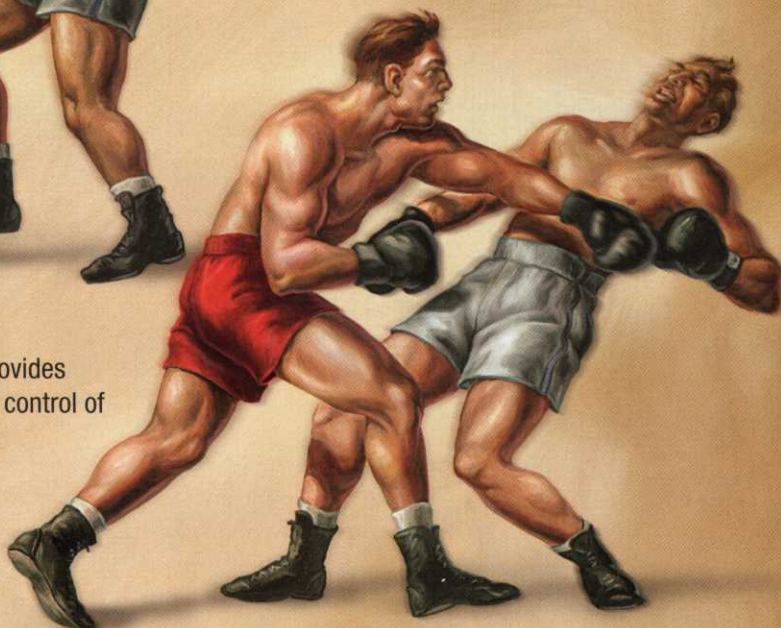


INTRODUCING ALOFT™ THE ONE-TWO PUNCH™



One – Bifenthrin provides quick knockdown of early-season adults and surface-feeders

Two – Clothianidin provides long-lasting systemic control of all white grubs



Knock out bugs with new ALOFT™ Insecticide. Nothing provides better, faster or longer control of white grubs, early-season adults (like annual bluegrass weevil, black turfgrass ataeenius, billbugs and chinch bugs) and surface-feeders, including armyworms, cutworms and sod webworms. To learn more about the one-two punch of ALOFT, call 1-800-761-9397 or visit www.arystalifescience.us/aloft.

PERFORMANCE POWERED BY
CLOTHIANIDIN

Aloft™
Insecticide

Always read and follow label directions. ALOFT, the ALOFT logo and "The One-Two Punch" slogan are trademarks of Arysta LifeScience North America Corporation. The Arysta LifeScience logo is a registered trademark of Arysta LifeScience Corporation. © 2007 Arysta LifeScience North America Corporation. ALO-031



Arysta LifeScience

Harmony In Growth



Year In Review

What Happened?

BY GEOFF SHACKELFORD, CONTRIBUTING EDITOR

A look back
on the notable
occurrences
of 2007

The golf course industry had its share of headlines in 2007 when it came to the state of the game.

For the second straight year, golf course construction was hardly hot as the overbuilt industry continued to correct itself with more course closings than openings. Mid-level clubs across the country also experienced expanded waiting lists for people wanting to sell their memberships. And play remained stagnant in the public golf sector.

Yet while the professional game produced plenty of interesting storylines, it clearly did not motivate people to play more golf. Then again, why would anyone want to take up the game after seeing Zach Johnson put away a star-studded field at the Masters by making plenty of cautious pars?

At least 2007 continued the trend of golf-world dignitaries lashing out at Augusta National's design changes and the potential impact of rough, tree planting and extreme conditions on the rest of the golf world. Starting with, of all sources, the hometown Augusta Chronicle's Scott Michaux.

"It's the trees and the rough, however, that seem to fly in the face of the original design and strategic intent that the club, players and

patrons so passionately embrace," he wrote, surely to the dismay of his publisher, a club member. "The constriction of options and the mandated conformity of play on certain holes defies everything that (Bobby) Jones and (Alister) MacKenzie strived to achieve with Augusta National."

Professional golfer Joe Ogilvie offered his opinion in *Golfweek* magazine after seeing the course. "It's like if you have a beautiful woman, but after her 20th or 30th plastic surgery, she doesn't look as good," he said.

The PGA Tour's other Ogilvy, Geoff, shared this ideal club bulletin board fodder.

