

BY DAVID WOLFF

Factor it in

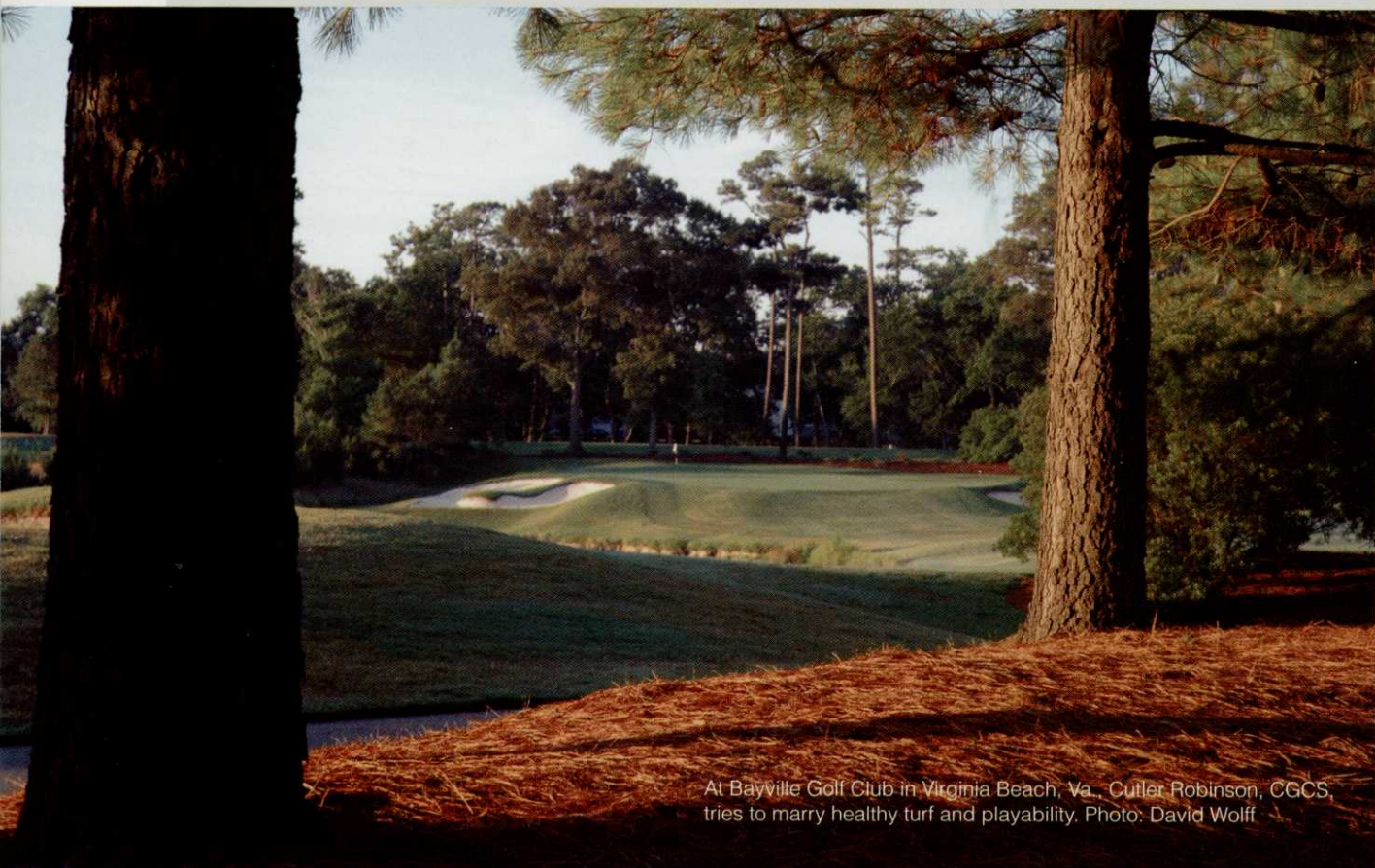
Expectations, weather and turf health determine the amount of chemical inputs

Golfer expectations and the weather. Arguably more than anything else, these two factors determine how superintendents prepare and maintain golf courses. And, depending on where you live, this has a great affect on the amount of chemicals used – fungicides, plant growth regulators and fertilizer, to name a few.

