yards – now they can play it at 5,400.

In consultation with superintendent John Madden, a low-mow, drought-tolerant bluegrass was chosen for the fairways. The bluegrass will endure the winter months better than the ryegrass mixes commonly specified in the mile-high climate.

"With the advances in low-mow bluegrasses, we can take our fairways down to bentgrass levels," Madden says. "Architects like ryegrass because it stripes nicely, but we agreed the new bluegrass was the way to go."

Dominant Extreme bentgrass was used on the greens.

## Richardson restores classic

Phoenix – Originally built in 1926 and designed by William P. Bell, the 18-hole, par-72 Adobe Course Arizona Biltmore is being rerouted subtly by local golf course architect Forrest Richardson.

For the past 10 years, the Biltmore's owners, Kabuto Arizona Properties, have sought solutions to developing a small portion of the course and a few acres of adjoining property to complete plans approved by the Phoenix City Council. The plans call for luxury town homes to be built at the far north end of the course. This plan prevents developing the entire course. Disputes about the plan among homeowner associations, Biltmore residents and neighboring interests have consumed almost a decade of courtrooms and zoning hearings, all of which have delayed the long-awaited improvements.

"Our first priority is to preserve and restore," Richardson says. "Billy Bell was a master at bunkering. We're bringing back his masterful style of bunkers and making improvements to the greens for the same result."

The new routing will bring back





Photo: Adobe Course Arizona Billmore

## Couples course in development in Canada

Vernon, B.C. – The Rise, a \$1-billion, 735-acre master-plan resort community, will feature a Fred Couples signature golf course, which is being built by the Okanagan Hills Development Corp. The community also will feature a winery, vineyards, hotels, village center, tennis center, equestrian center and several neighborhoods intertwined around the 18-hole championship golf course.

Arres Capital of Calgary is financing the development privately, and BMR Golf is constructing the course.

Fred Couples and golf course designer Gene Bates are working with OHDC on the course, which will be situated on a ridge overlooking the north and south arms of Okanagan Lake. The course has been designed to integrate with the natural topography of the land.

## KemperSports adds to portfolio

Front Royal, Va. – Owners of Blue Ridge Shadows selected KemperSports to manage the Blue Ridge Shadows Golf Club. KemperSports will provide development consulting as well.

The course, which is under construction, is scheduled to open in 2006 as part of the greater Blue Ridge Shadows resort community. Measuring 7,200 plus yards from the tips, the 18-hole, par-72 layout features bentgrass tees, fairways and greens. Architect Tom Clark designed the course.

Also, the Bodega Bay (Calif.) Homeowners Association selected KemperSports to manage the Links at Bodega Harbour, a semiprivate championship golf course. The Scottish links layout is a product of architect Robert Trent Jones, Jr. The 18-hole seaside design opened in 1976 and features native coastal rough and seaside marshes.

Architect Forrest Richardson helped restore the Adobe Course in Arizona.

many of Adobe's fairway bunkers, all of which had been left to grow-in with grass, according to Richardson. His plan keeps the yardage about the same, but adds interest and restores variety to the course.

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## Billy Casper Golf adds to portfolio

Vienna, Va. – Billy Casper Golf, a golf course owner and operator, acquired Reston National Golf Course and Virginia Oaks Golf Club, both in Northern Virginia. Separately, BCG assumed a

multiyear lease of the 18-hole public Ocean View Golf Course in Norfolk. BCG completed the transaction involving the three golf courses with American Golf Corp. BCG now owns or operates 54 golf courses in 19 states.

At Reston National, BCG's plans include bunker renovations, irrigation up-

grades, practice-facility enhancements, clubhouse remodeling and new booking of tee times via the Internet. Virginia Oaks and Ocean View also will undergo course, systems and service upgrades.

## Crown Golf to manage club

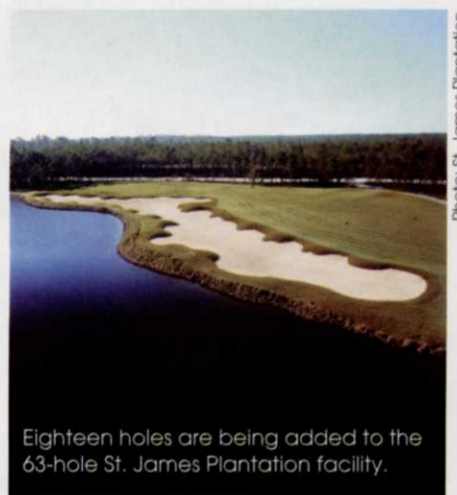
Glenview, Ill. – Crown Golf Properties reached an agreement with ABD Development to manage the golf operations for Providence Golf & Country Club, a 2,300-acre, gated, master-planned community under development in Florida's Polk County. Crown will provide membership development, golf course and facility management, as well as marketing services.

Golf course architect Michael Dasher designed Providence's semi-private, 18-hole championship golf course. From the championship tees, the course will play 7,001 yards, and from the forward tees, it will play 5,191 yards. The links-style layout currently is under construction and will open in late 2005.

Architect Don Evans and The Evans Group designed the community's 8,000-square-foot clubhouse, which will feature a golf shop, lounge and full-service restaurant with seating for as many as 200 guests.

## St. James hires Troon Golf

Southport, N.C. – St. James Plantation chose Troon Golf to manage its operations. St. James Plantation, a gated community, features 63 holes of golf with an additional 18 holes under construction. The Founders Club is an 18-hole championship course designed by P.B. Dye that offers a challenging



Eighteen holes are being added to the 63-hole St. James Plantation facility.

Photo: St. James Plantation

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layout with a high slope rating. The Members Club features an 18-hole Hale Irwin signature course and a nine-hole expansion. The Players Club is designed by Tim Cate, and The Reserve Club, slated to be open for play in spring 2006, is a Nicklaus Design par-72 course featuring bentgrass greens that complement the native vegetation and surrounding wooded wetlands.

Each golf course features a clubhouse that offers services and amenities such as a fitness center, indoor/outdoor aquatic facilities, walking and biking trails, and clay and hard-surface tennis courts.

### RDC purchases Blue Heron Pines

Monroe Township, N.J. – RDC Golf Group, a golf course ownership and management company, purchased the West Course at Blue Heron Pines Golf Club from Ole Hansen & Sons, owned by Roger Hansen. Financial terms of the deal weren't disclosed.

Opened in 1993, the course was designed by Stephen Kay.

During the 2005 golf season, RDC also will lease and operate the 18-hole, Steve Smyers-designed East Course at Blue Heron Pines. The East Course is subject to a pending sale to K. Hovnanian Co., a residential developer. The course is tentatively scheduled to close to public play at the conclusion of the golf season at which time all play will be consolidated onto the West Course.

### Hawk Pointe to go private

Washington, N.J. – Hawk Pointe Golf Club, which opened in June of 2000, will convert to fully private status Sept. 5. Hawk Pointe's 18-hole, public course was designed by Kelly Blake Moran. Hawk Pointe's practice facility and learning center features a 45,000-square-foot bentgrass tee area that overlooks a defined fairway and four target greens guarded by two bunkers. When complete, the new 30,000-square-foot clubhouse will feature men's and women's locker rooms, a fitness center, a pro shop, casual and formal dining rooms, and banquet facilities that can accommodate as many as 300 people. More than 165 memberships have been sold since the club opened.

### Course access available to more

Horseshoe Bay, Texas – Previously accessible only to members and guests of the Texas Hill Country's Horseshoe Bay Resort, the three championship golf courses and Whitewater Putting

Course of Horseshoe Bay Resort also are available to guests of the new Horseshoe Bay Resort Marriott Hotel. Guests of Horseshoe Bay Resort Marriott Hotel will experience temporary membership privileges to Horseshoe Bay Resort on Lake LBJ. This enables them to enjoy complete access to the resort's ameni-

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ties, including three championship Robert Trent Jones Sr. designed golf courses: Ram Rock, Slick Rock and Apple Rock.

## Personnel news

The Turf & Ornamental Communicators Association named **Jeff Gullikson**, CGCS at Spokane (Wash.) Country Club, the 2005 Environmental Communicator of the Year.

**Randy Marshall**, golf course superintendent for Shadow Hills Country Club in Junction City, was named Superintendent of the Year by the Oregon Golf Course Superintendents Association.

**Jeff Steen** is the new superintendent at The Links at Spanish Bay.

## GIE Media names new leader

Cleveland – GIE Media, a leading business-to-business publisher, named Chris Foster president and c.o.o. of the company. Foster, who has spent the past five years on the board of directors for GIE Media, rejoins the company after serving eight years in various IT and business management capacities in the New York metro area.



Foster

Foster began his business career with GIE Media in 1989 after graduating from Schiller University in Heidelberg, Germany, with a BBA in international marketing and a BBA in international business administration. Foster held several key management positions with GIE Media from 1989 to 1997, including IT operations management, general manager and c.f.o. He left GIE Media to expand his business experience, and now brings depth and expertise to his new leadership position.

Most recently, Foster served as vice president of product development for the market research firm InsightExpress. He was credited with developing the company's award-winning technology and for having a direct and positive impact on the company's five-year growth. Foster also served as c.t.o. for eCommerce Corp. and as a global division director of Attachmate Corp.

"GIE Media is a dynamic business with a portfolio of leading B2B communication products and services," says Richard Foster, GIE Media's chairman and c.e.o. "It's a company filled with great employees and a strong management team. I'm thrilled that Chris has returned with his great energy and talent to lead our company into the future. His publishing background, combined with his technology expertise, will be a driving force in expanding our business position as a diverse media company with a deep commitment to meet the needs of our business-to-business market customers."



Gullikson



Feder



Seay



Larsen



Thode



Minchew



Martz



Smith

**Chris Dalhamer** will be replacing outgoing superintendent **Tom Huesgen** at the Pebble Beach Golf Links. Huesgen accepted a job at the Signature at Cornerstone Golf Club, a still-in-development, Greg Norman-designed course in Montrose, Colo.

**Bob Leinbaugh** is the new superintendent at Landings Golf Club in Warner Robins, Ga.

**Robert Yeo** is the new superintendent at Spyglass Hill in Pebble Beach, Calif.

The GCSA of Southern California elected its board of directors for 2005-2006. **Kevin Neal**, CGCS, regional golf course superintendent with ValleyCrest Golf is president; **Steve Sinclair**, CGCS at Woodland Hills Country Club is vice president; and **Reed Yenny**, CGCS at Hillcrest Country Club is secretary-treasurer. **Bruce Williams**, CGCS at The Los Angeles Country Club, is the association's immediate past president.

Directors include **Jeff Beardsley**, Big Canyon Country Club; **Dave Flaxbeard**, Oakmont Country Club; **Robert Hertzog**, Valencia Country Club; **Ryan Porter**, Old Ranch Country Club; and **Pat Truchan**, CGCS at Marbella Country Club.

RDC Golf Group appointed **Pat Vanderstine** general manager of the Blue Heron Pines West Golf Club in Cologne, N.J.

**Mike Cisler** is the new golf professional and manager at Glacier Wood in Iola, Wis.

**David Feder** was named president of the PGA National Resort & Golf Club in Palm Beach Gardens, Fla.

**Jason Straka**, a senior design associate at Hurdzan/Fry Golf Course Design in Columbus, Ohio, was elected an associate member of the American Society of Golf Course Architects.

Palmer Course Design Co. restructured its executive staff. **Ed Seay** is president; **Erik Larsen** is executive vice president, senior golf course architect and managing director; **Deborah Thode** is senior vice president and director of business; **Harrison Minchew** is vice president, senior golf course architect and director of design services; and **Vicki Martz** is vice president, senior golf course architect and director of environmental services.

**Justine Stock** joined AquaMaxx as director of business development.

PBI/Gordon Corp. hired two new territory sales representatives. **Bill Affinito** will take over a newly formed territory in New England, and **Sean Kearney** will cover Minnesota, Wisconsin, North Dakota and South Dakota.

**Craig Smith** was named aquatic business manager of Phoenix Environmental Care.

**Adam Neate** joined Syngenta Professional Products' turf and ornamental team as a sales representative for northern Ohio, and Jason Whitecliffe joined the team as a sales representative for Georgia and Alabama. GCN



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

# Marketing mistakes

**M**arketing a golf course, event or your own abilities doesn't have to be difficult, but many people make mistakes along the way. This can result in decreased rounds, poor participation in tournaments or a stagnant career. Though there are many mistakes that can be made, listed below are the 10 most frequent errors. Avoid these traps, and success should be easier to come by.

## NO. 10

### Doing nothing

A college marketing professor insisted that doing nothing be one consideration for any marketing solution. His point was to not fix something that wasn't broken. It's good advice, but most golf course marketing problems aren't temporary. They require research and action. Procrastination only makes problems more difficult and expensive to solve.

## NO. 9

### No hard data

Marketing demands collecting and analyzing data to spot trends and measure what is or isn't working. Numbers also must relate to action.

Recently, I had several meals at a golf course where the food portions were huge. So, I asked the general manager about his cost of food sales. He had the data – slightly more than 70 percent. But he wasn't in control of food and beverage. We both knew food costs should be closer to 45 to 50 percent. But the course developer (and owner) didn't understand food or golf course economics, yet insisted food be an experience. There are profitable ways to achieve a food-and-beverage experience.

## NO. 8

### No target cost per round

Profitable pricing means estimating all input and overhead costs, then adding your intended profit. In golf, you can then divide this annual dollar volume by your estimated number of rounds (based on past years) to arrive at an average cost per round necessary to cover all costs and deliver a profit. This computation must include other revenue sources and costs, such as for food service or a practice range.

## NO. 7

### Not knowing your true market

An issue with No. 8 is that the target cost per round might not be feasible for a course in your market. If you need to

charge \$15 more per round than the going rate for courses like yours in your market, then you know you have a problem to address. (See No. 10.) You would need to change the equation – cut costs, add new sources of revenue or attract more or different golfers or something else.

The key is to know your true market. Recently, I consulted with a course that's charging \$40 to \$45 per round in a market that's averaging only \$25 to \$30. Research showed local golfers would play this course only if given discounts. But golfers from a resort area 20 to 25 miles away were willing to pay the higher rack rate because the resort courses they normally played were crowded. This course needs a marketing plan to attract more of those golfers.

## NO. 6

### Not hiring the right people

People drive effective marketing. It starts with the general manager, moves down to the management team and then to the staff. The top manager doesn't have to be a marketing expert, but he needs to know enough to make marketing contribute to the success of the course.

Also recognize the need to hire the outside talent that you need when you need it. If a consultant contributes more to the bottom line than his fees, then he hasn't really cost you anything.

## NO. 5

### Using quick-fix solutions

There are many ways to generate short-term play. However, gimmicks aren't long-term solutions, and they can damage your reputation and brand position. If you're going to use coupons, specials or contests, know when and why you're doing so.

## NO. 4

### Being something you're not

The classic example of this is the home developer who likes golf and decides to build a development around a golf course. Generally, any new course will attract some attention, but when the honeymoon period ends, the huge question is whether the

course is viable in the long term. A golf course can help sell homes, but homes don't necessarily make for a successful golf course.

## NO. 3

### No marketing plan

If you don't know where you're going, then you don't know if you can get there. A marketing plan needs to be in writing, have a timeline and be measurable.

For example, identify all business targets that represent opportunities for extra play – fund-raising events, corporate outings, golf leagues and social events, which are all group business. Next, prioritize them by revenue potential and create a plan to solicit each to have its event at your course. Being proactive gives you a better chance to schedule events because you can give the coordinator possible dates of the events early enough to accommodate your course's schedule. When you've finished your marketing plan, you will likely have a dozen or more business targets included.

## NO. 2

### Decisions based on emotions

It's amazing how smart people can invest millions of dollars in a golf course without research when they would never dream of doing the same for any other type of investment. Passion is essential to success in golf, but emotion clouds sound judgment. When you're building a course based on what you want, be prepared to fund it for an undetermined number of years. Only build a course in a market that will support it, research shows.

## NO. 1

### No dedicated salesperson

Do you know of any multimillion-dollar business that doesn't have a dedicated sales force? I can name one – golf, for the most part. In any business, someone has to drive growth. Your general manager, director of golf and other managers have full-time jobs, so if you ask them to sell, don't expect success. Owners can identify sources of profitable business easily, but who's going to make it happen? Treat your course like the multimillion-dollar business it is ... or can be. Hire and train a dedicated person for marketing and sales. GCN



# Course accessibility

**R**ecent headlines from New York show some golf courses are as unexpectedly in the dark about the Americans with Disabilities Act as they would be during a solar eclipse at noon.

A former New York police officer who had been permanently injured in the line of duty wants to golf again. Like many of us, he is an avid, mid-handicap golfer. And like many of us, one of his dreams is to play the famed Black Course at Bethpage State Park. But unlike many of us, he needs to use a cart because walking 18 holes is impossible for him.

Unfortunately, the course denied him use of a cart because the Black Course doesn't permit motorized carts. Fortunately, the police officer knows the public course should comply with the ADA. Fortunately, this has cost the course only some bad press so far. Unfortunately, should this officer take the case to court under the ADA as he threatens, Bethpage could face substantial court judgments or governmental fines.