"Augusta has a lot to answer for, getting the whole world obsessed with really fast greens," he told writer John Huggan. "They have lost a lot of pin positions with that policy. I bet they used to have a lot more variety. I would like to see Augusta's greens — even if only for one year — maybe 2 feet slower. Then they could use some of the front pins that have basically been eliminated. And you wouldn't need the rough. I think everyone would be comfortable with getting rid of it. It's just not necessary. The course is all about the greens. You don't even need the trees. If you put the pin in the right place, there is only one good spot on the fairway."

Don't you wish he was on your green committee?



Angel Cabrera took home the U.S. Open trophy at beautifully conditioned and rejuvenated Oakmont Country Club near Pittsburgh. However, as many long-time observers have warned, the club's incredibly dense rough backfired when several players were injured hitting shots, including world No. 2 and pre-tournament favorite Phil Mickelson.

"It's disappointing to dream as a kid about winning the U.S. Open and spend all this time getting ready for it and have the course setup [cause an] injury, you know?" Mickelson said after missing the 36-hole cut.

The media lashed out at Mickelson. Even United States Golf Association officials took offense at his suggestion.

Then this fall, the USGA's sensible course setup man, Mike Davis, authored a memo to upcoming U.S. Open site superintendents on the need to ensure that roughs offer recovery shots. He warned that the USGA does not want excessively fertilized "pitch-out" rough that is both boring for spectators to watch and in the case of Oakmont, dangerous to golfers.

Meanwhile, officials for 2008 U.S. Open site Torrey Pines Golf Course brought in kikuyu grass sod from neighboring courses to convert fairways and roughs at the USGA's suggestion. But officials decided to oversee the roughs this fall with perennial ryegrass, and



even some fairways now might get the same treatment. So much for the first kikuyu grass U.S. Open since Riviera in 1948.

In other USGA news, the organization nominated Jim Vernon of Pasadena, Calif., to take over as president in 2008. He will have his hands full with several messy issues left behind by former president Walter Driver. Most notable is talk of an unprecedented equipment rules change that would ban all U grooves and eventually return the V groove to the game.

Whether the rule change occurs depends on cooperation from the Royal and Ancient Golf Club, which pulled off the year's best Major where Pádraig Harrington's thrilling Open Championship victory at a beautifully

Continued on page 34

Above, superintendent John Zimmers Jr. peels back Oakmont's vicious rough a day after the final round of the U.S. Open. Below, golf's influentials continued to criticize Augusta National for its design changes.

Continued from page 33

set up Carnoustie Golf Links in Scotland erased memories of the 1999 debacle there.

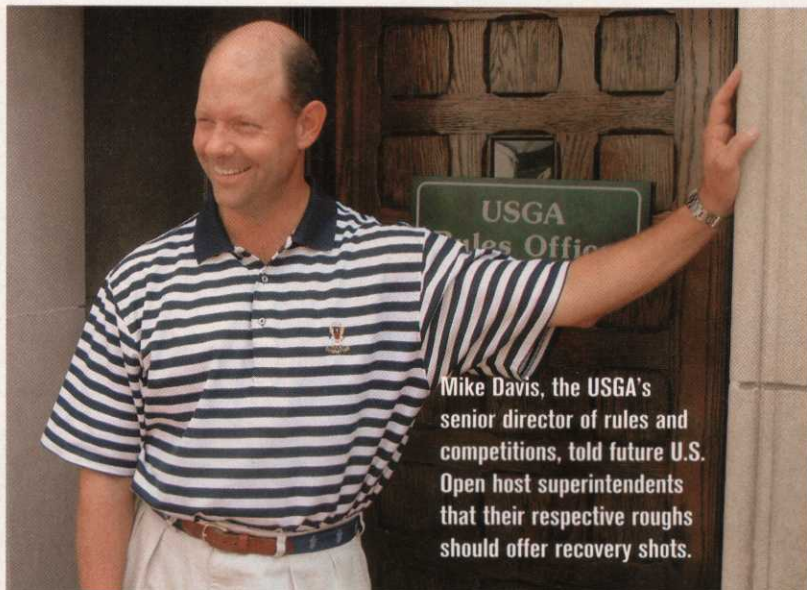
For the year's final Major, superintendent Russ Myers and crew somehow got Southern

Hills Country Club in Tulsa, Okla., through a wet summer and withering August heat during the PGA Championship won by Tiger Woods. Though the course was not as fast and firm as Myers would have liked, Keith Foster's recent revitalization of Perry Maxwell's design came off beautifully, with the increase in short grass around the greens once again proving that if you give the game's best players options, they usually pick the wrong one.