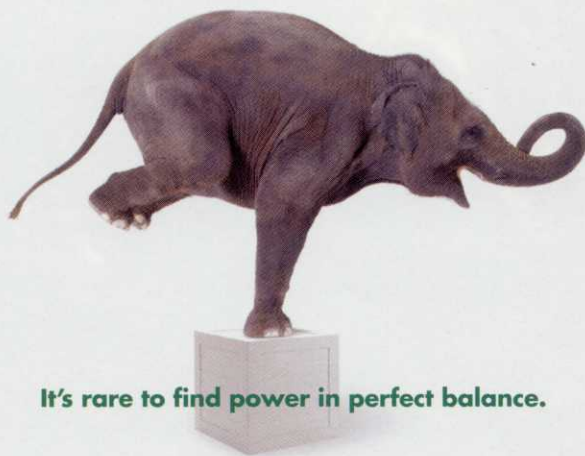
Regardless if the course is in the Pacific Northwest or along the Eastern Seaboard, superintendents agree the key to achieving the best possible conditions is establishing and maintaining healthy turf. Their methods might differ, but the goal is the same.

The use of chemicals such as fungicides is entirely based on the weather, says Darin Bevard, a U.S. Golf Association senior agronomist for the Mid-Atlantic region.

“In 2005, our region experienced a hot, wet summer,” Bevard says. “Most superinten-



At Bayville Golf Club in Virginia Beach, Va., Cutler Robinson, CGCS, tries to marry healthy turf and playability. Photo: David Wolff



It's rare to find power in perfect balance.

Quincept With its ideal ratio of active ingredients, new Quincept has more than enough power and flexibility to control crabgrass and other tough grasses, as well as over 200 broadleaf weeds. Get Quincept in the 64-oz. squeeze and measure jug, or the "no-glug" 2½ gallon size.

For more information, contact a Nufarm representative or your local distributor today.

800-345-3330 www.nufarm.com/usto

™ Quincept and The Formulation Innovators are trademarks of Nufarm Americas Inc. Always read and follow complete label instructions.

Value with a difference.



www.golfcourseindustry.com/readerservice - #59



RAZOR&BURN With the complete control of glyphosate and the quick burndown of diquat, Razor Burn delivers visible results in 24 to 48 hours. So you'll eliminate weeds as fast as you'll eliminate complaints about slow progress. For fast-acting broad spectrum control, Razor Burn is a cut above.

For more information, contact a Nufarm representative or your local distributor today.

800-345-3330 www.nufarm.com/usto

® Razor Burn is a trademark of Nufarm Americas Inc. Always read and follow complete label instructions.

Value with a difference.



www.golfcourseindustry.com/readerservice - #60

TURFGRASS MANAGEMENT

dents exceeded their chemical budgets. Last year was better, but costs increased because of price increases for these products. However, cost aside, superintendents generally will use as much fungicide as it takes to meet golfer expectations for course conditions."

INCREASED FERTILIZATION

Kris Givens remembers when the approach to fertility programs for greens was "lean and mean" several years ago. Not so anymore for the superintendent of Whitford Country Club in Exton, Pa.

"Anthracnose is a bad disease in our area, and we have to control it," Givens says. "So part of our program is fertilizing at a higher rate than we used in 2000 and 2001."

The 18-hole private course has bentgrass/*Poa annua* greens and tees and bentgrass fairways. Givens uses EarthWorks 5-4-5 natural organic fertilizer. In the spring, early summer and fall, he applies one-half to one pound per 1,000 square feet and spoon-feeds at a rate of one-tenth of a pound weekly in the summer to maintain color and avoid flushes of growth.

To maintain healthy turf, Givens' fungicide program includes monthly applications of a Signature/Daconil mix or a Signature/26GT mix from March through November. In the summer, it can get hot and humid, so Givens usually sprays something every two weeks to help him manage disease. Golfers don't even notice, he says.

"We rotate Banner Maxx and Rubigan among other SI fungicides and apply Primo plant growth regulator every two weeks to maintain green speed," he says. "We have a good fertilizer program with a strong rotation, and we're hitting everything from dollar spot to summer patch to pythium. We really haven't had any issues. In the summer, we have to pay attention and be smart. If the weather changes, we might have to raise the height of cut on the greens and back off on double-cutting."

CHANGE IN SCENERY

When Chris Kirchner left Highlands Falls (N.C.) Country Club to become superintendent of Heritage Hill Golf Club in Shepherdsville, Ky., he experienced more than a geographical change. Nestled in the Great Smoky Mountains, the Highlands Falls course is at an elevation of more than

At Heritage Hill Golf Club, Chris Kirchner rotates 10 to 15 different fungicides on greens to prevent tolerance build-up. Photo: David Wolff





At Glendale Country Club, Steve Kealy, CGCS, has increased the amount of nitrogen applied to the course to keep turf healthy. Photo: David Wolff

4,000 feet. In the summer, daytime highs are in the low 80s with little humidity. In Shepherdsville, summers are hot and humid.

"I'm using more fungicides because disease pressure seems to be higher in my new area," Kirchner says.

Heritage Hill, which opened in August 2007, features A-4 bentgrass greens and collars. Tees and fairways are zoysiagrass, the irrigated rough is bluegrass, and the remainder is fescue. Fungicides are applied on greens and fairways regularly and on tees when there's an outbreak of zoysia patch.