Given that Casey Martin used the ADA in his case against the PGA Tour and that ADA legislation, which occurred in 1990, applies to employment and all life pursuits, it's surprising public officials and others in golf don't know for sure if the ADA applies to them.

All courses, including almost all private clubs, are considered places of public accommodation and are subject to the requirements of the ADA. It's not just a nice public relations idea, it's mandatory.

Specific golf design guidelines were published in 2002. Texas is one of only four states that require designers to apply for a permit fee; submit plans specifically showing accessibility routes for greens, tees and fairways; and arrange for inspection after construction by a state-approved inspector to assure compliance. In most other states, enforcement isn't as strong, but the law still applies.

Regardless, I implement ADA accessible designs on all new and renovation designs based on principle. Your course needs an ADA compliance plan, which is likely to require a combination of policy and design.

Given the unique designs of facilities nationwide, the law only requires you

make reasonable accommodations. This wording is vague, and no design guideline or written policy can cover every situation. And because each disability is different, you might find yourself honoring requests for: specially flagged disabled carts that would allow access closer to greens and tees than other carts, the use of spiked shoes on a spikeless course, allowing special assistants to ride for free, and allowing a multitude of other devices such as crutches. Discretion and common sense should be the unifying element of your plan.

Your course should have a written ADA policy clearly stating the conditions of access, assistive devices and helpers, as well as a policy that shows the circumstances in which you might deny cart access. The National Golf Course Owners Association's Web site has several sample documents that might be helpful. You might already have a policy, but perhaps your staff needs some additional training. The simple policy is to smile and welcome disabled golfers like any others.

You don't have to remodel your course specifically to provide ADA access, but whenever you remodel, you must comply. All new courses must comply with the golf design guidelines, which aren't particularly onerous and seek to maintain the traditions of golf. They mandate greens and teeing areas must have a wheelchair accessible

route from the main circulation path. Turf areas must have a maximum vertical rise of 5 percent and a maximum cross slope of 2 percent and can't

include any impediments such as curbs.

One or two tees on every hole need to be accessible. Wheelchair routes to elevated back tees aren't required provided other tees are accessible. Adding special tees would be reasonable on older, tighter courses in situations where no access exists. Greens have the same access requirements as tees. On fairways, wheelchair access to the fairway must be provided once every 75 yards. Presently, there are no limitations on green contouring to ensure complete accessibility, and wheelchair access to sand bunkers isn't required. Many players use modified rules for the disabled, allowing disabled players to move the ball to the bunker edge for play.

Multicourse facilities must provide access

to all locations, and practice areas require accessibility. However, you don't need to add cart paths if you don't have them.

None of this is hard to achieve, although it can be a challenge on floodplain sites, where greens and tees need to be raised, and on some rugged properties.

Most golf course compliance issues occur in parking lots, structures and course restrooms. A typical violation is using the space above your offices in the maintenance building or any second floor space not serviced by an elevator for storage, which might prevent a disabled employee access in the normal course of his job.

Working together, each disabled person should provide his own assistive devices and helpers, while many courses should have a reasonable number of golf carts specifically adapted to disabled needs.

You may restrict all golf car traffic, including disabled carts, when maintenance-related conditions would result in safety issues or turf damage. You may request proof of a disability, such as a government-issued, permanent disabled car placard. However, common sense dictates you should allow golfers to claim disabled status on their honor.

ADA complaints come first from individuals requesting special course or policy modifications for their needs. Individual resolution is your best option because the ADA is further enforced by lawsuits and the Department of Justice, who might institute a mediation process or file its own lawsuit. The Department of Justice embraces the rights of the disabled and expanded access. Avoid it by being extraordinarily reasonable when denying access.

There will always be people who abuse the ADA. And some fear the ADA will legislate great golf features, such as dramatic contours or sand bunkers, out of existence in the name of wheelchair accessibility for a few. Some traditional features might disappear, like "perched" greens, but hopefully not enough to change golf's character. If that happens, it will be a sad day. However, it's even sadder that anyone who's enthralled by golf, and able to play with a bit of help, would be denied that enjoyment. Perhaps the biggest problem with the disabled playing golf is that in too many cases it takes special laws to achieve it. GCN



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).

**THE SIMPLE POLICY IS TO SMILE AND WELCOME DISABLED GOLFERS LIKE ANY OTHERS.**



# Sabbatical leave



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

**G**olf course superintendents have earned the right to negotiate access to the same world of business perks that the academic and private sectors have long enjoyed for the simple reasons of being better able to perform and enjoy their jobs.

Without question, one of the more debilitating situations facing superintendents for decades has been the tedium and resulting boredom of doing the same job at the same place for too many years. When this happens, job performance suffers along with job security. Boredom is an insidious consequence that threatens jobs, careers and, therefore, families. Left unattended, boredom can destroy lives.

It's for this basic reason the private sector and military don't allow management personnel to stay too long in jobs. If you can't systematically advance on merit within business and the military, they let you go rather than allow you to sit and deteriorate in the same job. Fortunately, or unfortunately, golf isn't structured this way. Boredom is a serious problem that many in golf don't see coming and, therefore, don't deal with effectively.

Superintendents and others in golf can defuse general boredom via the customary effective ways of better career planning, balancing their jobs and family lives, and a more effective use of free time. This should be encouraged. However, the industry's employment culture and a family's need to maintain children in school always will combine to freeze superintendents in jobs, thereby feeding the boredom syndrome.

It was for this circumstance the concept of the sabbatical leave was created – to break tedium, to recharge batteries and to help see a job and life in a new light. How difficult would it be to establish a sabbatical leave program for superintendents today? Not very. For example, eligibility criteria would be the quality of work delivered through a period of time, the number of years in the profession and the number of years of service at a sponsoring club/course.

Prefunding a sabbatical leave would be relatively simple compared with prefunding a retirement plan. Funding a sabbatical leave can be as similar as funding a one-year retirement program, i.e., the discounted expense of a replacement's salary.

The more meaningful challenge to be addressed would be insuring a qualified individual(s) would be available to manage the maintenance program during a superintendent's one-year absence. Several options, or a combination of options, would be available: turn the job over to a qualified assistant in which it might be prudent to engage a qualified local superintendent or consultant to watchdog operations, or by hiring a qualified retired superintendent to manage the program directly.

Informal testing of the sabbatical leave concept has indicated to me that the majority of veteran superintendents I've spoken to would be somewhat fearful of applying for a sabbatical leave because of a concern about future job security, i.e., their one-year replacements might do a better job for less compensation. The immediate retort to this concern would be the caveat that the employer and the superintendent would mutually guarantee each other a two-year continuing relationship following completion of the leave year.

Granted, superintendents applying for sabbatical leave will have to be secure people closely in touch with their self-worth. Having said this, I suggest a time will come in every respected superintendent's career when he/she will feel comfortable applying for a sabbatical leave. The window for a sabbatical leave opportunity would appear to be when superintendents are in their 40s to mid-50s. Before these years, a superintendent might not have put in sufficient service, and after these years, there might not be enough time left in a career to warrant a leave.

Within my career circle, I can name a dozen or so superintendents who clearly meet the stated eligibility and age criteria who I believe would be comfortable in applying for a sabbatical leave and where I believe their employers would welcome such applications.

Another factor to understand is that employers willing to consider giving superintendents sabbatical leaves would have to apply parity and give similar consideration to golf professionals and managers who meet similar eligibility criteria. This shouldn't be a problem because the cost factor remains modest and potential multiple sabbatical leaves at one golf course can be readily scheduled over a few years based

on service seniority within the club/course operation. It would be appropriate for the world to see the superintendent pioneering the sabbatical leave concept in golf.

The question will arise about what superintendents might do during their leave year? It really shouldn't matter because the critical elements of getting away and recharging batteries can justify a sabbatical leave per se. However, it would be natural for employers to inquire about a stated purpose(s) for a sabbatical leave.

Appropriate sample uses of the leave year (in combination or otherwise) are: furthering education; language training; specific research; writing grant applications for programs that would benefit superintendents and/or their employers; writing; job-oriented video program production; developing a personal Web site; family travel with the opportunity to interview leading superintendents throughout the country relative to specific projects of interest; facilitating alternate site schooling for children; working as an intern at a golf course design office/development project; attending manufacturer seminars to stay ahead of the developing equipment curve; or doing whatever else to relax and bring the family closer.

While a six-month sabbatical leave can be considered, I generally recommend against it because of significantly diminished returns when compared with a full-year leave program.

During the leave year and when it's completed, superintendents: (a) should write a quarterly summary report for their employer (generally required); (b) should keep a diary to feed a *Golf Course News* article; and (c) should present a written case study to the Golf Course Superintendents Association of America's archives to help other superintendents prepare for and best use a sabbatical leave opportunity.

While every superintendent would be eligible for sabbatical leave, not every superintendent will earn the privilege. Rather, the program is recommended for use by clubs/courses looking to nourish their relationships with superintendents and to keep valued superintendents on board. It's also recommended for superintendents who are willing to commit to the pursuit of job excellence that will earn them access to what I hope won't be too exclusive a club. GCN

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





# Treating performance

**G**ood performance should always be treated differently than poor performance. For most of us, providing negative feedback is more difficult than providing positive feedback for two reasons: Most of us are uncomfortable dealing with unacceptable performance, and the correct response to unacceptable performance requires a critical choice between two types of feedback – redirection and negative.

Consider the following unacceptable outcome: A golf course maintenance employee fails to correctly complete a checklist of actions in the expected time. Our first response is to reprimand the employee. However, we must consider the context of the unacceptable performance. Compare:

1. Several of the actions on the list are relatively new to the employee, and several unusual situations were present. The employee made every effort to succeed.

2. The employee is experienced in all of the actions on the list, and no unusual situations were present.

Now let's examine the two explanations for the unacceptable task completion.

- The failure to complete the list can be explained by the situation – the context of the performance. The employee wasn't sufficiently skilled at some actions, and there were unusual circumstances; and

- The failure to complete the list can't be explained by the context. The failure to complete the list can only be explained by the employee's behavior. He didn't make a satisfactory effort to complete the tasks, or he didn't concentrate enough to complete the tasks correctly and on time.

In the first explanation, where we determined the failure to perform was caused by the situation or the context of the performance, redirection feedback is the correct response. With redirection feedback, we communicate:

- The employee isn't at fault. It's crucial the employee not feel he's being punished. Instead, you're committing to work with the employee to achieve successful performance;

- The performance, in this case the failure to complete the checklist, isn't acceptable; and

- Changes are required in the context to enable successful performance. Training, coaching and encouragement are needed. In this case, the employee would be trained, coached and supported to master the required skills and learn approaches to handle the unusual situations.

Communicating a redirection feedback message – the performance wasn't acceptable but the employee isn't at fault – is a challenge. Positive feedback – about the appropriate attitudes and specific tasks that were completed successfully – is an important and complementary part of redirection feedback. You're also providing the training, coaching and encouragement required for the employee to succeed. The employee must believe he's being treated fairly while recognizing he must improve performance.

The second explanation for the incomplete task list, where the context can't explain the failure, calls for a different response. Because the context doesn't explain the failure, the only remaining explanation is the employee's behavior – effort level, commitment, motivation and concentration. Negative feedback must be used. The negative feedback – reminder, reprimand and punishment – must produce sufficient discomfort to cause a change in behavior that will result in successful performance.

The difficulty with any choice – in this case redirection or negative feedback – is that the wrong choice can be made. One incorrect choice is common and potentially disastrous. The frequent errors are explained by a fundamental characteristic

of human nature:

- When explaining our own performance, we tend to overestimate the importance of the context and underestimate the importance of our behavior; and

- When explaining the performance of others, we tend to underestimate the importance of the context and to overestimate the importance of the behaviors.

In the supervisory situation with unacceptable performance, this means:

- The employee tends to blame the unacceptable performance on the context – lack of training, ineffective supervision, unpredictable circumstances, unreasonable

expectations – and tends to not believe his behaviors are the reason for the unacceptable performance; and

- The supervisor tends to blame the unacceptable performance on the employee's behaviors – effort, motivation and commitment – and tends to not believe the context had an impact on the unacceptable performance.

Think of a recent example when someone blamed you personally (provided negative feedback) when you felt the culprit was the context (should have received redirection feedback). We believe we've been treated unfairly. A perception of fairness is one ingredient in building trust in any relationship, including the supervisor/employee relationship. Anytime feelings of unfairness appear, the relationship is damaged.

I suspect many supervisor/employee problems are a result of the supervisor's use of negative feedback when the employee expected redirection feedback. This situation is common. What should the supervisor do? First, be careful of your use of negative feedback. Use redirection if there's any possibility in your mind the context might be the cause of the unacceptable performance. Second, when delivering negative feedback, be sensitive to the likelihood the employee might be clinging to the context as the culprit and take the time to clarify why the context isn't the cause of the performance failure.

Providing performance feedback to employees is like everything else – it has the greatest impact when done correctly every time. Keep the following in mind:

- Performance is influenced the most by consequences; and

- Choosing the wrong form of feedback or communication can damage the supervisor/employee relationship. The most damaging is the use of negative feedback when redirection is needed.

Correctly using these ideas can improve employee performance, employee and supervisor job satisfaction, and the supervisor/employee relationship significantly. Begin immediately by explicitly planning to do three things:

1. Focus on employee's performance;
2. Provide copious amounts of positive feedback where appropriate; and
3. When you find performance is below expectations, decide whether redirection or negative feedback is needed. GCN



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**CHOOSING THE WRONG FORM OF FEEDBACK OR COMMUNICATION CAN DAMAGE THE SUPERVISOR/EMPLOYEE RELATIONSHIP.**



### What is the height of cut on your fairways?



Source: From a GCN online poll of 124 superintendents

## QUOTABLE

"Use plenty of bourbon in your ice. It helps one get to sleep." — **Bob Collins**, CGCS, Cripple Creek Golf and Country Club in Bethany Beach, Del., giving advice to other superintendents about preparing a course for a tournament

"Our industry has to be more politically engaged. Golf course superintendents are not as active politically as they could be." — **Tom Smith**, executive director of the Michigan Turfgrass Foundation, about environmental issues such as water, pesticides and fertilizers

"There are about 15 courses in Nebraska that haven't used core aeration on their greens in the past 10 years and are having great success with just topdressing." — **Roch Gaussoin**, Ph.D., turfgrass scientist at the University of Nebraska

"Basically there's no limit to how far seed can travel. And dry seed can survive 10 years. Seeds are one of the major concerns I have in terms of gene flow." — **Virgil Meier**, Ph.D., a biotechnologist with the Risk Assessment Group of the United States Department of Agriculture, about genetically modified grass

Source: Jerry King



**"I now realize why your favorite course only cost \$1.50 for 18 holes and a cart."**

## BY THE NUMBERS

**51**

The number of fairway bunkers on Pinehurst No. 2, according to the 2005 U.S. Open fact sheet

**\$10,481,000**

The revenue of The First Tee for 2004, according to The First Tee

**7,214**

The length of Pinehurst No. 2, which hosted the U.S. Open last month, according to the 2005 U.S. Open fact sheet

**450,000**

The number of First Tee participants since 2000, according to The First Tee

**5,870**

The length of Pinehurst No. 2 when it opened in 1907, according to the 2005 U.S. Open fact sheet

**6,000**

The average square footage of the greens on Pinehurst No. 2, according to the 2005 U.S. Open fact sheet

**56**

The number of greenside bunkers on Pinehurst No. 2, according to the 2005 U.S. Open fact sheet

The number of maintained turf acres on golf courses in the state of New York, according to the 2003 New York Turfgrass Survey

**101,480**



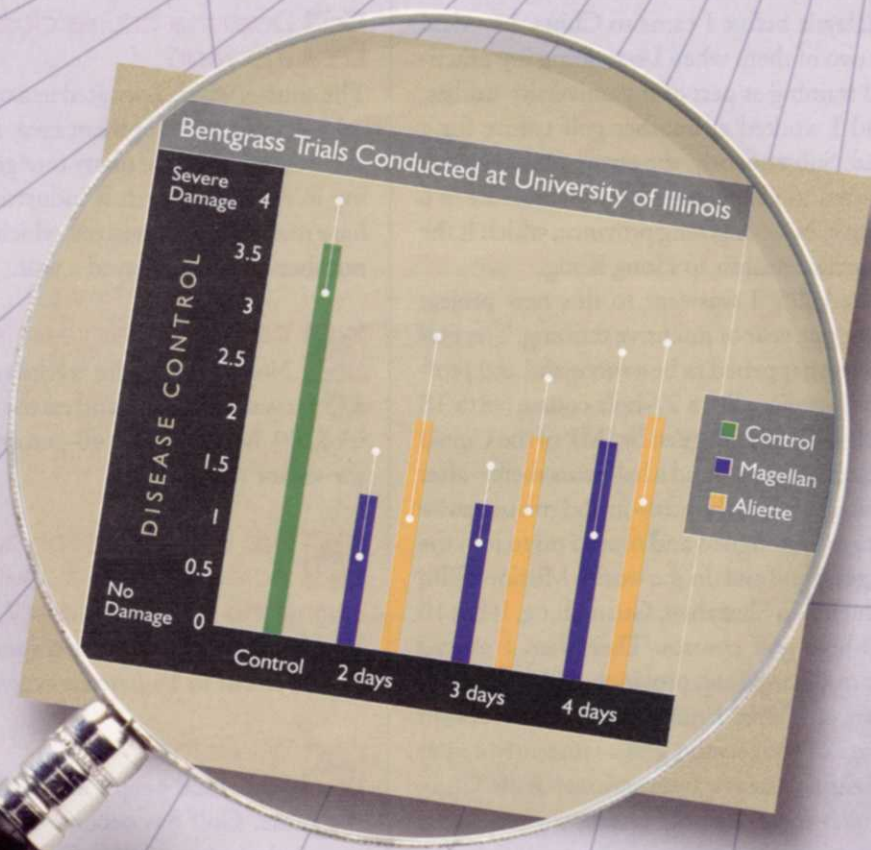
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Home of Riverdale Brands



## Far and away

### WHAT IT'S LIKE BEING A GOLF COURSE SUPERINTENDENT IN CHINA

by  
JOHN  
WALSH

**Q** How many golf courses are in China?

We have about 240 throughout the country, but they're concentrated in the main cities, which are on the coastline.