Off the course, Woods entered the design business in full force by announcing his first American course design for The Cliffs in rural North Carolina. He has partnered with former Tom Fazio associate Beau Welling, and talk of his design philosophy became an integral part of almost every Woods press conference.

"I will not be hiring some guy to design a golf course," he told a gathering of writers. "I'll be hands-on and involved in it. My tastes are toward the old and traditional. I'm a big fan of the Aussie-built courses in Melbourne.

Continued on page 36



Mike Davis, the USGA's senior director of rules and competitions, told future U.S. Open host superintendents that their respective roughs should offer recovery shots.

Sharpen Mowers for Greener Grass



Sharpening mowers with
EXPRESS DUAL & ANGLEMASTER
produces a surgically sharp cut leading to
superior turf and a lot of happy golfers.



AMERICA'S FAVORITE GRINDER • 1-888 GRIND-IT • www.expressdual.com

Adapts to its Surroundings



JACOBSEN® ECLIPSE™ 122 & 122 F

Like a chameleon, the new Eclipse 122 & 122 F walking greens mowers from Jacobsen® can adapt to any turf, condition, operator or environment. Independently adjustable ground speed, reel speed and FOC give you the unprecedented power to dial in to the exact cut you want. 50% more float eliminates scalping – even on the most undulated turf. An advanced control system takes variability out of the operator equation for a more consistent cut every time. And a variable-configuration platform allows for hybrid or battery power to provide stealth-like quietness, fuel savings and reduced emissions. Field tested and superintendent approved, the Jacobsen Eclipse gives you the power to mow with confidence, precision and superior results – every single day. For more information, call 1.888.922.TURF or visit jacobsen.com.

1.888.922.TURF • jacobsen.com

TEXTRON FINANCIAL



©2007 Jacobsen, A Textron Company. All rights reserved. Pebble Beach®, Pebble Beach Golf Links®, The Heritage Logo, The Lone Cypress™ and their underlying distinctive images are trademarks, service marks and trade dress of Pebble Beach Company. Used under license.

The Official Turf Equipment Supplier to The PGA of America and The Exclusive Turf Equipment Supplier to PGA Golf Properties.

JACOBSEN®
A Textron Company

When Performance Matters.™

What Happened?

Continued from page 34

I'm also a tremendous fan of some of the courses in our Northeast."

It was a toss up for best celebrity break-up in 2007. While Phil Mickelson denied he was firing long-time teacher Rick Smith to work with former Tiger Woods instructor Butch Harmon, he made the change after not winning the Masters. Then he won The Players

Championship at The Players Stadium Course in Ponte Vedra Beach, Fla.

Far more entertaining was a dispute between former friends Golf Digest magazine and developer Donald Trump, who was embroiled in various battles, but none more comical than his claims that the Golf Digest Top 100 course ranking is fixed. "Golf Digest is a disgrace to their profession," Trump told The New York Post's "Page Six" column.

It seems Trump was upset when Golf Digest dropped his Trump International from its Top 100. Trump claimed it was the result of a tense Nov. 28 meeting he had at Trump Tower with the magazine's publisher, who Trump claimed "came to my office and told me the only way I'll get the ratings I deserve was if I advertised. I said, 'No thanks' and sent him on his way." Trump added: "Can you believe it? The magazine had already told me that I have built the best new courses in this country in years, but then they say I have to advertise to make it in? It's unbelievable."

Trump's reasoning for Golf Digest's purported black mailing? Because he featured the editors of rival Golf Magazine in episodes of "The Apprentice."

Little did he know that the folks at Golf Digest probably considered that a blessing.

Meanwhile, restored and remodeled courses were rewarded in the latest lists. As Golf Digest's Ron Whitten noted, a number of former 100 Greatest Courses have undergone major remodeling programs in just the past two years, including Atlanta Athletic Club, Bel-Air, Bellerive, Jupiter Hills, Oak Tree and Stanwich (Golf Digest's Best New Remodel of 2006). All that these courses need now are the minimum 40 panelist evaluations to qualify for reconsideration on the 100 Greatest.

As much as folks want to blame the rankings for golf's business struggles, the most eye-opening news of the year came not from Tacoma, where much-anticipated new municipal course Chambers Bay opened to rave reviews and future U.S. Open site buzz, but from south of there where the 18-hole municipal known as The Crossings at Carlsbad opened at a cost to taxpayers of \$73.8 million.

As the kids like to say these days, "Good luck with that." ■



Light applications cover 18 greens in less than 90 minutes.

After 45 years of experience, Turfco® is the #1 brand of topdressers and material handlers.