"I'll spot spray when necessary," Kirchner says. "Most of my spraying during the grow-in was with herbicides. I rotate fungicides quite a bit, using 10 to 15 different products on greens so we don't build up a tolerance. The new products seem to last longer, even though they have less active ingredient. That's a good thing for the environment, but bad for budget purposes. It seems like I have to buy more, and fungicides are very expensive products."

REVERSE TRENDS

Larry Gilhuly, director for the Northwest region of the USGA Green Section, has seen expectations for course conditions climb off the chart since he joined the Green Section in 1984.

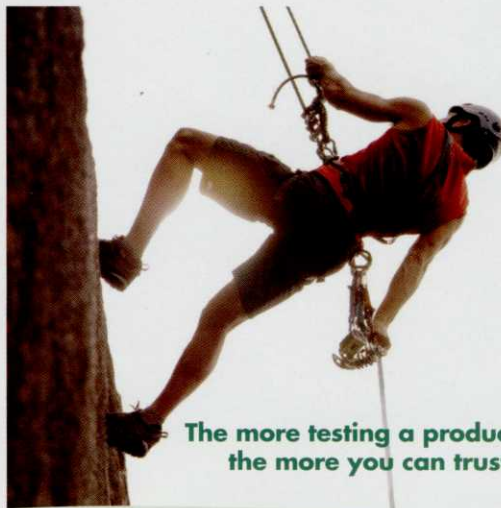
"It's night and day, but the good news is superintendents are growing healthier grass today," Gilhuly says. "The Stimpmeter led to a trend of lowering heights of cut on greens and applying less fertilizer. This caused problems with anthracnose and moss. Now we've got fertilizer levels back up and are using other tools, such as greens rollers."

In the Pacific Northwest, low humidity generally reduces disease pressure. The biggest issues are pink snow mold and anthracnose, but that doesn't mean superintendents don't use fungicides.

"The use of fungicides in our region hasn't necessarily increased," Gilhuly says. "Rates are less because products are more effective."

Gilhuly advocates target rolling for smooth greens with a desirable speed and healthy turf. (See sidebar on page 84.)

"One answer to the green speed issue consists of more rolling and rais-



The more testing a product gets, the more you can trust it.



Mallet 2F stands tall against even the best-known imidacloprid insecticide. Tested extensively and proven in the real world, Mallet 2F works on contact and ingestion to control white grubs and other key pests. For the results you expect, get Mallet 2F.

For more information, contact a Nufarm representative or your local distributor today.
800-345-3330 www.nufarm.com/usto

™ Mallet is a trademark of Nufarm Americas Inc. Always read and follow complete label instructions.

Value with a difference.



www.golfcourseindustry.com/readerservice - #61

ProDeuce saves you both.



Spend less time and money on weed control with the pre- and post-emergent power of ProDeuce. Prodiamine and glyphosate combine to eliminate weeds in cracks, crevices, tree rings, mulched beds, foundations and gravel areas. This season, take advantage of the double impact of ProDeuce.

For more information, contact a Nufarm representative or your local distributor today.
800-345-3330 www.nufarm.com/usto

™ ProDeuce is a trademark of Nufarm Americas Inc. Always read and follow complete label instructions.

Value with a difference.



www.golfcourseindustry.com/readerservice - #62

First National Finance Programs Can Take You in The Right Direction

No other lender to golf course owners knows the business of golf as well as First National.

Call us to discuss your finance needs.



First NATIONAL
OF AMERICA, INC.

Call: 908-604-4700
Visit: www.firstna.com
Email: golf@firstna.com

First National
188 Mount Airy Road
Basking Ridge, NJ 07920

TURFGRASS MANAGEMENT

ing the height of cut," he says. "However, rolling more than three times a week causes problems with turf wear."

The concept of target rolling comes into play to provide a common sense approach to this issue, Gilhuly says. Golfers, generally, are poor judges of green speed, yet they desire smooth greens and judge green speed around the hole, so why not simply roll 20 to 30 feet around the hole, rather than the entire green? For example, if holes are changed six times weekly, and the greens are of adequate size, green rolling in a target manner could be completed six times weekly, which would be equivalent to rolling two or three times because the entire green isn't being rolled every time, Gilhuly says.

"Also, putting green rollers generally increase speed from six to 10 inches, depending on the type of roller used," he says. "Because players

have a difficult time determining this magnitude of difference, and rollers make greens smoother, the golfers benefit without placing the turf under more stress."

BALANCED FERTILITY PROGRAM

Growing healthy turf requires a balanced fertility program, says Steve Kealy, CGCS, of Glendale Country Club in Bellevue, Wash.