**Q** Have there been many course openings lately?

We have a short golf course history. It's only 20 years old. The first golf course opened in 1984. During the past five years, golf course supply has increased about 30 percent.

**Q** Are most courses owned by the government?

Golf courses are owned mainly by foreign investors. However, about 10 years ago, the local governments and local investors started venturing into the market.

**Q** Are there many foreigners operating golf courses?

About 10 years ago, when I started working in China, about 30 percent to 40 percent of the new golf courses were maintained by foreigners. But five years ago, local people started taking over the maintenance and management. Now only 10 percent of those maintaining golf courses are foreigners. But at most high-end golf clubs, foreigners are still taking care of the maintenance.

**Q** Do you predict a significant increase of the number of golf courses that will be developed during the next 10 years?

The government doesn't encourage any more golf courses, and it doesn't issue any more permits. However, there are still new projects coming up and eventually will open.

**Q** How is development happening when the government isn't issuing permits?

Developers have support from the local government. The central government policy

doesn't support golf course development because it thinks golf courses are using too much farmland. There's a possibility the government will only support golf course projects that are built on wasteland and areas that aren't suitable for farming. So there's a possibility of a boom in the future.

**Q** How did you get into the golf course industry?

Well, I'm not Chinese. I'm Malaysian. I started my career in 1994 after I graduated from university. I worked at three golf courses in Malaysia before I came to China. I worked at two of them when I was doing my practical training as part of my university studies, and I worked at another golf course for a year. Subsequently, the owner of that course started to invest in China. He invested in a course in Guangdong province, which is the province nearest to Hong Kong.

In 1995, I was sent to this new project after one year of intensive training. The golf course happened to be a successful and profitable project. It's a 27-hole course (with 18 holes lighted) designed by JMP of the United States. After two and a half years there – after going through the grow-in and maintenance stages – I resigned and moved on to join the biggest golf club in the world, Mission Hills, which is in Shenzhen, Guangdong. It has 10 18-hole golf courses. Thereafter, I moved from Guangdong province to the northern part of China. I moved from warm-season grass to cool-season grass. Currently, I'm at Tianjin Warner International Golf Club, which is an 18-hole course owned by an American, Jason Chen, who hails from Taiwan but resides in the United States.

**Q** Were there many other people in your class studying to become golf course superintendents?

No. I was in horticultural science majoring in turf and landscaping when I was at the university. About 5 percent of my classmates went to work at golf clubs after graduating.

**Q** That seems like a small percentage. Why is that?

In Malaysia, we have about 270 golf courses. Not only is the market saturated, the university students find it's too tough to work at golf courses.

**Q** You mentioned a night course. Is night golf popular?

It's popular in the southern part of China, and in the North as well. Nowadays, at least nine holes of any new project will be lighted.

**Q** Does the course close during the year?

The course, which is located in a technological economic development area, is open all year round. We have many foreigners working in this area, which is industrial, and we have many foreign investors, which drives the number of rounds played a year.

**Q** What are the green fees?

Normally, on the weekdays, it costs \$75 for walk-in guests; and on the weekends, it's \$100. Members pay 40-percent less than the visitor rate.

**Q** Has the number of rounds increased at the course during the past five years?

Yes, definitely. We've had a constant growth of 10 percent to 15 percent every year.

**Q** Why is that?

More local people are starting to play the game. Golf has become more popular among the community in China, and golfers have influence on their friends.

**Q** How big is your staff?

I have 20 permanent workers and 10 seasonal workers during the summer.

**Q** Is it easy to find workers?

It's not a problem. The population is 1.4 billion, so we have sufficient manpower. But we need to provide training for them.

GOLF COURSE NEWS  
INTERVIEWS LOUISE  
LAM, GOLF COURSE  
SUPERINTENDENT  
AT TIANJIN WARNER  
INTERNATIONAL  
GOLF CLUB.





Photo: David Zhung



**Q** So workers don't need previous experience to work on the golf course?

Not necessarily because I train them from scratch.

**Q** What's your annual maintenance budget?

\$250,000 to \$300,000, which has remained the same for the past several years. However, when turf equipment needs to be replaced, we have a special budget for that.

**Q** What turfgrass diseases do you deal with?

Ones that are quite common everywhere in the world. We have pithium species, dollar spot, brown patch, etc. However, all these diseases are under control.

**Q** Explain your pesticide program.

We don't spray from November to March. It's not necessary because there's no disease activity. In April, I will schedule a preventive spraying program on the greens. We have a careful pest control program. Mostly, we do preventive spraying and some curative spraying from June to August because of the high humidity during the hot summer. I'm careful from June to August – these three months are crucial. Although we have summer pithium threats, a careful irrigation program, appropriate aeration, a tight fungicide spray program schedule and other cultural practices help give us healthy bentgrass. Normally, we don't spend much on fungicides. Expenses are concentrated on greens and tees mainly.

**Q** What's the height of cut on the greens?

The cutting height depends on the season. Our highest height of cut is 0.19 inches (5 mm) during the winter, and then in spring and summer during the growing season, we're cutting the grass from 0.12 inches to 0.14 inches (3 to 3.5 mm). During the summer, bentgrass doesn't grow well and is almost dormant during the heat peak. The roots are relatively short. It's common to cut bentgrass a bit higher during the summer. However, I maintain the similar growing season's height of cut by controlling the water supply at appropriate levels and the right timing counts.

**Q** Is water usage a big issue?

So far, we have enough water to use. Our golf course is in the city, and because the course is built on a salt field at the coastline, the water from the lakes isn't suitable to be used as irrigation water because it contains

high salt levels. The pH is exceeding nine. To assure the healthy growth of the turf, civic water (tap water) is used as the irrigation water, and liners were installed underneath all the irrigation lakes.

We have a good understanding with the local government. It supplies us with sufficient water at a reasonable rate. Since last year, the local government started supplying treated water (recycled water) to us.

**Q** What's an example of a best management practice you use at Tianjin Warner?

I was well trained by a golf course superintendent from America – Martin Alexander – when I was in Malaysia. Throughout my working experience and on-the-job training programs, I adopted a good maintenance program and an integrated pest management program. I don't use many chemicals, and I'm environmentally conscious.

For the past 10 years that I've been in China, I've worked with many Chinese, and I share my knowledge with them. I maintain a golf course by using the standard cultural practices that anybody would use in the States. When I was in the southern part of China, I dealt with paspalum, Bermudagrass and zoysiagrass. Different types of grasses have different types of cultural-practice needs. The end result is to maintain and provide a nice-looking golf course through proper cultural practices.

My philosophy of golf course maintenance is to allow the golfers to play the game with the least number of interferences and provide them the most consistent playing surface. In Asia, the labor cost is low, and the laborers are cooperative when working odd hours. We work a lot at night. We do chemical spraying, fairway topdressing and greens hollow tining at night to open the course for play every day with the least disturbance.

**Q** What's the main difference between China and the United States relating to golf course maintenance?

A shortage of well-trained turf management workers. Because the history of golf in China is so short, there's no special programs to train any students to take care of turfgrass on a golf course. However, pasture programs are well conducted in the Chinese agricultural education history. The students are knowledgeable about pastures, but they don't seem to have any concept about growing grass and maintaining turfgrass on golf courses. Besides, the horticulture program is more focused on landscaping. There's no four-year turf management program in China. We

don't have adequate, local, qualified golf course maintenance manpower to maintain high quality golf courses.

Additionally, the availability of golf course supplies, especially purchasing turf equipment parts, is a big headache for most of us here. If a part needs to be replaced unexpectedly, it takes at least 20 days (the so-called the express service) to get the part from a local distributor because most of the turf equipment is imported from abroad. We were hardly visited by supply sales technicians in the past, however, that has improved recently. National and international golf shows and exhibitions are good ways to obtain new product information. Of course, surfing the Internet also is used widely for the new generation of golf course workers.

**Q** Have you been to America?

Yes. I go there annually for the Golf Course Superintendents Association of America's Education Conference and Show.

I've been a part of the GCSAA for five years, and I attend the seminars to earn the education points to maintain my Class A status and application for certification. I plan to be a certified golf course superintendent as soon as possible.

**Q** Are there associations like the GCSAA in Asia?

Yes, but not as magnificent as the GCSAA. The Chinese started their own kind of association similar to the GCSAA. The first meeting was held last November, and the "Course Management Committee of China Golf" is going to be formed in the next month. However, I'm not sure if I'm going to be part of that association because I have a pretty busy schedule.

**Q** Elaborate about your career goals.

Currently, I'm extremely happy with my work as a golf course superintendent. Besides maintaining turf, overseeing the golf operations as well is making my job more challenging. I have a plan to move up. However, during the next few years, I wish to carry out more chemical and fertilizer research that I'm conducting with local producers. We have experiment plots in the turf nursery.

What I'm going through now is my career path – moving on to higher management at a golf club. Managing a golf club professionally is my future goal. GCN

Louise Lam can be reached at [louiselam@sohu.com](mailto:louiselam@sohu.com).



# TIRED OF SECOND-GUESSING HANDWRITTEN TIMECARDS?

**EMPLOYEE TIME SHEET**  
 NAME: Bill Kemp DATES: Aug 15-19

DAY	START	LUNCH	END	JOBSITE	WORK DONE	HOURS
Mon	7:00	1/2	3:30	Walby	Ext.	8
Tues	↓	↓	3:30	↓	↓	8
Wed	↓	↓	4:00	↓	↓	8.5
Thurs	↓	↓	4:00	↓	↓	8.5
Fri	↓	↓	4:00	↓	↓	8.5

Employee Signature: Bill Kemp Total Hours: 41.5



**REALITY?**

**Employee Report**  
**Bill Kemp**

Jobsite Name: **Walby Golf Course** Date Range: **8/15/2005 through 8/19/2005**

Day	Start	End	Activity	Hours
Mon 8/15	7:19 AM	12:02 PM	Placing the pin	4:43 hours
	12:40 PM	3:39 PM	Bunker	2:59 hours 7:42 hours
Tue 8/16	7:21 AM	12:06 PM	Placing the pin	4:45 hours
	12:37 PM	3:42 PM	Bunker	3:05 hours 7:50 hours
Wed 8/17	7:16 AM	12:04 PM	Placing the pin	4:48 hours
	12:33 PM	3:44 PM	Mowing	3:11 hours 7:59 hours
Thu 8/18	7:18 AM	12:25 PM	Placing the pin	5:07 hours
	1:05 PM	3:42 PM	Mowing	2:37 hours 7:44 hours
Fri 8/19	7:17 AM	11:50 AM	Placing the pin	4:33 hours
	12:36 PM	3:41 PM	Mowing	3:05 hours 7:38 hours

Signature: Bill Kemp Bill Kemp Employee total: 38:53 hours



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Trump National Golf Club, Bedminster (N.J.) is a recently completed project of Fazio Golf Course Design. The firm has remained relatively busy and is selective about the projects it accepts.

## Healthy growth

### BUILDERS, ARCHITECTS KEEP BUSY DESPITE A SLOWDOWN OF GOLF COURSE DEVELOPMENT

by  
JOHN  
WALSH

**D**espite a steady decline of golf course development during the past four years, builders and architects seem to be happy with the amount of work they're doing. Quality is overriding quantity, and supply is coming more in line with demand.

In 2000, about 400 new courses (18-hole equivalents) opened, according to the National Golf Foundation. There will be 150 to 160 golf courses (18-hole equivalents) opening this year, according to Jim Kass,

director of research for NGF. That range is expected to remain for the foreseeable future, but one variable that would increase the range would be if more of the 78 million baby boomers retired, Kass says.

"That could change the landscape 10 to 20 years out," he says.

Despite the decline of the number of openings, Kass says the golf course development market is healthy.

"Supply and demand is coming into parity," he says. "We need to fill existing



supply before we increase it. In 2004, same-store rounds increased 0.7 percent more than 2003.

"The number of openings today is what it was back in the early to mid-1980s," he adds. "It's more appropriate."

"In the boom of the late 1990s, the number of golf courses being built was overstated, which made the contraction look bigger than it really is," says Tom Shapland, president-elect of the Golf Course Builders Association of America and president of the Midwest office of Wadsworth Golf Construction Co.

Kass says real-estate has been a big part of golf course development – 40 to 60 percent of openings during the past 10 years have been real-estate related, and 22 percent of total existing courses are real-estate related. Courses in planning and under construction still are significantly real-estate related and are in the 60-percent range of all courses in development.

Daily-fee courses also have been popular. In 2004, daily-fee courses were 58 percent of openings, and daily-fee courses consisted of 56 percent of the total supply. Many of the daily-fee courses are high-end and are more income driven than demand driven. In contrast, municipal courses were 10 percent of openings and were 5 percent of the total supply in 2004.

Courses continue to open in familiar areas. The states with the most course openings last year are: Florida, California, Texas, Arizona, New York, Georgia and Pennsylvania. One reason why Florida leads the way (with 13) is because of its increasing population. Even though these states lead, the number of course openings in each state declined compared with years past.

Additionally, rounds played and course closings, which are linked to the economy and 9/11, are two reasons for the development decline. Rounds played decreased 4.5 percent during 2002 and 2003, and there was an increase of closures during the past five years – 200 courses closed from 2001 to 2004. However, there still are a relatively high number of courses in the planning stage – 410 – but not all will come to fruition.

"Golf course development doesn't always relate to the statistical demand of golfers," Shapland says. "Most of our projects are an amenity to an overall development."

### In the works

Even though development has slowed, it hasn't crimped the business of some build-

ers and architects. Lee's Summit, Mo.-based Mid-America Golf & Landscape is working on four new construction and four renovation projects.

"The last nine months have been unbelievable for us," says president Rick Boylan. "We're not chasing every job. We're not trying to mass-produce courses. We bring value to the clients and pay attention to details. We keep overhead costs low and pass that on to the end-user."

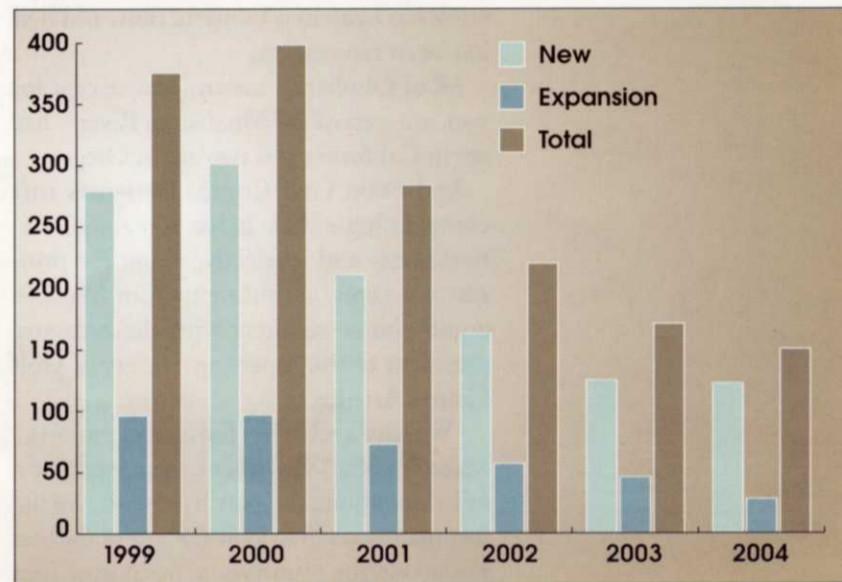
Most of the courses being built are daily-fee and public-sector-types, Boylan says. However, three of the new courses the company is building are private near residences. Four or five years ago, that type of course consisted of 80 percent of the courses that were built in the industry, he says.

Boylan isn't looking to grow the company significantly. He would like to maintain six to eight projects a year and earn 15 percent to 18 percent profit margins on those projects.

"Our goal is not so much to grow, but to manage better," he says. "But, there's a lot of work out there for fall and winter. There are still projects that people want finished in time to meet the grassing window to get play next season."

"Right now, most contractors are as busy as they want to be, but they could be busier, especially since the rules of the game have changed, i.e., some jobs taken in March need to be finished in October," he adds.

## Golf course openings in 18-hole equivalents



Source: NGF

Even though there has been a steady decrease of the number of golf course openings, supply is coming more in line with demand, and growth is healthy.

"With those jobs, everything has to go right for you. But those jobs will fall off a bit. However, the industry will be strong, and the price for work will be reasonable. If the prices of fuel and building materials come down, it will help everyone."

