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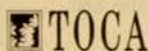
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Fungal disease at work on white spruce

My white spruce are dropping needles. On some branches I have noticed a 6 to 10-inch circle of dead needles. Many branches are dead. They seem to die from the outside in. Several people have told me the problem might be needle cast. I have seen this in southern Minnesota. What do you think?

—MINNESOTA

Your problem appears to be either a needle cast disease called rhizosphaera or cytospora canker. Both are diseases caused by fungi, and both usually start from the lower portion of the tree and spread upwards. Infected needles will be purplish. Severe defoliation occurs as the disease progresses.

Cytospora canker develops bluish-white pitching on infected branches. Fungal fruiting bodies appear. Rain, insects and birds spread fungal spores from branch to branch. No fungicide will help manage cytospora canker. Reduce stress on the trees and water, mulch and fertilize properly. Prune infected branches when they are dry. Disinfect pruning tools in rubbing alcohol or dilute bleach to prevent further infection.

Rhizosphaera also causes purplish needle discoloration and defoliation. This disease can be managed with fungicides such as Cleary's 3336. Early detection is important. Unlike cytospora, this disease produces no bluish white pitching on branches, but it produces small

fruiting bodies on needles which are visible.

It's possible that a given tree could have both cytospora and rhizosphaera needle cast diseases. It might be wise for you to send samples of the suspected diseases to a diagnostic lab in your area before treating. Meanwhile, continue to provide proper watering, mulching and fertilizing.

Dealing with warm-season disease

How can I control disease and fungi in south Florida, when the climate is adverse (such as mid-summer), and how will this affect the turf?

—FLORIDA

Success in disease management depends on several factors: correct identification, proper timing for treatment and proper materials. Of course, you cannot select the proper material until you have correctly identified the disease. Your local cooperative extension service or private companies and consultants should be able to help you with that.

If the turfgrass areas have had a history of certain serious diseases, treating those areas on a preventive basis may be beneficial. Most disease can be managed if the problem is detected early in disease development and properly treated. If the disease has progressed too far and is too late to manage, fungicide treatments may not be practical or beneficial. Overseeding or renovation may be necessary.

Along with fungicide treatments, it is important that you identify contributing stress factors and correct them.

This is particularly true with diseases like dollar spot, pythium blight, melting out, brown patch, summer patch, necrotic ring spot, and fusarium blight to name a few.

As far as your question of how will this affect the turf, it depends upon how well the overall disease management has been implemented. Fungicides should be used at the proper time, which in turn depends upon the specific disease activity. The disease-causing agents often establish on stressed and weakened plants.

Therefore, along with fungicide treatments, it is important to identify the contributing stress factor(s) and correct them. Provide good cultural management to improve plant health. Provide a good fertility program with proper amounts of potassium to improve stress/disease tolerance. For most diseases, multiple applications of fungicides are necessary at specific intervals. **LM**