THE WIDESPIN™ 1530 IS A GOOD EXAMPLE OF THE REASON WHY:

- **Patented 3-position switch.** Guarantees precise application and the new throttle switch reduces engine RPM for quieter transport.
- **Patented WideSpin technology.** The widest range of topdressing—from 15' heavy after aerification to 30' super light and every application in between.
- **Adjustable angle of spinners from 0-15°.** Allows for broadcast applications or to drive the sand into the turf.
- **Rust-free, galvanized hopper.** Worry-free durability—no paint to get sanded away.
- **Versatile.** Available as a tow-behind or truck-mounted for all popular turf vehicles.



For a demo, or to request product information, call 1-800-679-8201 or visit turfco.com.



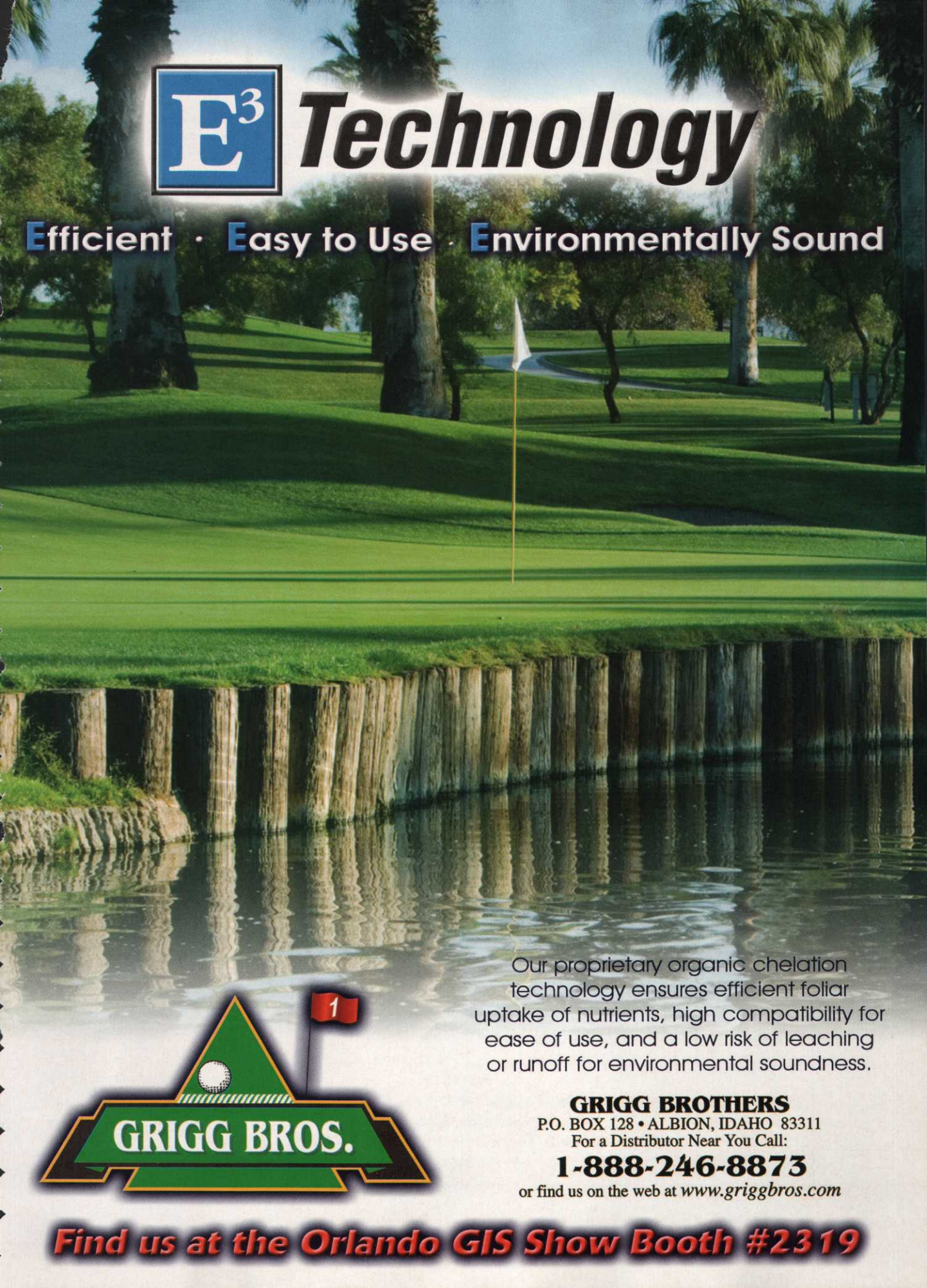
THE LEADER. SINCE 1961.