Business also is going well for Waunakee, Wis.-based Oliphant Golf Construction, which has been in business since 1997. President Mike Oliphant says the com-



Photo: Course Crafters

Courses in planning and under construction account for roughly 60 percent of all courses in development.



pany will work on 10 to 12 projects this year, six of which are new construction. Throughout the years, half the company's work has been new construction, and half has been renovation.

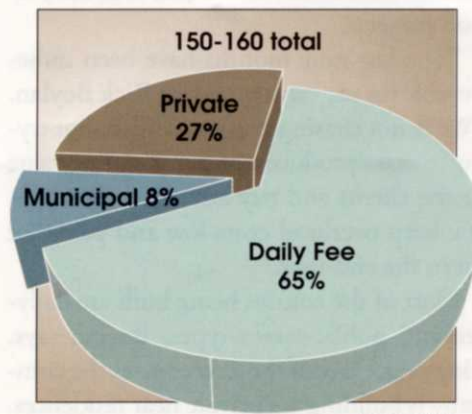
All of Oliphant's current jobs, except for two, are west of the Mississippi River – five are in California and two are in Oregon.

And Fazio Golf Course Designers isn't complaining either. It has remained relatively busy and is selective about the projects it accepts, according to Tom Marzolf, a golf course architect with the firm and president of the American Society of Golf Course Architects.

"We have a relatively full load of projects," Marzolf says. "We haven't seen much of a lull throughout the past five years. We are fortunate enough to look at many of the best projects in the country, and because of Tom Fazio's reputation, we haven't seen much decline in our business. And we have a lot of repeat business, which has helped us.

"We don't really turn work away, but we pick and choose to some degree," he adds. "Our situation isn't standard in the industry.

## Projected openings for 2005



Source: NGF

Daily-fee courses account for the majority of projected openings for 2005.

We look for an owner who is passionate about building quality golf courses. The relationship with the owner is often more important than the site of the golf course."

The firm's business is primarily designing new 18-hole golf courses.

"We are very client oriented and try to

build what our clients believe will help them achieve their goals and objectives," Marzolf says. "Since 9/11, most projects are high-quality real-estate golf communities, or real-estate is involved in some way. There are very few stand-alone golf courses being built right now."

The number of projects Fazio Design works on varies. Marzolf says the firm averaged five to seven new golf courses a year throughout the past several years.

"We also limit renovation work," he says. "There are so many of our golf courses that need long-range planning and renovation assistance that oftentimes it's hard to get involved with golf courses where we have no history."

## More work

Oliphant and Boylan are working on more projects now than they were a few years ago. Oliphant, who has grown his business from 10 employees in 1997 to 400 now, says because his company is a small- to medium-size company, it wasn't affected by the decline of new golf course construction a few years ago. He says the larger companies that were building 35 to 40 courses a year were more affected. Oliphant's company averaged about six projects a year during '02 and '03. Last year, the company completed eight. Of those projects, half were new construction and half were renovation.

"After '01, we saw a drastic downward spiral with high-risk, high-end projects that we're seeing back on our desks now," he says.

From 2000 to 2004, Mid-America, which has been in business for 13 years, averaged five projects a year.

"We saw a decline in new construction being replaced with remodeling," Boylan says. "Our gross project value declined about 40 percent, from \$12 million to \$8 million. The price of work wasn't as profitable a few years ago. Some projects were taken at cost. Companies were buying work. We participated in that to keep people working, but it wasn't 50 percent of our work.

"We started to see an increase in October of last year," he adds. "It just felt like with the low interest rates, the banks had loosened their grip on things, and people who were talking about projects started getting things done. However, the increased cost of building materials and fuel has been dramatic, and we eventually pass those costs to the end-user. During the past 12 months, we doubled what we normally would generate in revenue: We just broke the \$22-million mark."



Photo: Mid-America Golf & Landscape

Mid-America Golf & Landscape is working on four new construction and four renovation projects. The Cherokee Hills Golf Club in Catoosa, Okla., was renovated recently by the company.



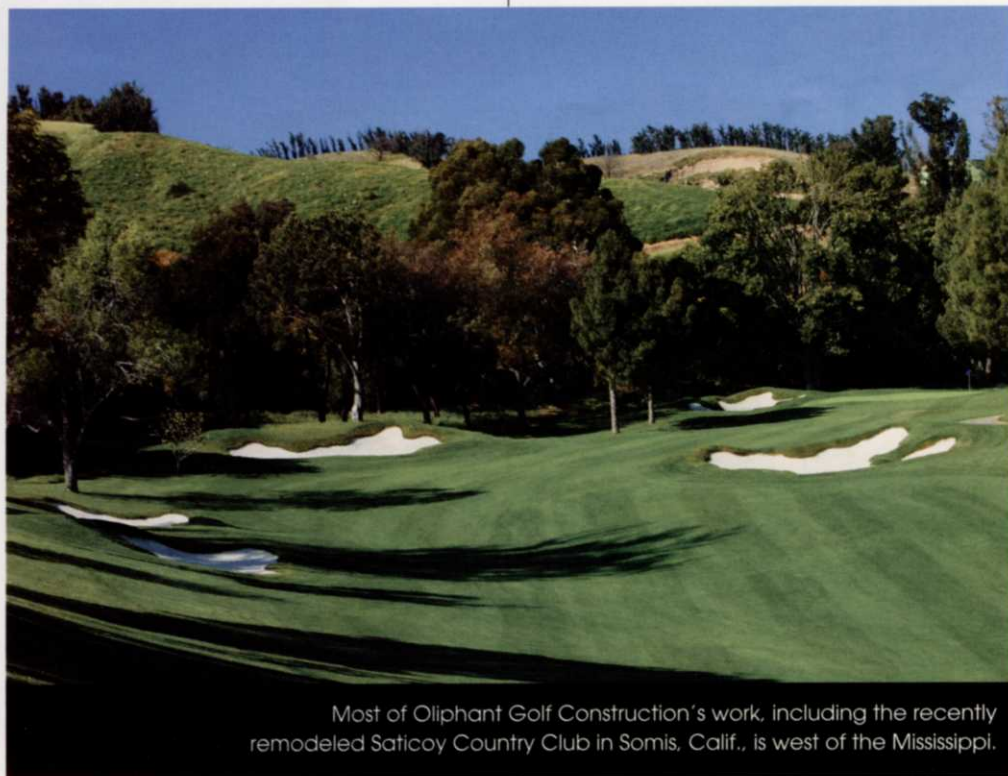


Photo: Rob Brown Photography

Most of Oliphant Golf Construction's work, including the recently remodeled Satcoy Country Club in Somis, Calif., is west of the Mississippi.

To read the accompanying sidebar to this article about bidding and renovation work, please visit [www.golfcoursenews.com](http://www.golfcoursenews.com).



president is to get involved with existing golf courses and work on developing master plans for them."

Bob Pinson, president of Gainesville, Ga.-based Course Crafters, hopes the industry can get on the same page and encourage more people to play golf because more people playing golf is job insurance for builders.

"We're pricing ourselves where too many people can't afford to play," Pinson says.

Shapland says the housing-development boom isn't helping golf course development because land values are so high that it's difficult to designate 200 acres to a golf course. However, he says development will remain healthy.

"Golf course development is attractive and will sustain itself for a while longer."

GCN

*John Walsh is the editor of Golf Course News. He can be reached at [jwalsh@gie.net](mailto:jwalsh@gie.net).*

### A look ahead

Despite the increase of business, Oliphant is cautious about the development market in the future.

"To go from six projects to 10 in a couple years, I didn't have to add a lot to the company - we can handle it," he says. "But to take on several more projects, I will have to add overhead to the company. We will level off at 10 projects. I don't want to get any bigger. We're a medium-size company, and I'd be tickled to keep eight to 10 projects a year. I want to stay solid and build relationships with the architects we work with."

Oliphant says golf course development won't boom any time soon. He says the development boom of the late '90s was an anomaly and the industry will not see that much development for a long time, if again. He says the market is healthy, but can improve.

"There have been golf courses built for X value and twice as many being sold for half that, and some are foreclosing," he says. "We all know stand-alone golf courses are difficult to make work, and there's not a quick return on investment with a golf course."

Marzolf says slow construction growth will continue.

"It's market driven," he says. "There's an oversupply of tee times, and we need to increase the number of golfers. Real-estate is the reason there will be 150 golf courses

openings this year.

"Existing golf courses need to figure out how to compete with these new facilities," he adds. "Master planning is the key element to competing. Owners need to study their facilities to find out how to grow their businesses because the market will be tough for many years. My platform as the ASGCA



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Source: NGF

There are 320 golf courses under construction throughout the country, according to the National Golf Foundation. Many of those are on the East Coast.



# Out from under water

## FLOODING CAUSES DELAY OF OPENING, SPURS DESIGN CHANGES

by  
**HAL  
PHILLIPS**

**S**cott Boyd had no illusions about his new post at White Clay Creek in Wilmington, Del. In fact, he was tipped off pretty much from day one: "The day of my interview was a day after a flood, so I saw it all first hand," Boyd says.

As it turned out, he hadn't see the half of it. Since taking over as superintendent in October 2003, Boyd has witnessed 20 separate floods, culminating with a 500-year storm in late September of 2004 – around the time White Clay Creek Country Club at Delaware Park was originally scheduled to open.

"That day, Sept. 29, we had 80 percent of the golf course completely under water," he says. "It was unbelievable. But you know what? Since then, we've definitely held our

own, and the changes we've made will be effective because we've seen the absolute worst it can be. Same for the cleanup systems we have in place. We'll probably never be tested like that again. But if we are, we're ready."

In wake of the 500-year storm, Boyd and White Clay's designer, Arthur Hills/Steve Forrest & Associates, responded with a three-pronged approach of cleanup, redesign and major drainage enhancement.

"It's been a battle to say the least, but everything's paying off – all the work we've done and all the adjustments by Steve Forrest and Arthur Hills," Boyd says. "Last year, you couldn't have imagined where we'd be today. I'd have said you were crazy. People are amazed to see how far we've come. I'm amazed."

The original design at White Clay Creek – built by Niebur Golf of Colorado Springs, Colo., and the one that almost made it to opening day in 2004, only to be rained out (for eight months) – was an architectural, drainage and permitting achievement in and of itself. Toledo, Ohio-based Hills/Forrest was obliged to lay out the course almost entirely within the flood plain of White Clay Creek and its many tributaries. Sixteen of the 18 holes are bounded or crossed by a river, stream, wetland or pond. The course also was inventively routed around the perimeter of the thoroughbred racing facility and slots casino that shares its name.

"A round at White Clay is certainly an unusual, dramatic and eclectic journey – past racetracks, railroads, tunnels, a water tower, a casino, and some of the most scenic, tree-lined river settings anywhere," says Steve Forrest, the Hills/Forrest partner who directed the project. "I can't imagine there's another facility quite like it."

Because almost all of the golf course was built in the flood plain, the architects had to design all the tee and green sites above

100-year flood levels to get the permits.

"That meant all the green features are probably five feet above the flood level, above the creek banks," Forrest says. "It was pretty much a fixed design consideration for us, but one we took good advantage of. Any time you can create an elevated tee situation, like we did throughout the White Clay Creek project, it gives you a better view of the target areas and the overall golf hole."

"Building up green sites is another architectural advantage, even if its mandated by flood plain conditions, because any time you can have a slope to build a bunker into, it makes for a more dramatic and attractive bunker," he adds. "Even though it sounds like a demanding restriction or requirement, it's something we'd strive to do anyway. Funny thing was, when we started the project, we were in drought conditions. We went from desert to rain forest during the course of construction."

### Flood damage

Last summer, when the fledgling course was almost entirely grown in, the rains and flooding that had been a consistent annoyance became more than a nuisance. The greens and tees, built above the flood level, stayed relatively dry; but playing areas were drenched, and silt was everywhere.

"With that first round of flooding, we ended up getting more of the silt off the fairways with less damage than I originally thought possible," Boyd says. "I learned you have more time in spring or fall. In the middle of summer, however, it's imperative to get the silt off as quickly as possible. It's basically a four-hour window. If you don't get it done, the grass will become anaerobic. We had quite a few floods during the summer last year, and they were killers."

"You come in a morning after a flood – it's already 80 to 90 degrees outside – and

## AT A GLANCE

### White Clay Creek Country Club at Delaware Park

Architect: Arthur Hills/Steve Forrest  
& Associates

Location: Wilmington, Del.

Construction began: May 2002

Course opened: July 2005

Total project cost: \$9.5 million

Course owner: Parkside III, LLC

Director of grounds: Scott Boyd

Length: 7,077


Number of holes: 18

Number of bunkers: 48

Site: 230 acres

Par: 72





White Clay Creek Country Club was laid out almost entirely within the flood plain of the White Clay Creek, and water comes into play on 16 of the 18 holes.

Photo: Chris John



you can smell the damage,” he adds. “It wasn’t a pleasant smell. We call it the smell of death.”

Boyd says the number of flood incidents honed his crew into an efficient cleanup machine. But it came at a cost. He estimates his guys averaged 20 to 30 hours of overtime per week last summer.

“My guys have been real troopers,” he says. “When we flood, we know where to go first, where the hoses have to be – as quickly as possible – to clean the silt off fairways. We’re about as fine-tuned as we can be.

“The toughest thing to explain to other superintendents is you’ve got maybe 60 percent of the course doing well,” he adds. “But

with those floods, at a new course, you’re trying to grow-in, maintain and cleanup all at the same time. You’re sending the crew to all these different areas to accomplish all these tasks.”

Boyd had dealt with flooding before, most recently as superintendent of Kiln Creek Golf Course & Resort in Newport News, Va., and before that at Great Rock on Long Island in New York.

“But nothing helped me prepare for this,” he says. “I know a lot of guys who have worked at flood-plain golf courses and guys who still do. I’ve been in touch to see how they dealt with it. I try to throw my ideas off some of the other guys in this area. I

even called my mentor (Paul R. Latshaw, who Boyd worked for at Congressional and Winged Foot) mainly to vent and make sure I wasn’t going insane. But at a place like this, I learned it’s basically its own beast.”

## Preparation

The floods of 2004, however, had a silver lining. They showed Boyd and Forrest exactly what had to be done, in terms of drainage and design, to cope with the next enormous flood.

“The lesson here is 100-year storms can occur any time,” Forrest says. “There’s basically a 1-percent chance it can happen

Around the time White Clay Creek Country Club was scheduled to open for play, a 500-year storm created massive floods and delayed the opening eight months.



Photo: Chris John





Arthur Hills/Steve Forrest & Associates were challenged by the flooding at White Clay Creek. From left: Chris Wilczynski, Brian Yoder, Hills, Forrest and Drew Rogers.

Photo: Arthur Hills/Steve Forrest & Associates

in any 12-month period. We did extensive modeling, revised the grading plan many times to get the proper volumes, made compensating cuts so as not to change the flood-way as it exits the property. But when you get a 500-year storm, well, it's going to create more problems than any flood model is going to show. It illustrates that even with the best planning, studies and models, Mother Nature can still show you something surprising."

Between late September 2004 and early June 2005, Boyd and his crew embarked on an ambitious berm-building project, effectively raising the river banks along holes six, 14 and 16, and behind the ninth and 13th greens. Having seen where the river overflowed, placement of the berms was straightforward.

To enhance drainage, the crew installed five extra overflow outfalls – two of them are from a pond, and the rest are basins in the fairways that exit to the creek.

"When all is said and done, we will pretty much have reconstructed major sections of the third, sixth, eighth, ninth, 14th and 16th holes," Boyd says. "That's a lot of reconstruction right there. In most of these cases, there used to be large basin areas on the creeksides of fairways. We've filled all those in and sloped everything at a 2-percent to 3-percent grade to create more of a sheet flow. In times of flood, when the water goes back down, the creek will pull the water back with it."

Additionally, Forrest redesigned several holes to account for when flooding makes

portions of the trouble holes unplayable. For example, on the long par-4 sixth, only the front portion of the fairway is located in the flood plain. By building an alternate men's forward tee, the hole can play as a short par-4 – directly over the low-lying, flood-prone area – in times of flooding.

