

PHOTO BY: DYNAMIC GRAPHICS

# Reliable

air movement. Happ agrees that poking holes is one of the best ways to sustain healthy root growth. "No matter how hot it is, we know that superintendents will create or stimulate root growth if they aerify," he says.

That said, aeration these days can be much more involved than just poking holes, Happ points out.

"We've got everything from water injection to sand injection to solid tines," he says. "We've got so many fantastic tools now to poke holes and keep air in the profile that [superintendents] have a chance to [create] a really strong foundation to grow grass."

These days, superintendents are able to aerify without disrupting the soil very much, Skorulski says, noting that he recommends deep quarter-inch pencil tines for such procedures.

Gross adds that many courses supplement spring and fall aeration treatments with less-invasive practices during the summer to keep the surface open for adequate air and water penetration. There are a variety of methods available for this purpose, including spiking and slicing, he notes.

Superintendents can't afford to aerify only in March and then wait until August to do it again, White stresses. But the fact that they're

hesitant to aerify more than once has more to do with (no surprise here) golfer pressure than anything, he adds. "A lot of times superintendents are scared to stir the water," he says.

However, if golfers are complaining, the course as a whole, including the people in the pro shop, needs to do a better job of communicating to golfers and members why aerifying is important, White says.

White advises superintendents in his area to aerify their courses' bentgrass greens twice — in mid-March and in early May. They should use small tines the second time around so the greens can heal in a few days.

To deal with the summer heat, White suggests spiking greens and aerifying with quad tines as needed, in addition to hand-watering the hot spots. White says superintendents in his area should begin spiking every few weeks in June and then weekly in July and August. "When you spike and then mow and roll, golfers will hardly notice," he says.

Topdressing goes hand in hand with aeration, Gross notes. When excessive organic matter develops at the ground's surface, water and air can't penetrate deeper into the soil, he says.

"The result is shallow roots," Gross adds.

*Continued on page 62*



**In Idaho and surrounding states, water management is the most important aspect of sustaining healthy root growth.**

---

*Continued from page 61*

"This is precisely why core aeration and topdressing are frequently recommended."

Aeration and topdressing should be a high priority in the spring and fall to coincide with the growth cycle of the grass and the production of roots.

"Again, it's agronomy 101," Gross says.

Gross points out it's important to avoid changing topdressing sand, which could create layers in the surface of a green and lead to poor air and water movement.

**Water wisely**

In Idaho and surrounding states, where Matt Nelson is agronomist for the USGA's Northwest Region, water management is the most important aspect of sustaining healthy root growth. And, yes, it's extremely important in other areas of the country as well.

Nelson says it's crucial to irrigate to the depth of the rootzone throughout the season.

"It doesn't make a lot of sense for you to water regularly to a depth of 2 inches if your green's roots are 8 inches and vice versa," he adds.

It's important to water deeply about once a week when roots are deep, Nelson adds.

Regular watering is also important to rid the rootzone of salt, which could come from fertilizer.

"Even if it's not something you're really concerned about and you're not on a constant salt management program like you would be in areas like southwestern Utah, Nevada or Arizona, there may be enough salt in your water that can accumulate throughout the season in the rootzone to where it needs to be leached," Nelson says.

Nelson says surfactants and wetting agents can also help keep a uniform soil moisture in the profile and help maintain healthy roots.

Hand-watering plays a viable part in proper water management. Gross advises superintendents not to send the college kid in his third week on the job out to hand-water.

"Superintendents should have their best employees in charge of hand-watering, and these people should be properly trained in where and when to water as well as how much to apply," Gross says.

**Parting thoughts**

Happ says superintendents shouldn't back off from their cultural practices when turf

begins to grow aggressively. He says some superintendents stop fertilizing and aerifying then because they believe the turf is healthy enough.

"You hear the comment, 'I can't keep up with how fast the grass is growing,'" Happ says.

That said, they shouldn't stop trying to encourage root growth below the surface. "What goes on underground is what superintendents need to be watching," Happ adds.

Getting back to the basics, Skorulski says, could mean raising mowing heights to lessen the stress on roots that comes with cutting them at one-sixteenth of an inch.