Turfco's #1 ranking is according to the National Golf Foundation's Turf Brand Share Report.

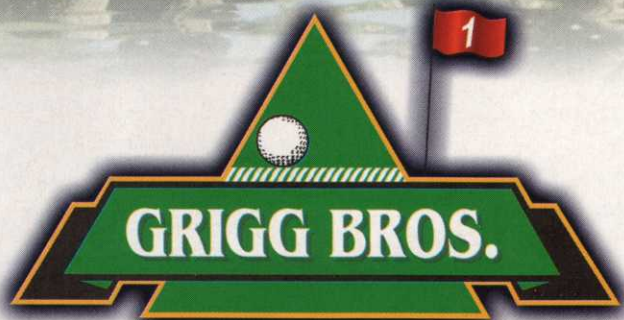


Technology

Efficient · **Easy to Use** · **Environmentally Sound**



Our proprietary organic chelation technology ensures efficient foliar uptake of nutrients, high compatibility for ease of use, and a low risk of leaching or runoff for environmental soundness.



GRIGG BROTHERS

P.O. BOX 128 • ALBION, IDAHO 83311

For a Distributor Near You Call:

1-888-246-8873

or find us on the web at www.griggbros.com

Find us at the Orlando GIS Show Booth #2319

WHY AN ASGCA MEMBER?



When it's time to develop or remodel a golf course, look for the "ASGCA" designation after the golf course architect's name.

"Experienced" describes every member of the American Society of Golf Course Architects:

- **Years in the field:** ASGCA members average 25 years in golf design. Before an architect can even apply for associate membership he or she must have at least eight years experience as a practicing golf course architect.
- **Courses designed:** Most ASGCA members have designed and renovated dozens—and, in some cases, hundreds—of layouts worldwide. To even be considered for membership, a prospective member must have designed the equivalent of at least five 18-hole golf courses.
- **Peer reviewed:** The multi-year application process includes comprehensive, in-person evaluations of the applicant's golf courses, discussions with clients, and a detailed look at plans and specifications.

Contact ASGCA at (262)786-5960 or www.asgca.org for a list of members and publications written to guide golf course developers and owners through the remodeling and development process.

ASGCA
125 N. Executive Drive, Suite 106
Brookfield, Wis. 53005
Phone: (262) 786-5960, Fax: (262) 786-5919
www.asgca.org

TURFGRASS TRENDS

NIXING NEMATODES

Coping with Nematodes Sans Fenamiphos

By Nathaniel A. Mitkowski

Across the northeastern United States, superintendents continue to deal with damaging levels of plant-parasitic nematodes. Although every golf course has some level of plant-parasitic nematodes, not every course experiences extremely high populations or observes nematode-related damage. Those courses most at risk for nematode damage are built on silty native soils where *Poa annua* is the dominant turf species.

In general, creeping bentgrass produces much deeper root systems than *Poa annua* and is much more resistant to nematode damage, even at high nematode populations.

Until recently, superintendents who encountered nematode problems could use fenamiphos (Nemacur) to provide a quick and extremely effective nematode remedy. Unfortunately for professional turfgrass managers, Nemacur has now come to the end of its registration phase out. Bayer ceased all sales of Nemacur to national distributors on May 1. Distributors around the country will no longer be permitted to sell Nemacur to end users on May 1, 2008.

Currently, there is very little Nemacur left for purchase in national distribution chains. A number of companies had sold their last remaining stocks of the chemical as of November 2006. Many superintendents, aware of their own nematode issues and the loss of such an important tool, began hoarding it. Anecdotally, stories have surfaced of superintendents buying whole pallets. Although the chemical can no longer be sold as of May 1, it will still be legal to use remaining stocks until they have been depleted. Consequently, many superintendents consider whatever supplies they have left to be worth their weight in gold.

Fenamiphos was first registered in the United States in 1973 but was originally developed in the 1940s. As an organophosphate, it targets the nervous pathways of nematodes and insects and has a high level of mammalian toxicity. Additionally, it is considered one of the most toxic organophosphates to birds and aquatic life. As dangerous as the chemical is to so many animals, it's mode of action allows it to be extremely effective against nematodes. Upon exposure to the chemical, nematodes cease feeding and eventually starve to death. Mating, moving and most of their activities are disrupted.