"We took a similar approach at No. 8,

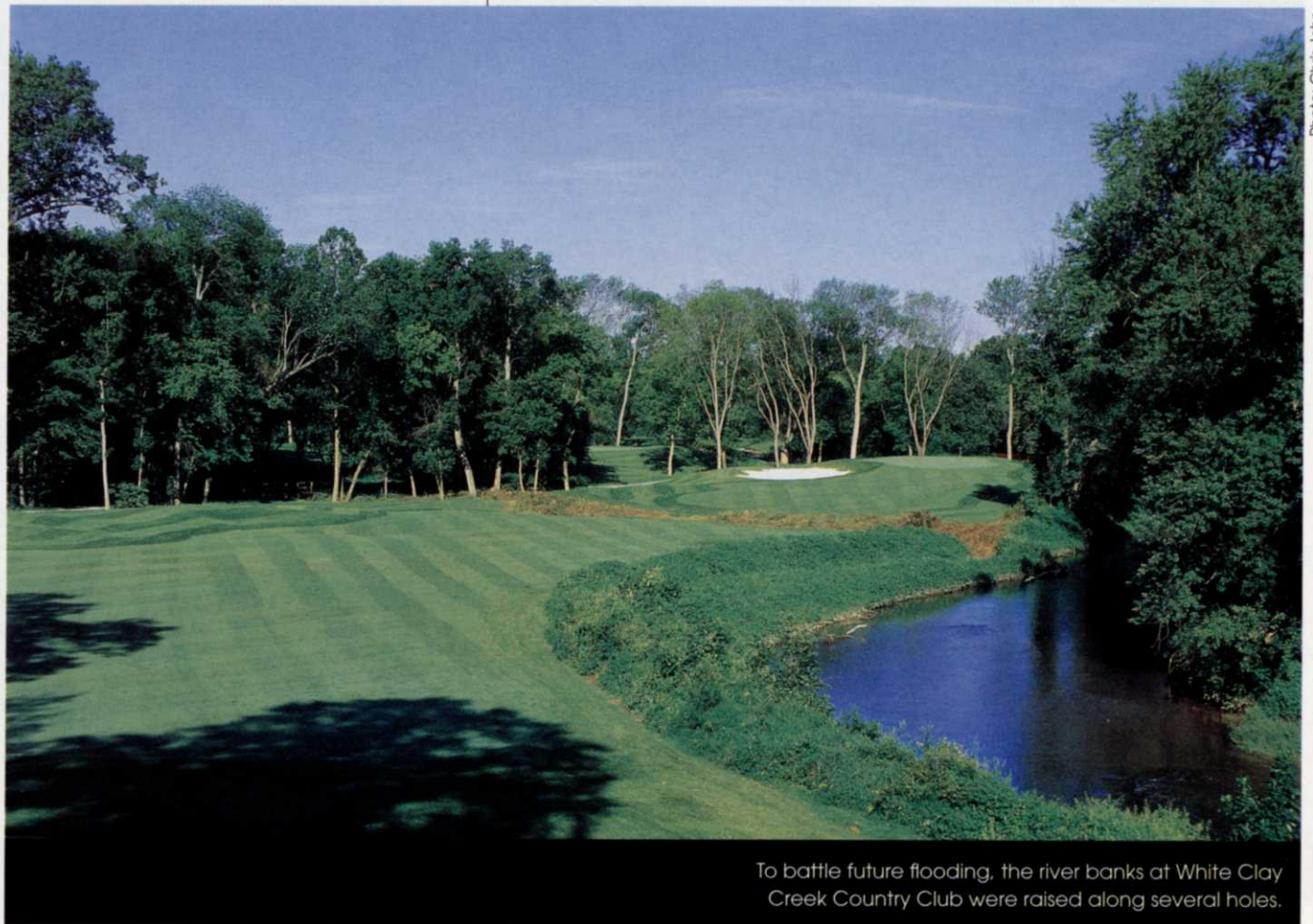
which was also seriously impacted by last year's flooding," Forrest says. "The new forward tee basically creates a new and different hole in times of flood."

"What we did there was reshape the fairway to give it solid sheet flow," Boyd adds. "That's also one of the holes where we installed a catch basin at the bottom of fairway. We didn't get approval for a berm because it would have changed the flood model too much. So Steve installed two tees behind the fairway bunkers on top of the hill. In case of adverse conditions, we can use the hole as a par-3. It was a great design solution, and it has turned out well."

Boyd says this has been a beast of a job.

"But we've overcome a lot, and we're getting rave reviews," he says. "When I first learned of the position here, I was extremely excited to work at a course built by Arthur Hills. My goal was always to be a superintendent at a top 100, top 50 club in the United States. If we can keep an even keel, that's just what we're going to be." GCN

*Hal Phillips is president of Phillips Golf Media. He's based in Gloucester, Maine, and can be reached at onintwo@maine.rr.com.*



To battle future flooding, the river banks at White Clay Creek Country Club were raised along several holes.

Photo: Chris John



## Prep time

THE EXTRA EFFORT AND HOURS LOGGED BY SUPERINTENDENTS AND THEIR STAFFS LEAD TO BETTER EXPERIENCES COME TOURNAMENT TIME

by  
ROB  
THOMAS

**W**hether it's a member-guest tournament or the PGA Championship, superintendents have many things to consider when preparing a golf course for an event. Some courses are made more difficult, while others add to the aesthetics. Either way, tournament preparation leads to extra hours logged by superintendents and their staffs.

Ross Santjer, golf course superintendent at Moccasin Creek Country Club in Aberdeen, S.D., hosts five club events each year,



Photo: Pinehurst

From planting flowers to lengthening holes, superintendents will tinker with a course, such as Pinehurst No. 2, to add a special feel for tournaments.



including a 36-hole U.S. Amateur qualifier. He makes sure the course peaks at the right time when getting set for a tourney.

"The first thing I do to prepare for a tournament is check my fertilizer and spraying schedules," Santjer says. "When hosting a tournament, the last thing you want to worry about is lack of growth or a disease coming in."

Roger Slaven, superintendent at Dodge City Country Club in Kansas, hosts 25 or more tournaments annually, ranging from member tourneys, to collegiate and high school events. For tournaments, he lets the rough grow from two inches to three inches. He also lets the native grasses grow. He says the first thing he does to prepare for a tourney is check with those in charge of the event.

"It depends on what the tournament committee wants," he says. "Sometimes they want the greens faster ... sometimes they don't."

Slaven says the greens at Dodge City can run as fast as 12 feet on the Stimpmeter. Like many superintendents, he avoids lowering the cutting deck to achieve faster speeds. Slaven and his staff will double cut the greens and roll them twice a week leading up to an event.

Santjer says he increases green speed from nine to about 10 by rolling and verticutting more than usual. He doesn't change the height of cut on the greens or roughs.

"The only thing we do special with tees and fairways is mow them more during the week of the tournament, from three times up to six times," he says.

## The majors

A little more goes into tournament preparation for Brad Kocher, CGCS, and Mark Kuhns, CGCS.

Kocher, vice president of grounds and golf course management at Pinehurst in North Carolina, and Kuhns, director of grounds at the Baltusrol Golf Club in Springfield, N.J., began preparing for the U.S. Open and PGA Championship, respectively, years in advance.

New to the grounds at Pinehurst were 65 2,400-square-foot air-conditioned tents for the corporate village. Asphalt was laid down on the practice range for roads and walkways, which were removed shortly after the tournament June 16 through 19. Then work began redoing the range.

Other holes on neighboring courses were used for everything from tents to shuttle turn-arounds. Bleachers to accommodate

## Tournament prep advice

Whether a superintendent is hosting his first event or has been through it many times before, help from peers is always welcome.

Brad Kocher, CGCS, vice president of grounds and golf course management at Pinehurst, suggests spending time with a superintendent who has prepared a course in the past and learning from his mistakes.

"Don't absorb all of the learning curve on your own," he says. "There's a lot of good experience out there. There's no sense in starting from scratch."

Once everything is in place, superintendents should be prepared for anything.

"You have to have a good game plan and have a 'what if' plan ... mostly related to weather," Kocher adds. "Plan for extremes."

Though he adds some yards to the course and tucks a few pins, Roger Slaven, superintendent at the Dodge City (Kan.) Country Club hesitates to make the course too difficult when he's preparing for tournaments.

"Don't make it too difficult," he says. "Most golfers aren't playing for big money. They're here to have fun."

Mark Kuhns, CGCS, director of grounds at the Baltusrol Golf Club in Springfield, N.J., suggests superintendents should know the expectations of the membership and not to underestimate them.

"They take great pride in all the extra things we can do to make it special," he says. "Everything out there should take on a special feeling. We love to hear people say 'Wow, what a great experience.'"

That can apply for every day of the year, not just before a tournament. Kuhns suggests listening for signals and trying to feel the pulse of a club's members. He also stresses that fires should be put out immediately.

Ross Santjer, golf course superintendent at Moccasin Creek Country Club in Aberdeen, S.D., echoes Kuhns' thoughts about open communication, especially with the tournament committee.

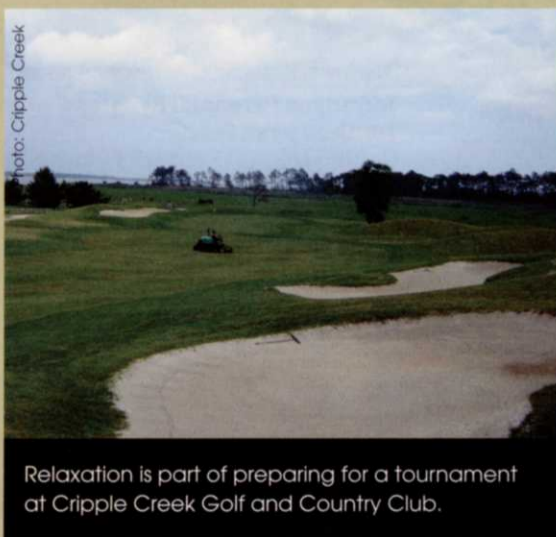


Photo: Cripple Creek

Relaxation is part of preparing for a tournament at Cripple Creek Golf and Country Club.



Photo: Baltusrol Golf Club

When the PGA Championship is played at Baltusrol Golf Club Aug. 11 through 14, Mark Kuhns, CGCS, will be hosting his fifth major.

"You need to let them know the time you need to have the course in the best shape possible," he says.

"Enjoy each tournament," he adds. "It's a lot of work, and you need to make it fun for you and your crew."

When in doubt, Bob Collins, CGCS at Cripple Creek Golf and Country Club in Bethany Beach, Del., says to relax by most any means.

"Use plenty of bourbon in your ice," he jokes. "It helps one get to sleep." GCN



23,000 seated spectators began going up in March. Also, a 40,000-square-foot merchandise tent had been in place for months before the Open.

At Baltusrol, Kuhns has interns digging trenches and installing conduit under-

ground for everything from fiber optics and cable to potable water lines for corporate tents and television networks. His crew also had to install two fire hydrants to meet city code.

Though Kuhns is hosting his fifth major

tournament as a superintendent, this is the first PGA Championship for him. He says he's enjoyed the experience and team atmosphere as he readies the course for the tourney, which is scheduled Aug. 11 through 14.

"We're working very closely with the PGA, and we assist them wherever we can," he says. "It's a partnership. It's to both our benefits to make things work successfully."

Kuhns halted guest play and members' cart traffic July 19 on the Lower Course, while play continues on the Upper Course. Eventually, hospitality tents will be placed on the 16th, 17th and 18th holes of the Upper Course. Temporary roads are being installed, and 150 tractor trailers are coming in with everything from flooring and scaffolding to bleachers and tents.

Like Santjer, Kuhns tries to stay one step ahead of any problems that might occur heading up to the tournament.

"The hardest part of hosting an event in August in this climate is just getting to August," Kuhns says. "We have to really concentrate on alleviating stressful situations. The last thing I want to be doing is playing catch-up."

With higher standards throughout the year, Kuhns won't have to do as much to Baltusrol to get it tournament ready.

"We've had one mandate since I got here," he says about maintaining championship conditions on a day-to-day basis. "Create a higher level of maintenance, not only with equipment, but with grounds."

Kuhns has the greens double cut seven days a week throughout the year, and he'll occasionally roll them to increase speed but doesn't go overboard for fear of overstressing the turf. He also uses growth regulators.

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NAME	MA1	NAME	MEAN	NAME	TX2	VA1	NAME	AZ1	MN1
<b>LS - 44</b>	<b>8.0</b>	<b>LS - 44</b>	<b>97.6</b>	<b>LS - 44</b>	<b>5.8</b>	<b>5.0</b>	<b>LS - 44</b>	<b>7.0</b>	<b>6.7</b>
Penncross	7.0	Penncross	96.7	Penn A - 1	5.9	4.2	Penn A - 1	6.6	6.1
Benchmark DSR	6.0	Penn A-1	96.1	Benchmark DSR	5.5	4.1	Benchmark DSR	6.3	6.3
Penn A-1	4.7	Benchmark DSR	95.6	Penncross	4.4	4.5	Penncross	6.9	5.3
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### Tips for tourney preparation

- Use others' experience
- Plan ahead
- Prepare and have a back-up plan
- Don't make the course too demanding
- Know expectations
- Give the course a special feel
- Communicate with the tournament committee

Source: GCN research



The greens generally roll 10.6 to 11.6 on the Stimpmeter, and according to Kuhns, they'll be at or above 11.6 for the PGA. Also, his staff will adjust accordingly to PGA requests.

Take away lightening-fast greens, and the yardage alone will present a challenge for pros. The par-70 course will be playing at 7,400 yards—longer than 7,200 yards when Lee Janzen won the U.S. Open at Baltusrol in 1993. Holes one, three and seven are all par-4s measuring longer than 500 yards, and the No. 17 tee has been moved back 30 yards to lengthen the hole to 650 yards.

The roughs, renovated to Kentucky bluegrass throughout the last three years, will be grown to four inches.

"It's going to be a real factor because we've narrowed the fairways considerably," Kuhns says about the rough. The fairways generally are between 24 and 25 yards wide in the landing areas.

Pinehurst added 39 yards to the No. 2 course since the 1999 U.S. Open. It played at 7,214 yards for last month's event.

Following a cool spring, Kocher was looking for some warmer temperatures to aid the growth of the rough. The Bermudagrass (419 and common) needed to grow to three inches. Kocher describes the grass as pretty gnarly when it gets that long. Normal rough had been 1¼ inch for last year because the fairways were narrowed to USGA-specified widths.

In preparation for the 1999 U.S. Open, the staff thought about growing the rough to four inches but settled on three inches to allow players an opportunity to advance the ball to the green.

The greens at Pinehurst, which normally run between 9.5 and 9.75 feet on the Stimpmeter, ran closer to 11.5 for the U.S. Open.

Calling the greens some of the smallest targets in golf, Kocher says the approaches were mowed tightly to allow errant shots to roll away from the greens as opposed to stopping in nearby rough.

Though Moccasin Creek Country Club won't be hosting big hitters like Tiger Woods and Phil Mickelson, improved equipment might cause the course to be lengthened soon.

"We have talked about reopening some of our back tees to add some distance for our Pro-Am event," Santjer says. "They closed the tees 15 years ago due to the course playing too long. Because of technology, it might be time to open them back up."

### Equipment

Normally, courses won't add equipment when a tournament nears. The mowers, trimmers and utility vehicles on site are plenty to get the job done. But that doesn't hold true when a major event rolls into town.

Toro brought in about 20 extra pieces of equipment to Pinehurst and does the same at Baltusrol. Kuhns says Baltusrol also will have local distributors and mechanics on site to deal with any unforeseen problems. Foley Grinders will have equipment and a person

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Photo: Pinehurst

The greens on Pinehurst No. 2 were made more difficult for the U.S. Open by tightly mowing the surrounds, causing errant shots to roll further from the surface.

on site to keep everything sharp and in peak performance.

### Finishing touches

Not all courses have the luxury of stopping play well in advance of an event. Many of the adjustments are last minute.

Bob Collins, CGCS at Cripple Creek Golf and Country Club in Bethany Beach, Del., is hosting the Delaware Open Aug. 1 and 2 and has less than a day to complete any fine-tuning on the course.

"The club's board has allowed me to close the first tee at 1 p.m., and we'll work until dark that night and before the event in the morning," Collins says.

Whether finishing touches mean patching divots, repairing ball marks or changing tees, the maintenance crew will be at the course late the night before an event and there before any of the golfers arrive the next day.

Santjer says play might be limited the evening before a tournament, depending

on the following day's start time. With the maintenance taken care of, he says his last task is preparing the tournament's pin placement sheets.

Pinehurst No. 2 closed two weeks before the Open for manicuring. In 1999, the course closed down for three weeks before the event, but according to Kocher, those in charge this year felt the extra week wasn't needed. It closed for members and the resort, but players who qualified for Open could get on for practice.

Slaven adds a few special touches to give an event a tournament feel. He change cups, paints the hole white, replaces flags with tournament flags and moves the tee markers back. He also works with the club pro to mark spots where they want pins. They'll do this a few weeks in advance to reduce wear on the greens.