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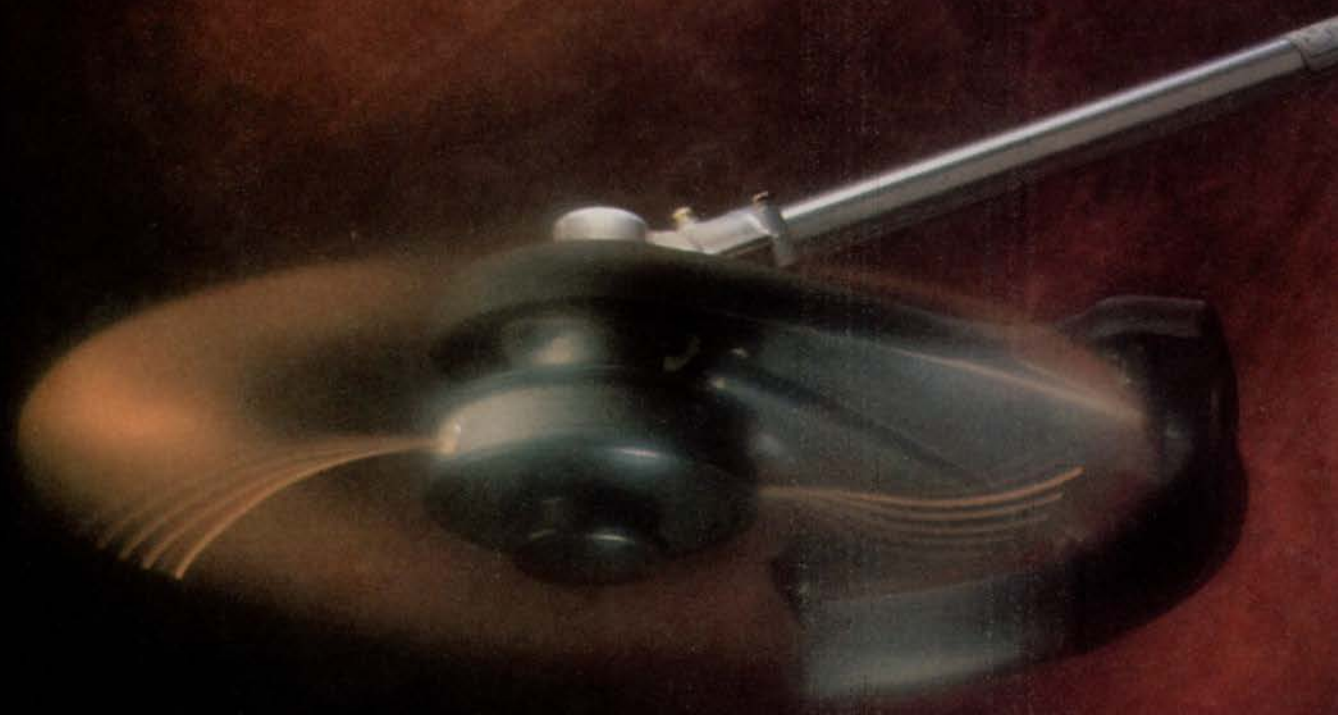
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Saying 'whoa' to plastic spikes

By RON HALL/ Managing Editor
ROLESVILLE, N.C.—Turfgrass breeder Dr. Joe Duich called for more study of alternative spikes on golf greens in light of the growing variety of alternative spikes. And the availability of new varieties of bentgrasses.

Duich said that some of these new creeping bentgrasses seem to resist spiking on greens—one of the biggest reasons for going "spikeless".

The turfgrass breeder spoke at the Turf-Seed, Inc., Field Day in Rolesville, NC, on June 26 concerning "the third generation of bentgrasses". Duich is a consultant with Tee-2-Green and was instrumental in developing, through the Penn State University breeding

program, new varieties like Penn A-1, Penn A-4, Penn A-6, Penn G-1, Penn G-2 and Penn G-6.

Duich said the new varieties offer better heat tolerance, and are finer textured and denser than previous bentgrasses. Duich recommended that the new varieties be mowed closer than say, Penncross. For instance, the Number 2 Donald Ross Course at Pinehurst is mowing its new bentgrass greens at 105/1000ths, and a course with A-4 greens in Virginia Beach is down to 110/1000ths, said Duich.

But it's the fact that they have a "very upright" growth habit that seems to cause them to resist spiking.

"The superintendents that are using them are stating that they're not seeing very much spiking on their greens," said Duich.

Tom Prewitt, manager of Cypress Lakes Golf Club, Hope Mills, NC, who was also at the Field Day, said he planted one green with A-4 in 1993, eight more greens in 1994 and the final 10 greens with A-4 in 1995. He said the new bentgrass greens are holding up well, even in North Carolina's summer heat.

"Spike marks are nonexistent," added Prewitt. "We can't force people to go spikeless. I don't know that spikeless is the answer anyway, especially on a public golf course. We're just not seeing spike marks" He said Cypress Lakes is a public course near Fayetteville, NC, and will probably get about 38,000 rounds this year.

Meanwhile, the Golf Course Superintendents Association of America (GCSAA) just released its survey of members concerning alternative spikes. The survey was conducted at the 1997 GCSAA in Las Vegas.