"There are other ways to get a quality playing surface other than having to lower the height of cut substantially," says Skorulski, who recommends rolling greens and using plant growth regulators to make them run faster instead of mowing them shorter.

Nelson says it's vital for a superintendent to stick a soil probe in the ground to assess root structure. Yes, that's another basic management technique but one that can be overlooked in the whirlwind of the golf season.

It's one thing to have a chemical soil analysis to help superintendents evaluate the need for phosphorus and potassium in their fertility programs. It's another thing to follow through with the recommendations of the analysis, says Gross, noting that many superintendents don't.

"They need to make sure that phosphorous amounts are adequate, and that they are applying a good regimen of potash to turf," he adds.

Gross says gypsum, lime or other treatments may be necessary if superintendents have chemical problems with their course's water or soil.

"But the need for these treatments should be based on laboratory analysis — not what the guy down the street is using or what the salesman says [to use]," he adds.

The moral of this story: There's nothing wrong with trying something new to help maintain healthy roots, USGA agronomists will agree. But there's also nothing wrong with sticking with the tried-and-true cultural practices. It's not glamorous, but ...

"The basic way really works — and tremendously well," Happ says. ■





**Go the Distance on Pythium Control.**



Drive Pythium off your course with Terrazole® 35WP fungicide. Terrazole can be used on newly seeded areas or on established turf where it works with both preventative and curative control. And after years of on-course experience on tees and greens, no resistance has ever been reported. Ask your chemical supplier for Terrazole – Pythium control that goes the distance.

**Terrazole®**  
FUNGICIDE

**Crompton**  
Crop Protection

Always read and follow label directions.  
Terrazole and the Crompton logo are registered trademarks of a subsidiary of Crompton Corporation.  
©2005 Crompton Corporation CCP-10205

[www.cromptoncorp.com/crop](http://www.cromptoncorp.com/crop)



# Real-Life Solutions

BUNKER MAINTENANCE



BunkerGuard is effective because its corrugated construction can reduce sand shifting and soil erosion during storms and high winds.

PHOTOS COURTESY: NORTH AMERICAN GREEN

## On 'Guard'

### Three-dimensional liner protects against bunker washout and erosion

BY LARRY AYLWARD, EDITOR IN CHIEF

#### Problem

When heavy rains and strong winds walloped Champions Retreat Golf Club, the course's superintendent and director of golf were concerned about bunkers washing out.

#### Solution

The course installed a three-dimensional liner comprised of three polypropylene nets integrated with a polypropylene fiber matrix, which prevented any washouts.

**T**he cloudbursts that arrived in central Georgia were remnants of the still-menacing hoard of hurricanes that socked and soaked Florida last fall. Champions Retreat Golf Club in Augusta, Ga., was not spared by the nasty weather. The 27-hole complex, with nine-hole courses designed by Arnold Palmer, Jack Nicklaus and Gary Player, was deluged with rain and walloped with wind.

In the end, Mother Nature's fury, which included a few days of 2.5-inch rains, proved a good test for about 10 steep-faced bunkers located on Champion Retreat's nine-hole Arnold Palmer course. Would they wash out like a crummy contestant on "American Idol?"

Dan Ciamaichelo, Champions Retreat's superintendent, and Brian Stock, the club's

director of golf, were eager to see what happened to the bunkers after one of the last heavy rains had receded. They were especially curious because they had recently attached the bunkers with BunkerGuard, a three-dimensional liner comprised of three polypropylene nets integrated with a polypropylene fiber matrix. Evansville, Ind.-based North American Green, the company that manufactures the product, said BunkerGuard can minimize sand washout and reduce soil erosion, even on the steepest bunker faces.

"Dan and I went out and looked at some of the bunkers that have 6-feet-deep to 8-feet-deep faces," Stock says. "We didn't know what to expect."