"We've got fertilization back up to a comfortable level," Kealy says. "Seven to eight years ago we were starving the greens, applying only 2.5 pounds of nitrogen because that was the trend. Sure, the greens were fast, but we were getting every kind of weird, funky disease. The turf was stressed and half-sick. Now we've got nitrogen levels back up to keep the turf healthy. We apply five to 5.5 pounds, and combined with other products and practices. We're far

Try sectional rolling for consistent green speed

Mark Cupit, CGCS, of Ironwood Country Club in Palm Desert, Calif., and Larry Gilhuly, director for the Northwest region of the USGA Green Section, have consulted about the process of sectional, or target, rolling throughout the years. Cupit explains why he uses this method and how it's put into practice:

"Back in the good old days, I remember the first time I dropped my green heights down to three-sixteenths of an inch," he says. "It was pretty scary. Some of you are old enough to remember the speed revolution. We used to scalp them down, withhold fertilizer and water and bring the greens right to the brink of death. Now, with the help of new equipment technology, superintendents have the ability to maintain what every golfer and turf manager wants: smooth, fast putting surfaces without starving the turf and without the damage caused from heavy rollers and ultralow mow heights."

Cupit oversees the club's Tifdwarf greens each fall with *Poa trivialis*. After the initial grow-in phase, he uses sectional rolling to achieve the best possible putting surface for club members.

"Using one of my lightweight rollers, I start rolling my greens every day, but not the entire green, only the third of the green where the pin will be," he says. "Our course sets pin locations seven times a week using six front, six middle and six back cup set placements."

When initiating this program, it takes about two weeks to normalize speed across the entire putting surface, Cupit says. The third of the green that was rolled Monday will only lose a couple inches of speed before it gets rolled again. Even the best players at the club can't recognize the difference in speed.

"The benefits could be seen as enabling the turf manager to have faster putting surfaces without the ultralow mow heights," he says. "I like to get our greens around 11 feet for the snowbird season. My greens are mown at a bench setting of 0.115 inch with a John Deere 180 walk mower, rolled daily and spiked with a PlanetAir every three weeks. Along with a good fertility and Primo program, I'll continue this for the entire season. For special events when speeds need to be really fast I'll add double cutting for several days before the event and maybe some sand topdressing."

less concerned with green speed and excessive growth. We use Primo plant growth regulator for consistent green speed, lightly topdress for a smooth surface and verticut weekly. We've got healthy grass with no growth spurts. We're actually using less fungicide."

STICK TO THE BASICS

The most important thing superintendents can do to achieve healthy turf is to be flexible and adapt their fertility programs when necessary, says Cutler Robinson, CGCS, of Bayville Golf Club in Virginia Beach, Va.

"Superintendents must be disciplined in following through with their programs," Robinson says. "They can't let every isolated comment or complaint dictate what they do. We have a good base model for what works in an average year on our course. We analyze soil samples two or three

times a year and monitor the soil regularly. We also test the pH of our water. We'll change nutrition rates if the situation demands it. For example, if we get a leaching rain, we'll come back sooner with a foliar fertilizer application."

Ultimately, the goal is to marry turf health and playability, Robinson says.

"If greens are overfertilized, they won't putt well, and thatch will start to build up," he says. "Low heights of cut reduce the root system, and the turf can't store carbohydrates as efficiently. In this situation, we use frequent, light foliar applications of a balanced fertilizer to maximize root growth and carbohydrate reserves. That's why superintendents must be disciplined, not reactionary, because we can't create carbohydrate reserves in summer. We're a high-end club, and our fertility program is all about sticking to the basics." GCI

Cupit strongly recommend reading "The Superintendent's Guide to Controlling Putting Green Speed" by Thomas A. Nikolai, Ph.D.

"I've been doing this routine for several years now and have found not only very smooth putting surfaces, but very consistent day-in-and-day-out green speeds," he says. "This is what every golfer wants. The best thing for me is having the speed without sacrificing the health of the turf." GCI



Sectional, or target, rolling is implemented at Ironwood Country Club to achieve smooth, fast greens without starving the turf. Photo: David Wolff



3336 PLUS PROVIDES UP TO 50% MORE DISEASE CONTROL.

- **Highly effective, broad-spectrum turf fungicide with ClearTec™ Activation Technology**
- **Unique formulation provides a more effective use of the active ingredient thiophanate-methyl, resulting in longer lasting disease control than other products containing the same ingredient**

SOLUTIONS FOR BETTER TURF

For more information on **3336 Plus** or other **Cleary turf products**, contact your local distributor or visit www.clearychemical.com.



Make it a Cleary Day.

Read and follow all label directions. The Cleary logo and 3336 Plus are trademarks of Cleary Chemical Corporation. ©2008 Cleary Chemical Corporation.

www.golfcourseindustry.com/readerservice - #65