About 94 percent of the superintendents supported the use of alternative spikes, and indicated that within two years nearly half of all courses will ban metal spikes.

The movement is already underway at private courses where 45 percent of respondents claimed to have an alternative spikes policy. Only 13 percent of other respondents (from daily fee, municipal and resort facilities) reported requiring alternative spikes. Municipal and public courses are moving more cautiously, partly because of liability concerns.

While the spiking of greens is the primary impetus behind the move away from metal spikes, there are other issues. For instance, turf equipment mechanics say that lost metal spikes often end up on greens and damage their costly and finely calibrated mowers. □



Tom Prewitt, manager Cypress Lakes GC, Hope Mills, NC, and Dr. Joe Duich, right, say new bentgrasses seem to resist "spiking".

TG-CL gets Orkin LC

Downers Grove, Ill.—TruGreen-ChemLawn purchased Orkin's Plantscaping and Lawn Care divisions on July 24. TruGreen-ChemLawn is a subsidiary of ServiceMaster.

"We are excited about this acquisition, which represents a meaningful expansion of our largest and most profitable business unit," said ServiceMaster President and CEO Carlos Cantu. "It increases our market penetration in lawn care and plantscaping through the addition of 65,000 new customers. The acquisition...significantly enhances our competitive position in that business by nearly doubling our size."

TruGreen-ChemLawn is the leading lawn and landscape service company in the U.S., with more than 3 million customers and 324 service centers.

Turf students study issues; degree program starts

Racine, Wisc. — More than 30 turf students from colleges and universities across the U.S. and Canada spent five days at the Jacobsen Future Turf Managers Seminar in May.

The three-day event included presentation and panel discussions dealing with current and future issues of importance to golf course superintendents. A tour of Meadowbrook Country Club with superintendent Ric Lange, CGCS and Racine Country Club, managed by Mike Handrich, CGCS was included. Students also toured the Jacobsen facility.

Speakers included Joe Hahn, CGCS, Country Club of Rochester, NY,

Chip Toma, NFL Fields Supervisor, and Bob Vavrek, USGA agronomist.

"The seminar is right on target," says David Clanton, a senior at Clemson University. "It gives you a view of what the real world is all about."

Jason Blacka, a student from Australia who competed at state and national levels to be named Australian Turf Graduate of the Year, says, "We're in a very special profession.

Learning to interact with a variety of people is important."

Jacobsen Textron has also begun sponsorship of the turf



Top turf students check out equipment during the Jacobsen seminar. The company's new Associate Degree Program includes curriculum in hydraulics, electrical systems and engine principles.

industry's first two-year Associate Degree Program for turf equipment technicians. The program will be offered at

Texas State Technical College in Waco. The program includes a curriculum focused on a solid understanding of hydraulics, electrical and engine principles and practical, hands-on learning.

The company chose Texas State for its strong mechanics' program and active advisory committee for golf and turf-grass studies, according to Tony Saiia, Jacobsen vice president of customer service and product support.

"The school has excellent training labs," says Saiia, "as well as several holes of golf which provide perfect 'real life' areas for learning about turf equipment." □

Lawsuit pending over mower design

Wright Manufacturing, Inc., Gaithersburg, Md., has filed suit for patent infringement against Great Dane Power Equipment, Inc., of Florida and Huncilman, Inc. of Indiana, saying the Wright company owns the "stand-on" mower design. The Great Dane company recently released a new mower that uses a platform-type design. Company president Dane Scag, however, defends his use of the design.

Wright says it applied for a patent on the design on

December 16, 1994, and received a patent on April 16, 1996. In a statement issued July 15, 1997, Great Dane claimed its patent application was made in August, 1994, and that the company had received "notification of issue" for a patent for a platform type, zero radius turn lawn mower on July 15, 1997. The inventor, Joseph Berrios, assigned exclusive rights to Great Dane Power Equipment, says Great Dane.

President William R. Wright says two U.S. patents cover his lawn mower design. Great Dane replies that its "Zero Turn Surfer" mower is not an infringement.