### Regrets

Even with the most thought-out plan,

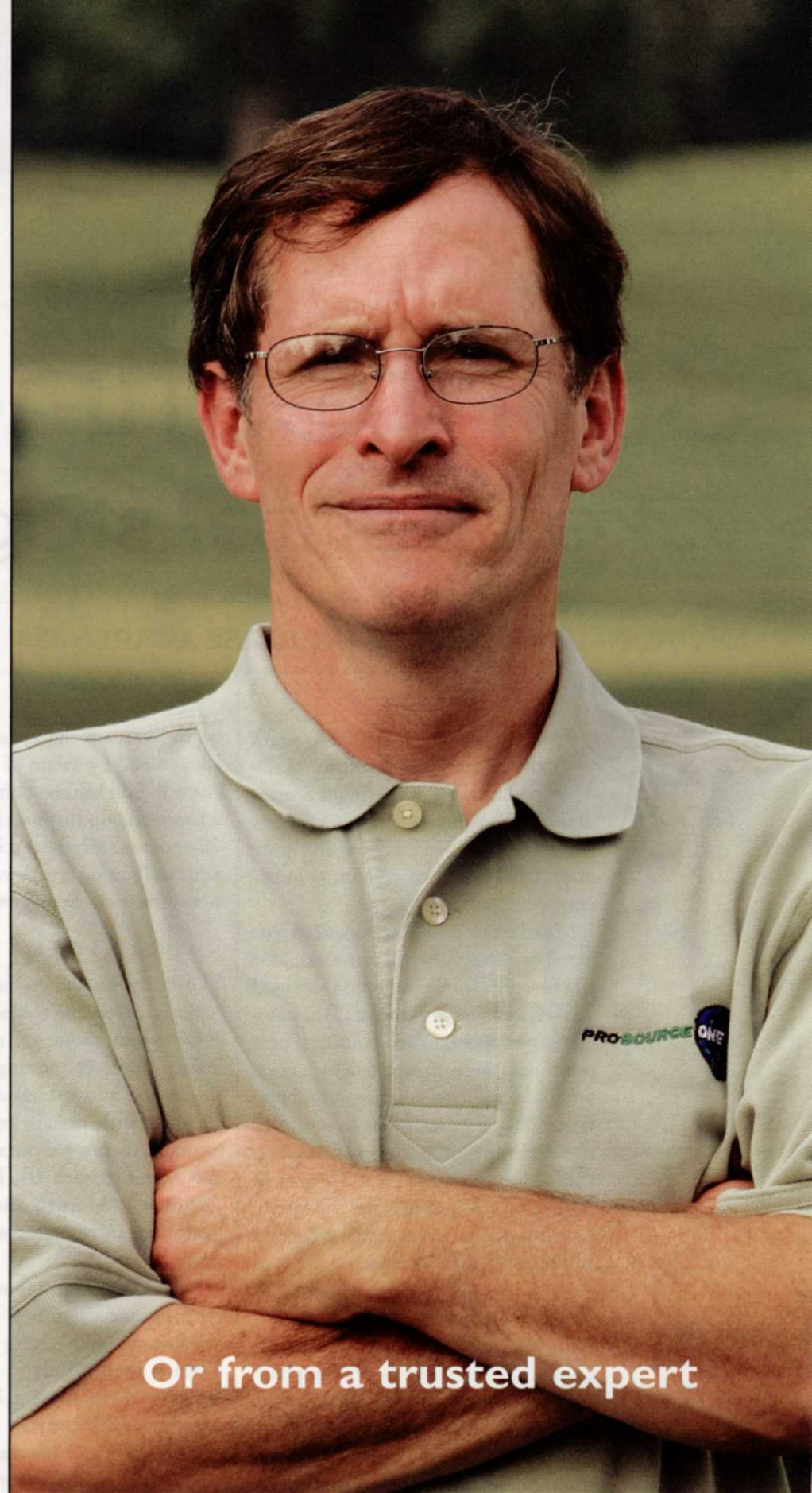
difficulties are bound to occur from time to time. Kocher says his staff spent too many hours hand-watering the rough in 1999. Since then, Pinehurst has had 400 sprinkler heads installed for a more consistent rough.

Though there might have been things Kuhns would have done differently if given the chance, he's pretty pleased with the on-course results. It's life off the course that was negatively affected.

"Not real regrets ... just feeling like I missed something else in life," he says when it comes to hosting one of the five major championships he's handled. "You start several years before and get very focused. Unfortunately, what it does is takes time out of normal life with your wife and children. It's a lot of stress." GCN

*Rob Thomas is associate editor of Golf Course News. He can be reached at [rthomas@gie.net](mailto:rthomas@gie.net).*





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## Soil testing takes center stage

ENVIRONMENTAL ISSUES INCREASE AWARENESS

by  
DAVID  
WOLFF

**S**oil testing is a tool used to assess the status of soil fertility and the potential for nutrient imbalances in turfgrass. While soil testing has been around for decades, it's becoming more important because of mandatory nutrient management programs.

Mandatory soil-testing programs have been established in some states for certain agriculture production and land application of organic wastes. They also are being applied to golf courses. These programs were prompted by excess levels of phosphorus, nitrogen and pesticides found in soils that have shown to be detrimental to the environment, particularly rivers and lakes. These environmental soil-testing issues will receive even more attention as public awareness and research data increase.

### Healthy turf is key

The key to producing healthy turfgrass is to reduce stress on the plant. Physical stress includes soil layering, wet soil, compaction, poor aeration, poor drainage, or soils with high clay or stone content. Chemical stress might include low fertility, excess nutrients (imbalance/toxicity), salts, high or low pH levels and pesticides. Biological stress includes insects, viruses, wilts and blights, nematodes, diseases, susceptible varieties, grass types and animals. Finally, there are weather issues such as temperature extremes, precipitation and light.

Weather and physical factors are always at the top of the plant stress list. Fortunately, superintendents can control nutrient fertility more easily than many of the other stress types. A superintendent's goal should always

be to focus on the stresses within his control and be aware of those he can't control. Soil testing alone can be risky when assessing turf nutrient efficiency. Plant tissue analysis used in conjunction with soil testing is one way to verify efficient nutrient management.

### Soil tests differ

University researchers have developed various soil-testing methods to provide information about soil nutrient availability. Some soil-testing methods are developed and calibrated to be used on soils with certain properties. For example, there are about six phosphorus soil tests (Mehlich III, Bray I, Olsen, Mehlich I, Morgan and AB-DTPA) performed by laboratories in the United States.

Each of these phosphorus tests has its own unique chemistry, strengths and weaknesses. The strong acid Mehlich I test is used mainly in the Southeast because of the more acid soils in the region. Labs mainly in the Northeast perform the acid Morgan test because that's where it was developed. The Olsen and AB-DTPA tests are recommended in higher pH soils in which their unique chemistry makes them more accurate. The Olsen and AB-DTPA tests also are used extensively for soils in the central and western United States where more alkaline soils are found.

Mark Flock, a laboratory director and agronomist for Brookside Laboratory in New Knoxville, Ohio, is president of the North American Soil and Plant Testing Council and is a member of the USGA Putting Greens Materials Testing Technical Advisory Committee. Flock says the acid Bray I phosphorus test has



Various soil-testing methods provide information about soil nutrient availability.

been a favorite test for many areas.

"It has been shown to be accurate on soils with pH levels below 7.2," he says. "In alkaline soils, this test falls apart and might produce erroneous low phosphorus levels."

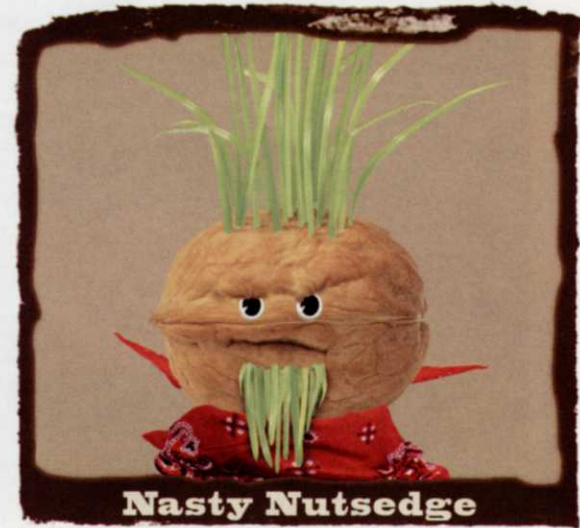
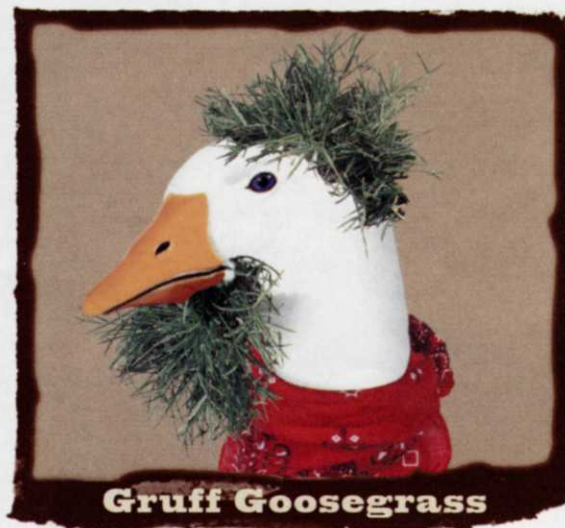
The acid Mehlich III test is performed on more soils than any other phosphorus test. Like the Bray I test, it's accurate on all acid soils and on soils with higher pH levels.

"If you perform each of these six tests on one sample, you would get six distinctly different levels of available phosphorus in the plant," Flock says. "Which one is right? Actually, all six could be right. It's important to understand each of these methods has different chemistries. But each has been cali-



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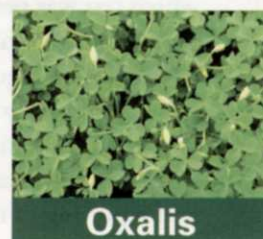
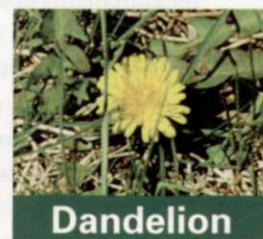
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Photo: David Wolff

When testing soil of a green or fairway (Orchard Park Country Club in N.Y. pictured), chemist Jake Alaniz suggests taking random samples and mixing them together for a more representative result.

brated, and the calibration scale is different for each test. It's like comparing Fahrenheit and Celsius scales. Both are good, accurate measurements of temperature, but the levels are different for equivalent temperatures. This is why it's critical superintendents work with a laboratory, consultant, field representative or extension agent that understands the testing methods."

Proper interpretation of results can't be made unless the superintendent knows which test was performed and has the calibration data to follow.

"Stick with a good laboratory that is active in proficiency programs and stays active with regional testing meetings," Flock says. "Consistency in sampling, testing methods and reporting of results will make your job much easier. Sending samples to different labs that might be performing different test methods can be confusing. Some laboratories get blamed for poor testing when, in fact, the testing is good, but because the superintendent might be comparing results of different methods, he's comparing apples and oranges."

Most laboratories use tests developed in their region. Universities publish bulletins listing the recommended chemical soil

test procedures for different regions of the country. This works fine for agriculture soil testing, but for turf testing, even using local soil testing methods can be challenging because constructed soils on golf courses could be considerably different than natural native soils. Many times golf course tees and greens are constructed with materials such as calcareous sands that might require special testing. Whether a USGA-specified or California green is constructed, if calcareous sand is used, there will be a soil with a pH near 8.0. The local soil test method calibrated for acid soils might not be appropriate for these soils.

"Performing a Bray I phosphorus test on soils like this will likely result in erroneously low results, too," Flock says. "Most standard soil tests work best when testing acid (pH < 7.0) soils. Plant nutrient uptake can be more difficult to predict with high pH soils. Also, more greens are constructed with inorganic amendments such as porous ceramics, zeolites and calcined clays. These materials can affect soil test levels for nutrients like potassium, and test results can be deceiving."

Some researchers are looking at less aggressive soil extractants that use weak salts.

Many consultants are using water solubility tests to better predict nutrient excesses and deficiencies with low exchange capacity sands. These might prove to be better soil tests for low exchange capacity sands like those found on USGA spec greens. Until extensive field calibration data is collected on these newer extractants, the existing methods will need to be used.

Sam Ferro, president of Turf Diagnostics & Design in Linwood, Kan., says different extractants will have greater or lesser ability to draw chemicals from the soil.

"One lab might have drastically different results on the same soil sample than another lab depending on the extractant used," Ferro says. "While these results might be quite different, hopefully the fertilizer recommendations will be similar. This is because fertilizer recommendations are developed for each extractant."

## More calibration data

Extensive field calibration data exists for soil tests for agriculture production, but there's less available field calibration data for turf. Some universities have developed calibration data for certain turf types grown in a particular region of the country. Laboratory



tests are useless without the field calibration research establishing the critical scale for that turf with those soil conditions.

“Soil test calibration requires years of plot research measuring different soil test levels for turf health,” Flock says. “Thus, you establish the scale (responsive/nonresponsive level) to follow for that nutrient.”

Soil testing for turf can be valuable if done properly and consistently. One of the challenges testing turf is that soil chemistry levels can change considerably faster than levels monitored in typical agriculture production. This is because most soils built for turf are sandy and need more micromanagement.

“These are sandy soils with a very low cation exchange capacity that can't hold nutrients well,” Flock says. “Many times they're irrigated with water that has a highly variable chemistry. Nutrients are applied throughout the year, and some might be slow-release materials that hopefully will supply the grass efficiently.”

“A superintendent is trying to monitor a system that can always be changing,” he adds. “He tests the soil to monitor nutrient levels and develops a fertility program that will maintain nutrient levels needed for healthy turf. Because the levels can change faster in sandy soils, he needs to establish a fertility program that works best to provide steady, long-term fertility. For some courses, the program might come down to maintaining minimum levels of N, P, K, Ca and Mg.”

Working with nutrient percentages can be deceptive in low CEC soils because small changes in nutrient concentration might represent much larger changes in percentages. This might be different for individual courses based on the fertilizers used, the quality of irrigation water, frequency of irrigation, rainfall, soil texture, grass type and internal drainage. When some nutrients are high, they can create imbalances with other nutrients. Then plant analysis is needed to verify the deficiencies.

“While nitrogen is one of the most important nutrients for turfgrass growth and health, nitrogen recommendations usually aren't based on nitrogen test results,” Ferro says. “They're based on soil organic matter content, soil texture, turf type and maintenance levels. This is because nitrogen moves through the soil quickly, and test results for nitrogen are highly variable.”

It's not uncommon to see irrigation water quality dictate the fertility program. More and more, effluent water, which contains various levels of nutrients, is mandated for use on golf courses. This water's chemistry

can dominate the soil chemical properties.

“Simple soil test data like pH and organic matter can be useful to monitor changes in turf soils over time,” Flock says. “Is there a thatch layer building up? Is irrigation water dramatically affecting soil pH?”

## Combined analysis

Soil testing in conjunction with plant and irrigation water analysis is necessary if good fertility programs are to be established. Including less aggressive soil tests such as saturation paste testing to monitor soluble



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nutrient levels and salts could be valuable, too. In areas where little field calibration exists, superintendents need to work with someone who will gather this data and establish levels that provide healthy turf. Working with a lab or consultant that exclusively works in turf and gathers a lot of good laboratory and field data can be invaluable to a superintendent's agronomic success.

Jim Thomas, president of Thomas Turf Service in College Station, Texas, says chemical analysis of soil also protects the environment.

"Using too much fertilizer not only wastes money, but adds chemicals to the environment," he says. "Our goal is to feed the turf only what it needs with no excess amount. We determine how much of each nutrient is in the soil and then calculate how much to put on. We want to keep

nutrient levels in a range where there are no deficiencies and no excesses."

Testing low CEC soils found in most golf courses poses challenges because maintaining steady levels of nutrients might be difficult.

"Superintendents should work with people who have extensive experience gathering data and establishing ideal nutrient levels in turf," Flock says. "Ask them what their approach is in developing recommendations. Whose calibration data do they use? Contact laboratories you test with and find out what soil methods are being used. Ask the laboratory what proficiency and certification programs they're involved with. Do they have a quality control officer and a quality control manual? Good laboratories will gladly provide this information. Gathering good soil test data should help you establish a more efficient fertility program.

It will also put you in a better position when mandatory testing is required in the future."

Jake Alaniz, a chemist for Thomas Turf, says it's important to make sure the soil sample is representative of the area tested because a bad sample will give the wrong answer.

"On a 4,000-square-foot green, a sample from one spot isn't representative," he says. "It would be better to get 10 to 15 random samples. Put them in a bag and mix them up. This will be representative of the entire area. Similarly, on a two-acre fairway, don't just take a single sample from the middle. Go to both sides and back to front, again mixing the sample." GCN

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

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Orchard Park superintendent Bob Kelly takes soil samples in the spring and fall.

## Soil samples give direction

Superintendent Bob Kelly of Orchard Park (N.Y.) Country Club uses several tools to ensure his soil has the right chemistry levels and the turf is healthy. He takes soil samples in spring and fall and tests the quality of his irrigation water annually.

"We've been trying to change some of the levels in the soil, and analyzing soil samples lets us know if our programs are working," he says. "It takes time to make changes, but some of our numbers are off, and we need to do something. I use fertilizer with a lot of calcium and drag in other amendments when we aerify. As we get closer to our goals, we can fine-tune the

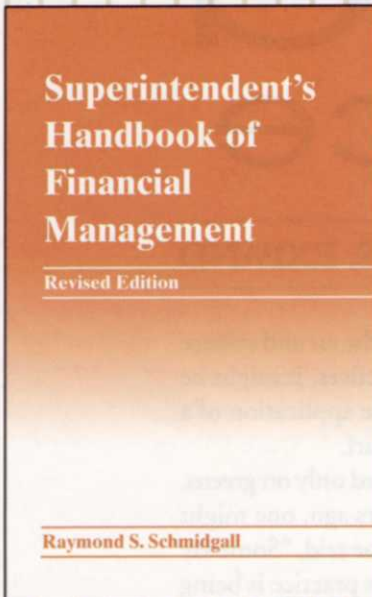
program and concentrate on specific areas."

Kelly also uses the services of a turfgrass consultant who visits the course at specified intervals to check for disease and other issues.