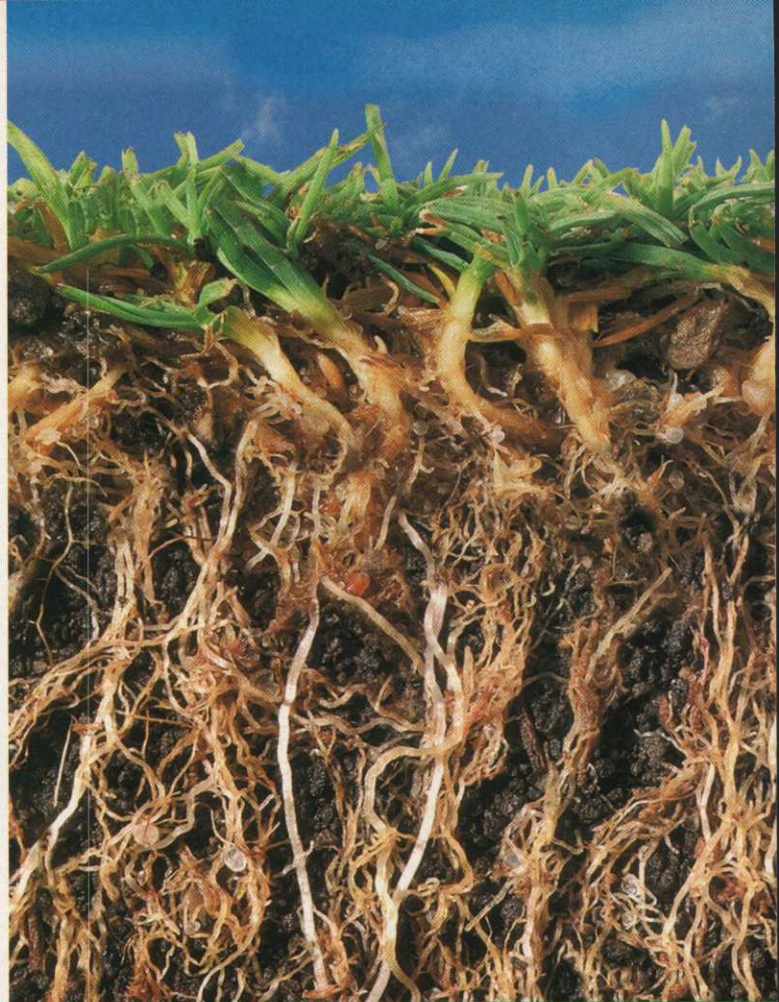
Ciamaichelo and Stock weren't awash with anguish, fortunately. The BunkerGuard did its job.

*Continued on page 66*





# 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.

In reality, we've tested ours as well, at over 25 major US universities\* and know that our products work and are worth your investment. At Roots®/Novozymes we are serious about research. We employ over 500 scientists world-wide and invest over \$130 million in research annually. So, when we say Roots products work, we mean it and back it up with documented university research and consistent product benefits like:

1. Overall better plant health
2. Low thatch accumulation
3. Reduced chemical fungicide use
4. Better stress tolerance
5. Better drought resistance

If you want an effective alternative fungicide for Anthracnose control, and one that has been

university tested\*\* in combination with Ultrex® and found to be more effective than Ultrex alone, it's time you give Roots a try.

It's Time to Try EcoGuard® Biofungicide.



It's easy. Apply for dollar spot and Anthracnose control and see the difference. It's just that simple. Contact your local Roots distributor today.

\* Rutgers, VA Tech, U of WI, MI State, Penn State and over 20 other major universities.

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

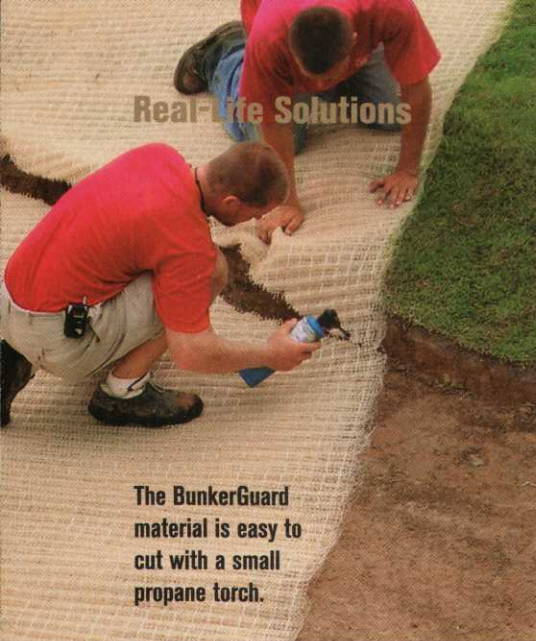
**roots®** ... Our Name Says It All



Read and follow all label directions. The Novozymes logo and EcoGuard are trademarks of Novozymes A/S. Ultrex is a trademark of Syngenta. ©2005 Novozymes Biologicals, Inc.