"Reducing the invention to a successful operating machine is an important requirement for substantiating validity of a patent," according to Great Dane President, Dane Scag, who said production of the Surfer mower will increase this fall. □

CLCA seeks sanity in leaf blower issue

LOS ANGELES—The law banning gasoline-powered leaf blowers became effective July 1 in the City of Los Angeles. Although violators could be subject to a \$1,000 fine and six months in jail, strict enforcement isn't expected. In fact, city council likely will grant a one year grace period. This, says the council, will give the green industry time enough to reduce noise and pollution problems associated with leaf blower use.

"It appears that a committee within the substructure of the Los Angeles City Council is recommending and pushing very diligently for immediate delay on the current ordinance (against leaf blowers)," says Robin Pendergrast of International Marketing Exchange, representing the Echo company.

Pendergrast says the police dispatch 911 center has been "inundated" with a variety of callers requesting interpretation of the ordinance and police responses.

Meanwhile, the California Landscape Contractors Association (CLCA) says the green industry can partner with cities

and municipalities to reduce and, in many cases, eliminate complaints arising from the use of gas-powered leaf blowers.

Here are some of CLCA's recommended solutions:

- ▶ Running blowers at half speed to reduce noise and maintain maximum control.
- ▶ Do not use in residential areas during unreasonable hours.
- ▶ The muffler, air intakes and air filters should be routinely checked and maintained.
- ▶ Implement "buy-back" programs to phase out noisier, less efficient and older technology equipment. Newer low dB models produce fewer emissions.
- ▶ Work with leaf blower manufacturers to inform consumers of decibel levels prior to the purchase.
- ▶ Passing city ordinances that require proper use of leaf blowers.
- ▶ Passing city ordinances that prohibit outmoded or exceptionally noisy equipment—within reasonable standards.

The use of electric-powered leaf blowers is not an acceptable substitute.

Landscape professionals estimate a 50 percent reduction in efficiency and increased hazards of using electric blowers near pools, spas, ponds or irrigation systems.

CLCA maintains that gas-powered leaf blowers save both labor and money over other methods of debris removal such as using a broom or hosing with water which, of course, is unreasonable in drought-prone California. CLCA members estimate their costs (and therefore their charges) would increase from 20 to 40 percent if they must perform the same functions without the leaf blower.

To receive a copy of CLCA's Position on Leaf Blowers document, contact CLCA at 916/448-2522. □

New drainage keeps Duke up-to-date

Durham, N.C.— Duke University has installed a \$200,000 drainage system at Wallace Wade Stadium Field, replacing a nearly 70 year-old grid.

The field meets United States Golf Association standards for drainage, and has put an end to years of sloppy, muddy footing. Project consultant Ross Fowler, who has guided football field construction for The Univer-

sity of North Carolina and has monitored other athletic field projects, says the pipe used has a slick inner surface, "so it allows for faster drainage; it gets the water off the field quicker."

Pipe was supplied by the Mebane plant of Hancor, Inc., Findlay, Ohio.

The project will be the first time the 68-year-old field tile drainage system has been replaced.

"As we removed 16 inches of soil, we found several playing surfaces over a clay loam base, and the tile below had a lot of breaks and clogs," says Darrin Waters, grounds supervisor for the Duke athletic fields.

Fowler designed a grid of four-inch diameter perforated pipe spaced at 20 foot intervals over the entire playing surface. Pipe slopes downward, and feeds into six-inch perforated pipe along the sidelines. A laser-controlled trencher ensured an even 1/2 percent fall.

The native soil was replaced with a gravel bed and a sand and peat mix.

"This field will drain almost a foot of water an hour," says Fowler. □



"Everything on the Duke field drainage project was local," says contractor Nolan Thomas. That includes the pipe, rocks, sand and crew.

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Fairways	500-700 lbs./acre
Roughs	450-600 lbs./acre
Athletic fields, playgrounds	10-15 lbs./1000 sq. ft.
Home lawns, parks, civic areas	8-10 lbs./1000 sq. ft.

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