"If we have something we don't recognize or want to confirm a problem we suspect, he takes samples and gets back to us within 24 hours," Kelly says. "This is especially important on greens because a lot of things look the same when we're mowing at 1/8 inch. We're on the lookout for issues every day, but he sees so many courses. The most valuable thing to me is that he knows what's coming. For example, he will know that a particular insect might be two weeks early. I don't have to spend as much of my day tracking down potential problems. And disease control programs are so specialized that it's possible for us to spray the wrong chemical. It might not damage the turf, but it will certainly waste money."



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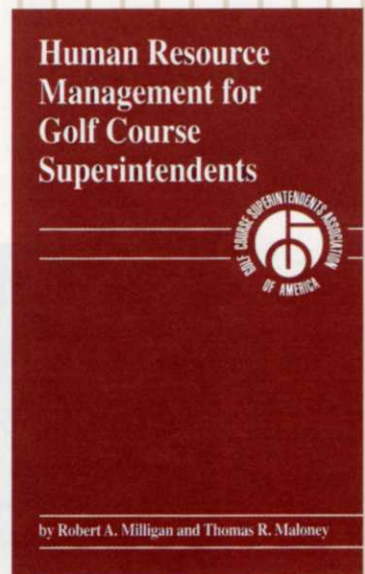
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## An age-old practice

### TOPDRESSING MATERIALS AND METHODS EVOLVE, EXPAND

by  
KEVIN  
J. ROSS,  
CGCS

One of the oldest cultural practices performed on golf courses is the art and science of topdressing. Not only is topdressing one of the oldest practices, it might be one of the most important. Topdressing can be defined as the application of a thin layer of material, such as soil or sand, to the surface of existing turf.

Topdressing has evolved throughout time. Initially a practice performed only on greens, it's now performed on greens, tees, approaches and even fairways. Years ago, one might have received a strange look from someone in the golf course business if he said, "Someday we will be topdressing fairways on a consistent basis." The fact that this practice is being adopted for use over almost the entire golf course speaks volumes about its benefits.

But the key to topdressing can be summed up in one word: sand.

The use of sand as a component has been around for years. It has even been written that Old Tom Morris used sand for topdressing in the late 1800s to smooth and firm greens.



Photo: Kevin Ross

At one time, topdressing fairways seemed impossible, but now it's starting to become more commonplace.



However, it wasn't until the early 1970s when sand started to dominate the mixture used to blend a topdressing material. In fact, it also was during this period that straight sand made major inroads as a topdressing material by itself. This immediately created much controversy. The thought of growing turfgrass on straight sand, with no soil or organic matter mixed in, was out of the question to many. Even today, the debate hasn't subsided completely. One fact is certain, though: Straight sand is the dominant material used by most for this practice.

The major scientific benefit of topdressing is the dilution of the upper organic matter fraction of the turfgrass surface. As the grass plant grows, senescence of roots and above-ground plant parts contribute to organic matter build-up. This organic matter build-up is diluted through sand topdressing.

The key word is dilution. At one time, many thought the major benefit to topdressing was the breakdown of organic matter. This was true in the old days of the 1-1-1 mixtures but isn't the case with the present day use of straight sand. Sand is inert basically and has no microbiology that can contribute to the decomposition of organic matter. So with topdressing, sand is used to mix with, or dilute, the organic matter at the surface and to maintain or increase sufficient pore space.

## Greens

So how much should superintendents be topdressing their greens? This is possibly one

of the most popular questions asked about this practice. In recent years, topdressing practices have become more of a calendar event rather than a scientific event. This shouldn't be the case. However, with the help of research by Robert Carrow, Ph.D., of the University of Georgia, the question can be answered with scientific data.

Carrow conducted extensive research about the organic dynamics in the upper surface of sand-based greens. He found that an organic matter content of greater than 4 percent by weight in the upper 2-inch surface should become a red flag for greens performance. So with this in mind, the goal of less than 4 percent organic matter becomes the all-important target as superintendents plan their aerification and topdressing strategies.

To keep the organic-matter content below the 4-percent threshold, suggestions have been made to apply sand at about 50 cubic feet per 1,000 square feet per year. This said, there are two important factors that should be used in the equation before adopting 50 cubic feet of sand per 1,000 as the all-important amount.

First is the length of the growing season. Some parts of the country have a growing season as short as three or four months, and other parts have a 12-month season. Should courses in both these areas of the country be on a 50-cubic-feet-per-1,000-square-foot rule? Probably not.

Secondly, and maybe the most important part of a topdressing program, is plant growth rate. Remembering the most important fundamental aspect about topdressing,



Photo: Kevin Ross

Many superintendents use fertilizer-type spreaders to apply their light summer topdressing.

applications should be in direct proportion to plant growth. Plant growth directly influences the amount of thatch development. Therefore, to dilute the organic matter with best results, topdressing volumes and frequencies should be increased as the growth rate increases. The same applies to the plant when growth decreases – topdressing volumes and frequencies should be decreased.

Another factor that should be considered is the amount of nitrogen applied in the fertility program. For example, there are two golf courses with similar conditions: golf course A applied 2 pounds of N/M per year, and golf course B applied 5 pounds of N/M per year. Should both of these courses adhere to the 50-cubic-foot rule? Probably not, because even though the suggested 50-cubic-foot amount might be a good guideline, it's not a steadfast rule.

There also have been suggestions that applying 50 cubic feet of sand per year would dilute the organic matter sufficiently to eliminate aerification. And one researcher wouldn't go as far as saying superintendents don't need to aerify, but says it's something to look at.

"There are about 15 courses in Nebraska that haven't used core aeration on their greens in the past 10 years and are having great success with just topdressing," says Roch Gaussoin, Ph.D., of the University of Nebraska. "This is certainly food for thought."

## Benefits

The greatest scientific benefit of topdress-

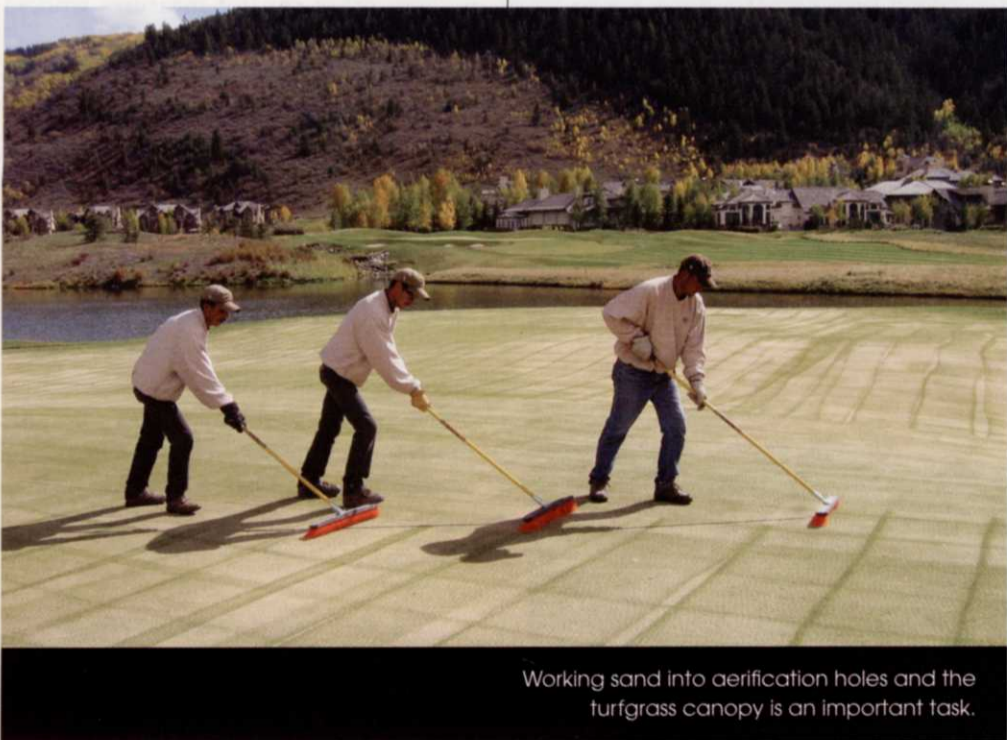


Photo: Kevin Ross

Working sand into aerification holes and the turfgrass canopy is an important task.





Photo: Kevin Ross

Laboratory testing of sands might be the most important part of a topdressing program.

ing might be controlling (diluting) the organic matter percentage in the upper surface, but there are others benefits. The ability of topdressing to produce a smooth, firm and faster putting surface is the biggest benefit from a playability standpoint. Let's face it, when Old Tom Morris applied sand to a green in the late 1800s, he wasn't thinking about the 4-percent-organic-matter guideline in the upper 2 inches.

In the current world of fast green speed, topdressing is an important factor that helps achieve speeds demanded by golfers. Research indicates frequent topdressing in the range of 2 to 3 cubic feet of sand per 1,000 square feet every two to three weeks can increase green speeds (ball roll) signifi-

cantly. It also shows ball-roll increase doesn't occur until the material settles sufficiently into the turfgrass canopy, which occurs five to seven days later.

## Drawbacks

With all the benefits of topdressing, there are many mistakes that can be made with topdressing programs. First and foremost is selecting the proper sand. Matching the compatibility of the sand particle size of a growing mix (root zone) and the topdress material is the most critical decision in any program. Many greens have been destroyed by selecting sand too fine that resulted in a perched water table. So, quite possibly the most important part of a sound topdressing program is to have potential sands tested by a qualified laboratory for compatibility. Unfortunately, too many times sand selection is based on cost, which usually means the wrong sand.

Topdressing also isn't an easy procedure when you consider plant health. Sand is an abrasive material and can damage plant tissue, which can lead to additional plant-related problems. When a green is topdressed with sand, it's like placing a piece of sand paper over the surface. Until the sand settles sufficiently, the plant is at risk. These risk factors increase with normal golfer traffic and various maintenance machines. The abrasiveness of sand also is magnified when the plant is under stress from adverse weather conditions. So when the calendar

indicates to topdress greens, but the weather station indicates otherwise, the decision can be critical.

## Fairways

At one time, topdressing fairways seemed like an almost impossible ordeal. In the current world of turfgrass management, it's becoming more commonplace. Originally started in the Pacific Northwest, golf courses throughout the United States are adopting fairway topdressing. Looking back at James Beard's 1982 book, "Turfgrass Science and Culture," he indicated fairway topdressing would be too costly for what could be accomplished. Times have changed.

Unlike the art and science of topdressing greens, fairways are quite different. When it began in the Pacific Northwest, it was about playability. With the tremendous amount of rainfall in that region of the country, topdressing fairways was determined to be the best way to develop firmer and drier conditions. Building up a sand-cap-type layer allows for a more playable surface. This developed surface also allows for additional benefits such as: less turfgrass disease problems, improved mowability, improved drainage, and most importantly, more revenue. Many clubs in the region soon found the cost of the program could be offset by improved income.

Another benefit observed in the Northwest from sand topdressing fairways was the reduction of earthworm castings. The abrasiveness of the sand became a natural deterrent to earthworm activity. This was a big plus for clubs with earthworm problems because other control measures worked marginally.

It didn't take long for this procedure to migrate eastward. Many clubs adopted this practice to achieve the same results. Even though these clubs weren't located in regions with the same rainfall as the Northwest, the benefits were too good to pass up.

Throughout the past century, the art and science of topdressing has continued to evolve. This evolution has seen changes in topdressing materials, methods and areas of the golf course. As technology continues to advance in the next century, one thing is certain: The age old practice of topdressing will remain toward the top of the cultural practice list. GCN

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



Photo: Kevin Ross

Heavy topdressing in conjunction with aerification is an important part of diluting thatch.





## Becoming engaged

**SUPERINTENDENTS NEED TO BE MORE ACTIVE POLITICALLY TO HELP PREVENT UNNECESSARY PESTICIDE REGULATIONS**

by  
**JOHN  
WALSH**

**R**especting the environment is part of a golf course superintendent's job, and there are many that do it well. However, superintendents and the golf courses they maintain are often subject to criticism from environmental activists who wish to see pesticides, fertilizers and water usage severely restricted, or, in the case of pesticides, even banned. Therefore, superintendents need to present scientific and usage data about pesticides to legislators to help combat the efforts of environmental activists, which are effecting superintendents' jobs negatively.

At the federal level, superintendents can

be affected by the implementation of the Endangered Species Act. There's a lot of pressure on the U.S. Environmental Protection Agency to clearly define on pesticide labels where products can be used in regards to endangered species, according to Allen James, president of the Responsible Industry for a Sound Environment, which represents pesticide and fertilizer suppliers.

"Superintendents can lose the right to use certain pesticides," James says. "The EPA can get this down to the county level. If pesticides get into the watershed of a habitat, even if the course is a mile or two down the road, the superintendent can be

in violation of the Endangered Species Act (1973) under certain circumstances."

James says a number of products are being reviewed to determine whether they could have an effect on endangered species. But he says the EPA doesn't have much usage information about pesticides used outside the agriculture market.

"During the next few years, there will be changes," he says. "RISE is working with the EPA to supply the agency with the best information so it can make educated and informed decisions."

As a result of the Food Quality Protection Act (1996), pesticide labels have been



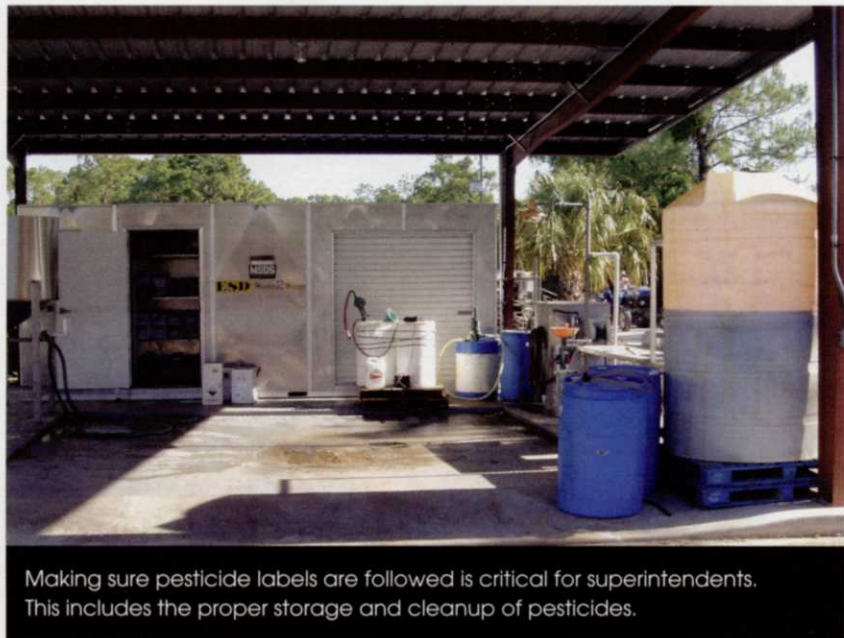


Photo: Terry Buchen

Making sure pesticide labels are followed is critical for superintendents. This includes the proper storage and cleanup of pesticides.

changed and rates have been reduced during the past couple years, according to Carrie Riordan, director of information and public policy of the Golf Course Superintendents Association of America. Pesticide companies even have agreed to take certain pesticides off the shelf, she says.

The Clean Water Act (1972) also can affect superintendents with regard to pesticides. The act exempts pesticides from requirements for a National Pollution Discharge Elimination System permit, but

activists say pesticides pollute the water and thus aren't covered by the act.

"If a golf course is near water, and activists claim the water has a pesticide in it – which it might or might not – golf courses will end up needing an NPDES permit to apply pesticides," James says. "Activists threaten with lawsuits, and at least one federal court has agreed."

But federal pesticide law already requires the EPA to conduct a comprehensive risk assessment before registering a pesticide for use, including a thorough review of the possible risk the pesticide poses to water quality and aquatic species, James says.

"The label instructions approved by the EPA are based on this elaborate testing and assessment process and mitigate any risk," he says. "Failure to follow label directions is a violation of federal and state laws. Pesticides aren't a pollutant according to the Clean Water Act. However, because of the confusion caused by court action, Congress has stepped in."

The Otter Act, which was filed by U.S. Representative Butch Otter (R-ID) and clarifies that pesticides aren't pollutants, is currently in the House of Representatives. RISE supports the bill and is trying to get more support for it.

"It's important that superintendents contact their U.S. House of Representa-

tives members and ask the representatives to support the Otter bill, which currently has 30 co-sponsors," James says. "We want 200 co-sponsors, but it takes time."

Riordan says golf course superintendents need to be involved with legislators because the worst that can happen is a restrictive legislation be implemented of which superintendents had no input.

"When someone gets the ear of legislators, we provide the science so they can make a rational decision," says Joel Jackson, director of communications for the Florida Golf Course Superintendents Association. "When you get beyond science into politics, it gets difficult."

## Closer to home

However, Riordan says there isn't a big push at the federal level for the reregistration of pesticides. State and local activity will have more impact on golf courses, she says. California and New York are examples of states in which there's a lot of activity dealing with environmental legislation.

"Everything from water use/resources to conservation to draught to effluent water to NPDES permits, different parts of the country have different issues at different times of the year," she says.

Preemption is an example of how superintendents are affected more by pesticide regulations on the state and local level. Preemption legislation, which exists in about 40 states, is when a state can determine what pesticides can be used and sold. Preemption makes it easy to unify what pesticides can be bought/sold and applied throughout a state. It defends the right of superintendents to use pesticides on a property.