## Real-Life Solutions



**The BunkerGuard material is easy to cut with a small propane torch.**

*Continued from page 64*

"The bunkers were still holding all of their sand," Stock says.

It was the first test for the bunkers and a dandy one at that. "We were pleased and surprised at the same time after we saw the end result," Stock says. "There are some severe bunkers out here where the bunker lines are al-

most to the top of the putting surface. When you've got that steep of bunkers and you're getting that much rain, I would say most other products would fail to hold the sand in place."

Tom Ohlson, the certified superintendent of Falls River Country Club in Boston, used BunkerGuard on his courses' bunkers and says the product gives sand something to grip onto, which then eliminates the contamination that erosion can cause.

If bunkers were cars, they would've been classified as Pintos or Gremlins 25 years ago. These days, however, bunkers are viewed as upscale Lexus or Mercedes. That said, superintendents want to take care of them to the best of their abilities. Hence, they want to keep bunkers from washing out for myriad reasons, aesthetics and playability included. But bunker washouts can also be costly to repair.

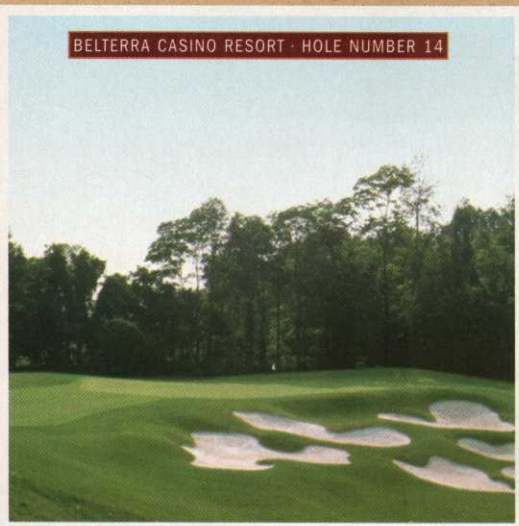
North American Green says BunkerGuard is effective because its corrugated construction can reduce sand shifting and soil erosion during storms and high winds. The rough corrugated structure provides increased frictional properties to hold sand in place while controlling erosion to the underlying soil, according to the company.

BunkerGuard can be customized to any bunker slope length by cutting the rolled material to appropriate length with a utility knife or small propane torch, according to North American Green, which also says the product is easy to install.

Ciamaichelo will attest to that. "It's really easy to use," he says. "It comes in large rolls and is ready for use when you unroll it. The material is simple to cut and staple down into the soil."

*Continued on page 68*

BELTERRA CASINO RESORT • HOLE NUMBER 14



*The Source for Golf Photography*

800.338.1656 • [www.golfoto.com](http://www.golfoto.com) • [info@golfoto.com](mailto:info@golfoto.com)

"Hiring renowned golf photographer, **Mike Klemme**, to take photos of the golf course at **Belterra Casino Resort** made such a huge difference! We have had course photos taken in the past, but there is absolutely **no comparison**. Mike's photography really serves to **enhance the beauty** of our Tom Fazio course. We truly enjoyed working with him and the staff at **Golfoto**."

Mashayla Colwell  
Advertising Manager

Belterra Casino Resort • Indiana • USA



# To Sprig or To Seed?

That is the question.



The newest elite turf-type featuring finer leaf texture, improved turf density, and significantly improved turf quality. With excellent tolerance to winter survival and reduced scalping, Sunbird also offers significant economy over similar bermudagrasses. Sunbird is second only to Riviera in performance.



Developed by Pure Seed Testing in North Carolina, Savannah forms a dark green, low-growing turf with excellent turf quality and early spring green-up. Ideal for new turf installations and the improvement of all existing bermuda turf.