The longer the chemical remains in the soil, the more nematode mortality that occurs. Some superintendents have reported getting a turfgrass response from Nemacur in as little as three days. Over the years, other superintendents have reported that their health-

Continued on page 40

IN THIS ISSUE

- **Blue Grama Breeding**
The cultivar requires few inputs with excellent drought, heat and cold tolerance, but is it ready to be a turfgrass?.....42

OUR SPONSORS



Bayer Environmental Science

www.BackedByBayer.com
800-331-2867



JOHN DEERE

www.JohnDeere.com
309-765-8000



www.agrium.com
800-422-4248

Continued from page 39

iest greens were those that had been annually treated with fenamiphos. This response was most notable on *Poa annua* greens.

With the loss of this important tool, superintendents will need to develop alternative ways to manage nematode problems in the Northeast. Unfortunately, alternative chemical controls have not been very successful. A spate of alternatives have recently been introduced and research data suggests that even the most successful products have only limited utility.

Sesame, mustard and walnut extracts have had sporadic success in improving turf quality in some experiments, but it is unclear how much of an impact these products have on reducing nematode populations. Some observations suggest these products can slow nematode population growth under certain circumstances, but studies showing any marked decline in nematode populations have not been forthcoming.

In general, none of the alternatives tested to date have shown results comparable to fenamiphos. These products might be useful in dealing with a particular nematode problem, but no fenamiphos alternative can be consistently and reliably recommended thus far.

Given the lack of chemical alternatives to nematode problems in the Northeast, superintendents must consider cultural practices as their primary defense. The most important step that can be taken on any Northeastern golf course to reduce the impact of plant-parasitic nematodes is to convert putting surfaces to creeping bentgrass. Our research indicates that *Poa annua* is a preferential host for plant-parasitic nematodes. In addition, *Poa annua* succumbs to summer stress more readily than creeping bentgrass and produces much shallower roots systems. Even at equally high populations of plant-parasitic nematodes, creeping bentgrass can often sustain minimal injury.

Over the past seven years, my lab has conducted hundreds of nematode assays on golf courses across the northern United States. In that time, few creeping bentgrass stands have been diagnosed with nematode-related decline. Although it can happen, it is far less common than nematode damage on *Poa annua*.

Obviously, conversion from *Poa annua* to creeping bentgrass is not an easy or inexpensive

process. It often requires complete soil remediation, renovated drainage and irrigation systems and great affinity for a chain saw. However, the ability of creeping bentgrass to withstand nematode damage when compared to *Poa annua* has been quite well-demonstrated.

Additional measures that can mitigate the impact of high nematode populations on putting greens include raising the height of cut, increasing aeration and ensuring proper fertilization, paying particular attention to phosphorous levels. Because canopy height in turfgrasses is proportional to rooting depth, rooting depth is greatly increased by raising cutting heights (to at least 5/32 of an inch). When a plant has deeper roots, it can more easily withstand large nematode populations, and less nematode-related damage is observed. Frequent and diligent aeration serves the same purpose. By increasing the amount of oxygen in the soil and reducing the levels of compaction, roots can grow more aggressively and withstand nematode attack with fewer symptoms.

Often, fertilization is neglected when attempting to combat nematodes. This is a serious mistake, however, because a weak plant with low vigor is an easy target for plant-parasitic nematodes. A current trend in golf course management is to keep plants as lean as possible. With the combination of plant growth regulator applications, this allows for very fast greens. It also results in weak plants with shallow root systems. Such plants become the target of fungal, bacterial and nematode attack and recovery is often slow and laborious. For this reason, maintaining a minimally adequate fertilization program is extremely important. Ensuring that phosphorous levels and other micronutrients are adequate for root development is also critical.

Nathaniel Mitkowski earned his doctorate from the department of plant pathology at Cornell University in 2001. As an associate professor and turf pathologist at the University of Rhode Island, he is responsible for teaching diseases of turf and ornamentals, advanced turf management and power units. His research focuses primarily on stress-related diseases of amenity turfgrasses, and he oversees the direction of the University of Rhode Island's Turf Disease Diagnostic Laboratory. He can be reached at mitkowski@uri.edu.



Bayer Environmental Science

QUICK TIP

Don't forget about an old standby for taking care of tough weeds — Sencor® herbicide. This product offers highly effective, broad-spectrum weed control on both dormant and actively growing bermudagrass. One postemergence application of Sencor in the spring will usually provide control through fall months. In addition, Sencor can be tank mixed with MSMA to control crabgrass, nutsedge, barnyardgrass, common yellow woodsorrel, sandbur and Dallis grass.