

## Pythium Picks on the Unwary

by Paul M. Baker

Like a lot of golf course superintendents in and around Chicago, Len Berg never ranked Pythium blight very high on his list of dangerous turf diseases. In fact, during his 18 years overseeing the Village Greens Golf Course in Woodridge, Berg had never really seen that much of it. So, in 1991 when he took over the reins at Cress Creek Country Club in nearby Naperville, Pythium blight was one of the last things on his mind.

That was in July. Less than a month later, Berg arrived at work one morning to find Pythium blight riding roughshod over his ryegrass and bentgrass fairways.

"It caught me totally off guard," he admits. "Thirty percent of the grass in some fairways had died over night."

But as dramatic as his tale is, Berg's experience is not unique. Nick Hongisto, superintendent at Schaumburg Golf Course, suffered a similar shock only a year earlier. In August, patches of his bentgrass fairways were dying, and he didn't know why. By the time he diagnosed the problem, it was too late. "It turned out to be Pythium," he says. "Before we knew it, the turf was dead. It was toast."

These stories underscore the fact that even in regions of the country where Pythium is not a consistent problem year after year, it is nonetheless an ever-present threat and strikes swiftly when conditions are right.

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Pythium blight is caused by a number of fungi, but in the northern United States one species, *P. aphanidermatum*, is responsible for most turfgrass damage. The pathogen is omnipresent in the soil and in its saprophytic stage can survive for long periods on thatch on other dead plant material. Under hot, humid conditions, however, the fungus becomes parasitic and attacks healthy grass.

Dark, circular patches of turf, usually concentrated in the wettest areas of the course, signal initial Pythium infection. Early in the day, individual blades of grass within these areas appear water-soaked and feel greasy when rubbed between the fingers. As infected leaves dry out, they take on a tannish hue and appear shriveled. If humid or wet conditions persist, white cottony mycelial mats grow over the area.

While most grasses are vulnerable to Pythium, bentgrass and ryegrass are particularly susceptible, especially in low-lying or poorly drained areas that have little air circulation. Considering these criteria, both golf courses seem to have been custom-made for Pythium outbreaks. (continued on page 22)



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(Pythium continued)

Built in the late 1950s, Cress Creek's 140 acres wind through a tree-filled subdivision that is elevated up to 10 feet higher than the course itself. "The neighborhood was originally designed so that the golf course would absorb all the water from the yards and streets," Berg says, "so it is basically a floodplain." Houses and a vertible forest of mature hardwood trees surrounding the course cut off any ventilating breezes, especially in the prime Pythium months of July and August. In addition, a dense layer of clay underlies much of the course, making drainage problems even worse.

The course at Schaumburg, built in the 1920's, is more open than Cress Creek, but pocked with low spots and until recently almost devoid of drainage. As part of Schaumburg's six-year rebuilding plan, drainage tiles will be installed over the entire course. Already, about a mile of new tiles have been put in place, Hongisto says. Designed to rid the course of excess water as rapidly as possible, the new system should also eliminate the environmental conditions that Pythium thrives in.

Len Berg's aggressive campaign to dissuade Pythium at Cress Creek started from the ground up, too.

In the fall of 1991, he rebuilt all the course's catch basins and replaced its old network of 4-inch drain pipes with greater capacity 6-inch pipes. Gravel wet wells were installed near existing drains to allow for even more downward movement of surface water. Last year he built 40 new drains along the fairways. In addition to providing better drainage, Berg aerates trouble spots at least twice every year.

Both superintendents also have initiated preventative fungicide programs to ensure that Pythium never gets the upper hand again.

"During the first week in July we make our first preventative application for Pythium on the fairways" Berg says. "We'll follow that every two weeks until the middle of August." He usually schedules four applications, but in 1992, an unusually cool year in Illinois, he found three applications sufficient. His fungicide of choice is CHIPCO® ALIETTE® fosetyl-Al brand fungicide because of its effectiveness against Pythium and its long-lasting systemic activity.

"I know Pythium can run through this golf course rapidly, so I must feel comfortable with the products I pick to control it. When we spray Aliette for an outbreak of Pythium, I'm confident that when I come back in the morning we're protected and that in two weeks it will still be working."

Hongisto takes more of a wait-and-see approach to controlling Pythium, applying Chipco Aliette only if weather conditions favorable to the disease threaten to linger over a period of days. He also employs several cultural practices to discourage the disease, including being careful not to over-irrigate. Because bombarding turf with high doses of nitrogen exacerbates Pythium outbreaks, Hongisto fertilizes his fairways with slow-release fertilizers, which meter out nutrients over time. Since he began treating his fairways with Chipco Aliette and using slow-release fertilizer, Pythium has not returned, Hongisto says.

Although Pythium has not revisited Cress Creek, Len Berg is not about to grow complacent. "Controlling Pythium was completely new to me when I came here," he says, "and it made me change the way I maintain my golf course. I will never let my guard down again."

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