Transcontinental represents a new generation of improved turf quality, color, and performance. With improved cold tolerance for winter survival, Transcontinental allows for quality bermudagrass performance in both hot, humid conditions and cooler, temperate climates.

**Seed: 1,400 plants per square foot**  
**Sprigs: 10 plants per square foot**  
**More plants...Less labor...Cost savings**



**TURF-SEED, INC.**

*Your Success Depends on Seed / Satisfaction Guaranteed.*

800-247-6910 • [www.turf-seed.com](http://www.turf-seed.com) • email: [info@turf-seed.com](mailto:info@turf-seed.com) • fax: 503-651-2351



## Real-Life Solutions

*Continued from page 66*

Ciamaichelo expects the BunkerGuard to last 30 to 40 years. It requires no maintenance, except cleanup of staples once they become loose.

But Ciamaichelo points out that the steep slopes with BunkerGuard must be hand-raked.

"We can't rake them with a gas-operated rake," he says, "because it could reach down below the sand, get into the BunkerGuard material and probably damage it."

Champions Retreat also used North American Green's erosion control blankets during seeding on parts of its nine-hole Nicklaus design last summer.

"After seeing the specs on the product, we figured it would serve the purpose for us and the price was reasonable," Ciamaichelo says of North

American Green's DS75 blanket. "We used it on some rather severe slopes."

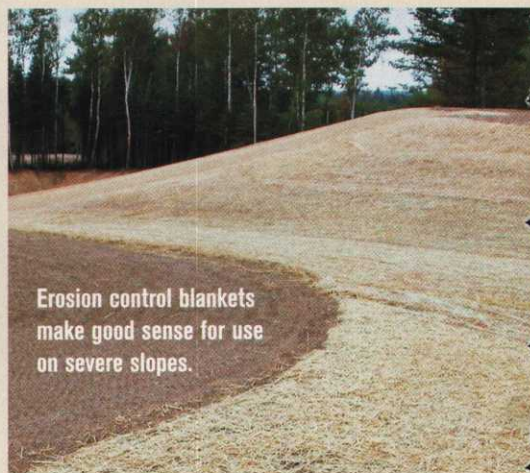
Ciamaichelo says he and his crew installed the blanket first and seeded on to it.

"The best part about it is that the material is not visible anymore once the seed is established and the turf is there," Ciamaichelo says. "The material breaks down with sunlight. But it also takes long enough to break down that you're assured of a good stand of grass prior to it breaking down."

Ciamaichelo says the erosion control blankets were also easy to use.

"The product went down quickly," he says. "We just rolled it out, stapled it and seeded into it."

Pat Brockwell, superintendent of Black Mesa Golf Club in La Mesilla, N.M., used three truckloads of North American Green's DS75 erosion control blankets, comprised of grading



free wheat straw, around his course's steep bunkers and fairways.

"We had very good results with seed establishment and thus erosion control," he says. "Costs were substantially lower than sod, and we had the benefit of seed establishment with much better rooting than sod." ■

**golf  
construction**

**news.com**

"The Source for New Golf Project Information"

**golfconstructionnews.com** (GCN) is an online report containing the most current and in-depth information on golf projects in the U.S. GCN keeps tabs on thousands of projects a year to provide the most up-to-date, comprehensive details as they become available. Reports can be ordered for up to eight regions of the U.S. to fit any-sized business.