"The major focus of activists at the state level is to overturn preemption so they can pass local regulations," James says. "Protecting state preemption is vital for superintendents."

In Wisconsin, Iowa, Connecticut, New York and California, activists are trying to overturn preemption, according to James.

"If preemption is overturned, a neighboring town within the same county could have different regulations when it comes to applying pesticides and could wreak havoc on the golf course maintenance industry. If preemption is overturned, it becomes a slippery slope. The activists' ultimate goal is to ban all pesticides."

Yet, in a state with preemption, a city-owned course can make its own decisions about pesticides that are unrelated to preemption. Florida has preemption, and the



Photo: Terry Buchen

Activists are attempting to overturn preemption legislation, which is when a state can determine what pesticides can be used and sold.



next tier of government below the state, such as a county, can institute stricter regulations than the state, according to Jackson.

Activists are battling for local ordinances in states that don't have preemption and are even trying to ban pesticides in states with preemption, James says. Utah, Wyoming and several other states in the West, where there's a lot of agriculture but not a lot of specialty pesticide use, don't have preemption and might expect heavy lobbying for pesticide bans soon.

"All the activists' focus from 1990 to 2000 was at the state and federal levels, but those efforts have been stymied, so now activists are focusing on the local level," James says.

One of the favorite areas for activists is cosmetic use of pesticides, or in other words, the use of pesticides to maintain healthy lawns, according to James.

"The activists have focused on the consumer use of pesticides, but what's to prevent them from trying to prevent pesticide use on golf courses if they're effective on the consumer side?" he says. "At the local level, there's almost no scientific evidence considered, and activists are effective because legislators at the local level don't have the information to combat misinformation. Activists don't have a lot of scientific support, just many outrageous claims.

"If there are efforts to overturn the state preemptive level, superintendents need to publicly oppose and testify against consumer cosmetic bans at the state or local levels," he adds. "They need to stand up in front of local governments and explain the safety and value of pesticides. Bullet points can be provided by RISE and the GCSAA so superintendents have facts to back their point of view."

Riordan says the GCSAA, which has 104 affiliated chapters, has government relations liaisons that are working in coalitions, sharing information, and keeping their eyes and ears open about changes in state and local pesticide regulations.

## More involvement

Finally, James says activists misunderstand or misrepresent the Precautionary Principle by believing if there's any risk with pesticide use, these products shouldn't be on the market, or if they're on the market, they should be taken off. The Precautionary Principle really says product risks should be understood and safety consideration put in place – the essence of the pesticide registration process. Misunderstanding the



Photo: Terry Buchen

Superintendents should implement an integrated plant management program so they're less dependent on pesticides.

Precautionary Principle has been adapted into regulation in Europe and in parts of Canada, and is now being preached in the United States, he says.

"We're saying reasonable risk and safety determinations have been made about pesticides, and products on the market meet the Precautionary Principle," he says.

The incidents reported in which pesticides have caused harm have been because of the misuse of pesticides or by accidents, not through normal labeled use of a product, James says.

Making sure labels are followed is critical, according to Tim Hiers, CGCS, at The Old Collier Golf Club in Naples, Fla. Hiers has been an expert witness in court cases. His advice to superintendents, especially younger ones, is: "Always understand and follow the label because the first thing a prosecuting attorney will always ask is, 'What does the label say?'"

Moreover, pesticide use is part of a broader scope – superintendents' business decisions and agronomic philosophies.

"Look at golf maintenance as a business," Hiers says. "Clean up and store chemicals correctly and safely. Have an integrated plant management program so you're less dependent on pesticides. If the turf is

healthier, it will be more resistant and will need less pesticides. Be more proactive than reactive. Get out of the reactionary mode. The bottom line is attitude. It's about reducing resources."

Tom Smith, executive director of the Michigan Turfgrass Foundation, says it's critical to be proactive. He encourages any superintendent to become part of a voluntary environmental stewardship program.

But the bottom line is that superintendents need to engage in the political process.

"Our industry has to be more politically engaged," Smith says. "Thirty superintendents are coming to the state capital to highlight the numerous benefits of the green industry to the state's economy. The Michigan Farm Bureau organized the event. It's the first time golf course superintendents have done this. They're not as active politically as they could be. I encourage superintendents to make appointments with congressmen and senators and have talking points for them. Unless we're politically engaged, someone else will make decisions for us." GCN

*John Walsh is the editor of Golf Course News and can be reached at [jwalsh@gie.net](mailto:jwalsh@gie.net).*



travels with  TERRY

The push-type leaf blower (right) is made more useful by attaching it to the front of a turf utility vehicle as an inexpensive way to remove leaves from a golf course. By attaching a powerful leaf blower, which also can be easily detached, to a utility vehicle that was already in the field, the piece of equipment is more diversified and efficient. It can eliminate almost all excessive trips to a maintenance building complex. The leaf blower also can be used as part of daily course setup before play begins to eliminate debris quickly and easily. After the leaves are blown, they can be left in piles and then picked up by hand or with a vacuum/sweeper.

To build the frame that attaches to the leaf blower, 2-inch-square metal stock is bolted to the frame of the utility vehicle. Then a faceplate is attached with a welder for structural rigidity. The 1.5-inch-square stock is cut about half way through and welded to the bottom of the leaf blower. Then angle iron is secured to the square tubing that act as collars to hold the leaf blower the desired distance from the utility vehicle for maneuverability and employee safety. The leaf blower then is bolted to the utility vehicle frame. Quick-connect lynch pins also can be used.

The original turf vehicle/leaf blower idea was conceived at Monarch Beach Golf Links in Dana Point, Fla., during the late 1980s by then-superintendent Bill Wilshire. This idea has been duplicated at the Bel-Air Country Club in Los Angeles where Brian T. Sullivan is the certified golf course superintendent and master greenkeeper. Assistant golf course superintendents Ernie Hernandez and John Nachreiner handled the construction and metal fabrication. It took about an hour to build.



**Terry Buchen, CGCS, MG,** is president of Golf Agronomy International. He's a 35-year member of the GCSAA and can be reached at [terrybuchen@earthlink.net](mailto:terrybuchen@earthlink.net).

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



The Miromar Lakes (Fla.) Beach & Golf Club has 67 conventional sand bunkers. There also are two coquina-shell waste bunkers on the 10th and 18th holes. They differ from conventional sand bunkers because they allow golfers to ground their club without penalty. When the course first opened for play in 2001, it became apparent conventional riding bunker rakes couldn't rake the large waste bunkers properly, so an in-house-designed-and-built, waste-bunker broom mechanism was conceived.

The main frame consists of 1-inch-by-1½-inch-thick, square metal tubing that's about 6-feet wide and 3-feet deep. The hinged folding wings on either side are about 2-feet wide and 3-feet deep. Four brooms, each three-feet long, are attached at an angle in the front of the main metal frame. One- to 3-foot-wide brooms also are attached at an angle to the front of each hinged folding wing. Each broom is mounted to the frame using 2-inch flat metal stock. In the rear portion of the main frame is another set of brooms where 2- to 3-foot-wide brooms are mounted all the way across. A 2-foot-wide broom also is mounted all the way across at the rear of each folded wing. Two-inch-by-2½-inch-thick square metal tubing is used for the 5-foot-long tongue, and another 5-feet of tubing is used for the main axle. There's also T-shaped 2-inch-by-2½-inch-thick metal tubing that holds a push-broom handle horizontally for any touch-up work that's needed. There are two turf tires and wheels mounted to the axle on two separate hinges on the main frame, which can be raised or lowered with a lever. This is used for transporting the broom mechanism while driving on the 8-foot-wide cart paths and on the wider, maintenance service roads. A small utility tractor tows the broom mechanism.

The angled brooms that first come in contact with the coquina shells loosen them and then the second set of brooms, which aren't angled, provides the finishing touches to a smooth and well-maintained waste bunker.

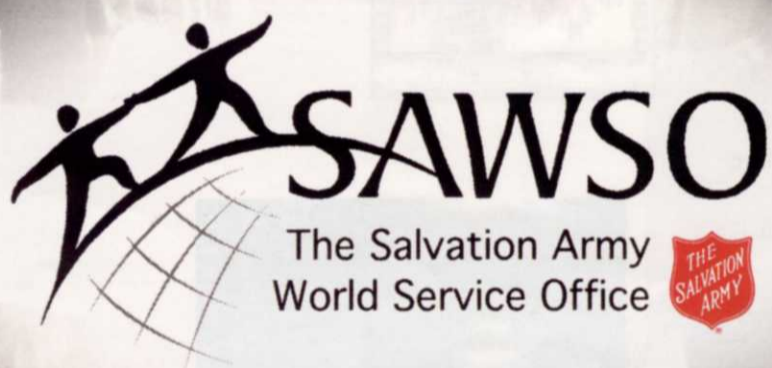
Kevin Leo is the golf course superintendent at Miromar Lake. The waste-bunker broom mechanism was conceived and built by Chris Hughes, assistant golf course superintendent. GCN





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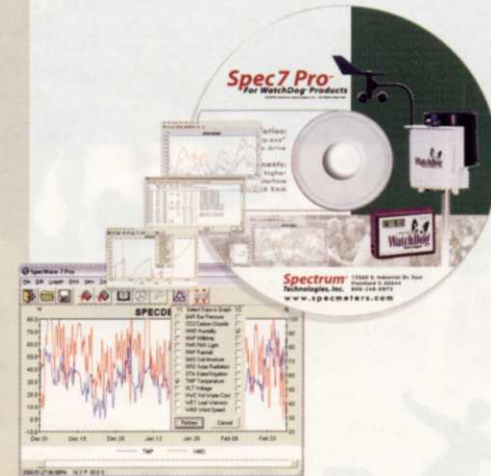


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COMPANY	PAGE	RS	COMPANY	PAGE	RS
Bear Irrigation.....	2	10	PBI Gordon .....	47	24
<a href="http://www.bear-irrigation.com">www.bear-irrigation.com</a>			<a href="http://www.pbigordon.com">www.pbigordon.com</a>		
BlueYellow .....	19	17	Penn State Outreach.....	43	22
<a href="http://www.blueyellowpro.com">www.blueyellowpro.com</a>			<a href="http://www.outreach.psu.edu">www.outreach.psu.edu</a>		
Cleary Chemical.....	5	12	ProSource One.....	45	29
<a href="http://www.clearychemical.com">www.clearychemical.com</a>			<a href="http://www.prosourceone.com">www.prosourceone.com</a>		
Exaktime.....	31	20	Roots.....	7	13
<a href="http://www.exaktime.com">www.exaktime.com</a>			<a href="http://www.rootsinc.com">www.rootsinc.com</a>		
Exide Technologies.....	15	14	SePro.....	21	18
<a href="http://www.exide.com">www.exide.com</a>			<a href="http://www.sepro.com">www.sepro.com</a>		
Growth Products.....	18	16	Standard Golf Co. ....	3	11
<a href="http://www.growthproducts.com">www.growthproducts.com</a>			<a href="http://www.standardgolf.com">www.standardgolf.com</a>		
Links Seed.....	42	21	Syngenta .....	64	28
<a href="http://www.linksseed.com">www.linksseed.com</a>			<a href="http://www.syngentaprofessionalproducts.com">www.syngentaprofessionalproducts.com</a>		
Nufarm .....	27	19	Turfco .....	63	27
<a href="http://www.riverdalecc.com">www.riverdalecc.com</a>			<a href="http://www.turfco.com">www.turfco.com</a>		
OPEI .....	49	25	ZScreen.....	17	15
<a href="http://www.expo.mow.org">www.expo.mow.org</a>			<a href="http://www.zscreen.com">www.zscreen.com</a>		
Otterbine Barebo .....	50	26			
<a href="http://www.otterbine.com">www.otterbine.com</a>					



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Pat Jones is president of Flagstick LLC, a consulting firm that provides sales and marketing intelligence to green-industry businesses. He can be reached at psjhawk@cox.net or 440-478-4763.

# Dirty little secrets

**O**K, I know I'm going to get nasty letters no matter how I spin this, but here's the disclaimer anyway: My time in this market has convinced me 99 percent of golf course superintendents bend over backward to follow the spirit and the letter of the law. Most take enormous pride in their integrity, environmental commitment and knowledge of the rules and regulations that apply to them. In short, there are few bad apples in this market.

But, you know what they say about even one bad apple ...

We all know that in rare cases extreme pressure from ownership, budget restraints, arrogance, ignorance or just plain greed have led a few superintendents astray of law and common sense. I'm not going to delve into specific horror stories, but allow me to present a few general examples of instances when superintendents act badly. Here are some of the industry's dirty little secrets.

Legally disposing of expired, cancelled or banned pesticides isn't easy or inexpensive. Typically, the issue arises when a new superintendent replaces an old-timer who just couldn't bring himself to toss out those two gallons of chlordane on the shelf in the back of the chemical shed. Or, even more commonly, a superintendent inherits a "mystery jug" with no label. The temptation to make it go away simply and quietly is strong, even if you know it's a violation of federal law to pour them down the drain behind the maintenance facility.

But, of course, the worst case is reckless disregard for disposal laws. I know of at least two cases – one is an open secret in the industry – in which superintendents at famous, high-end private clubs literally buried the evidence. In the best-known case, the evidence was in the form of a drum of a banned product that was quietly put under a few feet of earth behind the maintenance facility with extreme persistence and mobility. But, add one disgruntled ex-employee to the mix, and suddenly the midnight disposal job wasn't so quiet any more. The cleanup probably cost 50 times what the disposal cost would have been if it was done correctly.

By the way, the theme of the disgruntled employee looms large in many of these terrible tales. Before you ever consider doing anything remotely improper, you should always ask yourself whether all of your workers are 100-percent happy and

loyal. That, in itself, should be the ultimate deterrent to malfeasance.

There are few sights in nature that rival a V-wing of majestic Canada geese flying in over an idyllic lake for a landing. Conversely, there are few sights as appalling as what that same gaggle will drop on a fairway or the damage geese can do when they decide to make a golf course their home. Despite zillions of products, practices and potions to control these flying feces factories, superintendents still are sometimes driven to desperation ... and occasionally step over the line of legality.

Hopefully, no one will ever repeat what a superintendent under extreme membership duress did at a Virginia course 15 years ago when literally truckloads of dead Canada geese were carted away after an intentional application of avicide. That one made the newspapers and TV reports.

But, based on what I hear, there are other sporadic examples of illegal goose control methods, including unlicensed egg shaking, nest disruption and even flat-out firearm usage. I'll never forget what a leading golf course wildlife control consultant said years ago. When asked what the most effective way to manage domesticated geese was, he suggested the "Three S" strategy: "shoot, shovel and shhhhh!" Humorous perhaps, but however nasty these creatures may be, they're still considered to be a protected species in most places, and we have to live with that and manage as best we can using legal technologies and practices.

Purchasing incentive programs offered by suppliers can be wonderful. They often drive contributions to local and national associations. They can allow superintendents to purchase unbudgeted items or provide something extra for their crews. They can even earn the facility a discount on future spending and save some dollars.

But, in rare cases, they also can go right back into a superintendent's pocket without the owner's knowledge. At the least, it's probably inappropriate. At the worst, it's criminal.

I remember sharing a speaking engagement a few years ago with Mike Hughes, the sharp head of the National Golf Course Owners Association. An audience member

asked him about superintendents, pros or other staff personally accepting cash-back rebates or similar gifts. Hughes was, as usual, right to the point: "My members would call that embezzlement."

I'll admit this can be a gray area, but the rule of thumb needs to be: If it doesn't benefit the facility, the superintendent or pro directly, only accept the incentive with the knowledge of ownership. A great example is a vacation trip earned under various programs out there. I know several superintendents who somewhat sheepishly approached management to ask if it was OK to accept a trip. In every case, they were told, "Go ahead. You deserve it."

Another dirty little secret that turns up occasionally is off-label use of products that aren't registered for turf. I've never heard of a superintendent doing this by choice, but it happens. Here's how. A less-than-scrupulous green committee member or a drinking buddy of the owner says, "Hey, I know the local farm co-op guy, and he says he can get us fungicide with the same ingredient for half the price."

Sounds good except that it's a violation of federal law. And, in most cases, the formulation used for that same active ingredient is substantially different than the turf version. Also, it won't work or might even cause phytotoxicity. So, it's not only illegal, but it's dumb.

One superintendent handled the situation by telling his owner: "Sure, but let's test a bit first and see how it works on a turf plot." As he was putting the ag product in his sprayer, he "accidentally" added an ounce or so of contact herbicide. Needless to say, that was the end of the matter.

That last anecdote shows that it's OK to be a little dishonest to prevent a bigger sort of dishonesty occasionally. It also supports my original point (note how I'm reinforcing this before you write me a nasty-gram) that the vast majority of superintendents bend over backward to be honest and follow the rules. The rest can find another line of work.

Agree? Disagree? Got a story of your own? Log onto our new message board at [www.golfcoursenews.com](http://www.golfcoursenews.com), and let's talk about it. GCN

**BUT, OF COURSE, THE WORST CASE IS RECKLESS DISREGARD FOR DISPOSAL LAWS. I KNOW OF AT LEAST TWO CASES ...**

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





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