Marginal problems of the past becoming more insidious

**BY MARK LESLIE**

ORK, Maine—Turfgrass diseases not previously diagnosed or dismissed as the cause of minor damage are becoming more and more menacing as golf courses are subjected to increased play and more intensive management practices, according to Dr. Noel Jackson.

The University of Rhode Island plant pathologist told a Maine Golf Course Superintendents Association meeting here that the added stress and use factors have exacerbated problems that once were minimal—such as summer patch, anthracnose and Pythium root diseases.

"Summer patch has assumed importance over the past 10 to 15 years on greens," Jackson said. Once called the Pittsburgh Plague because it was found there on fine fescue species, no one knew its cause, summer patch attacks Poa annua species and some fescues, leaving bentgrass alone.

"The lower you mow, the more summer patch you're going to have on Poa annua greens," he said.

Meanwhile, when Pythium blight strikes, it can cause disastrous loss. "It works with high temperatures and plenty of water, and it works with a vengeance. In 12 to 24 hours it is devastating," Jackson said. "Most superintendents are familiar with Pythium blight but other Pythium problems, particularly Pythium root diseases, are cropping up. These infections occur at much cooler temperatures than Pythium blight. Often these are associated with old pushup soil greens with poor air flow. Sometimes spanning new USGA specification greens show symptoms because once introduced, Pythium species can grow quickly through sand."

*Pythium* root rot problems on new greens, he said, invariably start at the perimeter and move into the green. Installing barriers to separate the greens mix from existing perimeter soils will help arrest fungal spread, but "I have a sneaking suspicion Pythium spores can pass," Jackson said. "More and more damage is being caused by cool-season pythium," he said. These cool-season *Pythium* are slower acting and much more insidious than normal *Pythium* blight. The infection takes place through the roots and it's a slow progression to the crown."

In the case of anthracnose, it is a stress-related fungus disease that affects all grasses. "We have known it for a long time, but usually it was a leaf infection," he said. "And generally, leaf infections occurred in stressed plants at high temperatures and especially on Poa annua."

Now it is seen in cooler temperatures as a basal stem rot on bentgrass.

Factors bringing on anthracnose, the professor said, are compacted, low fertility and low cutting heights. What to do?

For all these diseases, raising the height of cut is a primary recommendation. Jackson also advises:

- using systemic fungicides preventively to combat summer patch;
- judicious nitrogen applications and preventive fungicide combinations for anthracnose; and
- drenching appropriate contact fungicides, followed by systems against Pythium root rot.

"The problem with the Pythium root rot," Jackson said, "is how to get fungicides down into the root zone. The answer is, with difficulty. Where possible, treat following mechanical treatment (coring, etc.) and drench it. I recommend Koban or Terence SP (4 or 6 ounces to 54.00, 400 pages, hardcover.

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New stresses

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the thousand), then follow with Aliette or Banol four to five days later.

The most efficient systemic fungicide against root infections, he said, is Aliette because it is the only one that will move downward in the plant. Other systemic fungicides mainly move up.

In the meantime, other cool-season diseases are also increasing, Jackson said, singling out take-all patch and necrotic ring spot.

Take-all patch is lurking at golf courses, particularly where new courses are being built on new woodland sites. The antithesis to summer patch, which attacks poa annua and leaves bentgrass alone, take-all patch kills bentgrass and leaves poa annua.

“It is a pernicious disease,” Jackson said, causing the grass to die as first the roots then the crowns succumb. New sites are infected by airborne spores, going wherever the air currents carry them. Take-all patch occurs where there are bentgrasses, the soil pH is higher than 6.2 or so, and there is plenty of surface moisture.

To combat take-all patch, a superintendent should lower the pH with ammonium sulfate and apply organic amendments such as Milorganite, Lawn Restore and Sustain to build up a good microbial population, Jackson said.

Necrotic ring spot, he said, “is a real pain on sodded Kentucky bluegrass lawns ... and we’re seeing it in golf greens on poa annua.”

Cool, wet weather favors the disease. He suggested supplementing the turf with organic amendments such as those for take-all patch, topically or preferably incorporated in the soil prior to sodding or seeding. Jackson said Heritage fungicide has activity against all these diseases and is “a powerful new weapon for our arsenal” for turf-disease control agents.

Hot summer, or cool seasons, the diseases can be interrelated, Jackson said. “Fusarium blight is still out there; occasionally we see it in hot, dry conditions. Summer patch is certainly out there and increasing under hot, wet conditions. Necrotic ring spot is out there with a vengeance in cool, wet conditions.

“All produce the same conditions in, say, Kentucky bluegrass turf. They occur at different times of the year, but since they are root pathogens, when do the symptoms show up most? When they get heat stress. It doesn’t matter if it is necrotic ring spot: the damage has started probably in March and April.”

Super-dwarf Bermudas

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Bermuda that plays as well in the South as bent does in the North.”

Citing the vegetative Bermudas Champion (from Coastal Turf Inc. in Bay City, Texas) and TW72 (from Dr. Wayne Hannah’s breeding program at the University of Georgia), Snow said, “These two grasses and probably several others look like they may do that.” Indeed, owners of the new wunderkind Champion said 10 18-hole courses have converted to their turf and another 40 will do so this year, including former bentgrass tracks. One of those is Barton Creek Club and Conference Center, where superintendent Dale Miller has been able to compare Champion to the standard dwarf Bermudas as well as bentgrass: “There is noticeable difference — density mainly — between normal dwarf Bermuda and Champion,” Miller said. “The old standard dwarf averages 1,000 to 1,200 shoots per decimeter. Champion averages 3,000. It’s as dense as every bentgrass except the new Penn State A and G series that run around 3,500 shoots.”

Miller installed Champion on his Fazio Course two years ago, replacing Penncross bentgrass, and in July will begin replacing the bent with Champion on the Arnold Palmer-designed Lakeside Course.

“You can mow this stuff so low,” he said. “It makes a lot of difference on a tee where you can cut it at 1/8 inch as opposed to 3/8 to 1/2 inch. It’s a major improvement.”

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