### Features include:

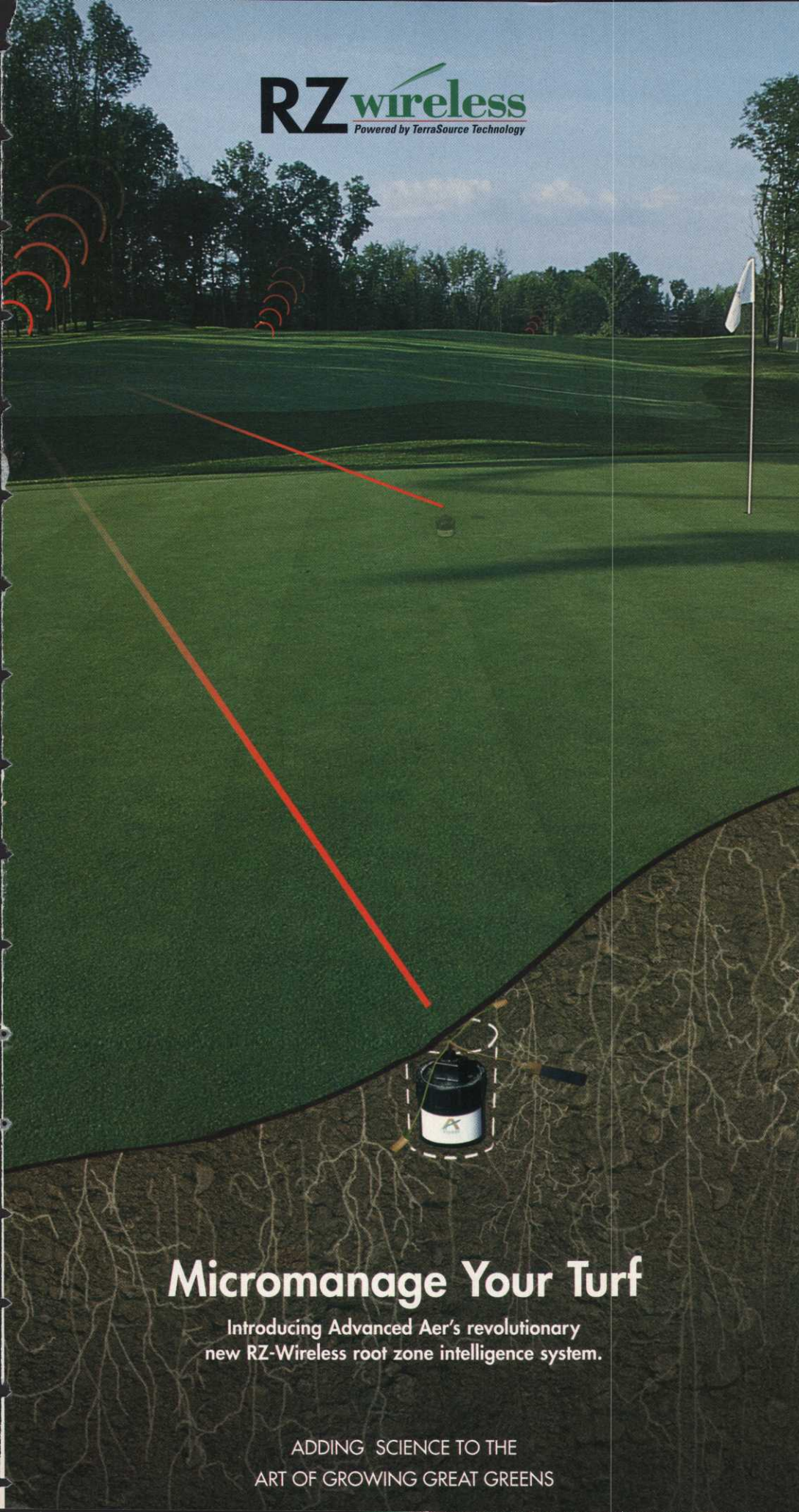
- Access to project updates 24/7 via secure, password-protected access
- Project tracking from conception to completion, with its status regularly updated
- Full details for New & Proposed Projects, Remodels to Existing Courses & Recent Openings
- State-of-the-art click-through contact access with developers, course designers and construction companies (if selected), and related parties
- Sortable project database – including by state, development phase, type and opening date

Subscribe online now! It's as easy as visiting [www.golfconstructionnews.com](http://www.golfconstructionnews.com). Review regularly updated sample projects on the home page and see the power of GCN for yourself.

For additional information, call toll-free 866-640-7170.



**RZ** *wireless*  
Powered by TerraSource Technology



## Micromanage Your Turf

Introducing Advanced Aer's revolutionary  
new RZ-Wireless root zone intelligence system.

ADDING SCIENCE TO THE  
ART OF GROWING GREAT GREENS



### From Root Zone to Desktop

Now superintendents can monitor real-time moisture, temperature, and salinity levels from the root zone of greens, tees, or fairways directly on their desktop computers.

The RZ-Wireless system provides precise information, allowing you to manage your irrigation with greater precision than ever before. Save water, use fewer inputs, reduce labors costs, and grow healthier turf.



### It's Easy

The wireless transmitters are installed using only a cup cutter and, with the help of signal boosters positioned throughout the course, send a continuous stream of vital information directly to your PC. The RZ-Wireless software features an easy-to-use dashboard-style interface that lets you instantly see if your soil conditions are within ideal ranges.

Stop guessing about what's going on in the root zone, and prepare to take your turf to the next level.



Marketing Partner  
[www.advancedaer.com](http://www.advancedaer.com)



**D**ear Hootie:

Boy, you pulled off a beauty last year. Giving those players a chance to go at those rewarding final-day hole locations. Silly you!

The old Sunday roars were back, and so was the Masters. Amen, brother.

Maybe you listened to those who said the Masters was becoming, well, dull?

Or maybe you just figured it out on your own. Yep, that's what it was. Martha distracted you. And when you actually turned your attention to watching golf, ol' Hootie was running for a cabin nap.

Since you're focused on golf again, I thought you might be open to some more ideas.

First, can we lose the tree-planting program? I know you wanted to narrow down the landing areas and plug every conceivable leak in the woods, but the new trees look — how do I say this nicely — extremely tacky.

You see, it's one thing to plant trees, another to plant them in dense swarms that make players bend over and chip out sideways. It doesn't look like Masters golf. No, the tree planting looks like the Bushwood Country Club memorial tree program gone awry.

While we're at it, Hootie, the "second cut" can go. This light rough stuff is not making the Masters better. The Tour's ShotLink stats are telling players that their birdie batting average goes up the longer they drive it, no matter what the lies look like.

Besides, the rough keeps a lot of balls from rolling into the trees. And we know you'd rather see a few more deserving shots reach the trouble, right?

The final thought is a big one. But I know you've considered a "Masters ball," and you were just waiting to read in *Golfdom* how to pull it off.

You see, most everyone in golf believes something has to be done to keep courses like Augusta relevant, safe and interesting. But from your hard-working writers to your well-paid players to your TV executives, they're all scared to death of this Wally Uihlein dude.

He's CEO of Acushnet Golf and he makes a lot of money selling expensive Titleist golf balls.

## Feel Free to Stop Progress, Hootie

GEOFF SHACKELFORD



YOU ARE THE ONE  
PERSON POWERFUL  
ENOUGH TO  
INTRODUCE A BALL  
THAT RESTORES  
SHOTMAKING AND  
REWARDS THE  
GENUINELY LONG  
HITTERS

Mr. Wally advertises a lot and overpays players and certain announcers to drink a special Kool-Aid recipe that has them publicly reinforcing the "you can't stop progress" mantra. So you hear the Kool-Aid drinkers publicly supporting this myth that people love golf because of the privilege of buying the latest \$58-a-dozen ball.

Privately, the Kool-Aid isn't working. Just about everyone is saying that a "tournament ball" is the only way to stop the distance madness causing assorted problems at courses around the world.

Knowing how much you care about the everyday game and how tired you are of changing Augusta National, people think you are the one person powerful enough to introduce a ball that restores shotmaking and rewards the genuinely long hitters.

You could present a free ball spec that the manufacturers would make just for Masters play. If the companies refuse, you could hire one company to make your ball and insist that the players use it. Your merchandise pavilion would sell a jillion sleeves of the Masters ball during tournament week, and I suspect plenty of classic courses would stock them, too.

And if players don't want to play by your rules? They are more than welcome to stay home.

If nothing else, a Masters ball would make driving down Washington Road safe from range balls. It would let you take down that awful green fence that we can see from the third tee. Sounds like a win-win to me!

*Yours For A Masters Ball,*  
**Geoff**

*Geoff Shackelford's "The Future of Golf" (Sasquatch Books, \$21.95) will be re-released this month with a foreword by Nick Faldo and new essays. He can be reached at [geoff@geoffshackelford.com](mailto:geoff@geoffshackelford.com).*