

# JOB TALK

## Clay soils intensify disease pressure

■ Radnor Valley Country Club superintendent Tom Dale is battling back.

Architects Bill and David Dordon specified on-site soil for the Philadelphia-area course's greens in 1967, when they were built. That meant clay.

"When my greens get wet, they stay wet," Dale adds. "And if you get hot sun on wet greens, they cook. You cry a lot when that happens."

At least eight times each year, Dale uses a Toro Hydroject to get air movement into the root system. Once the water injected into the soil evaporates, air pockets remain in the rootzone to facilitate drainage. Dale begins hydro-aeration in April and repeats it once a month through November.

In addition, he aerates greens four times per year and verticuts each spring and fall. A mixture of bentgrass and *Poa annua*, his greens allow a percolation rate of only 0.2 inches per hour—far short of the USGA's recommendation of 3 inches per hour.

"Two summers ago, we had 50 days of 90+-degree heat," Dale notes. "I had to close six greens due to black layer and wet wilt. But overall, my worst disease problems on greens are pythium and brown patch."

Dale has also cleared out areas surrounding many of his greens to allow more air movement.

But with the heavy clay soils, brown patch could conceivably

hit overnight. During the hot, humid Philadelphia summers, a thunderstorm will bring it on within hours.

Dale uses Agri-Diagnostic test kits to determine where brown patch will strike. During conditions highly conducive to disease, he samples areas he knows to be susceptible, slicing tissue almost to the crown. He takes the samples to his office and squeezes the juice from them, then applies the simple test. He gets results in 10 minutes.

Dale takes no chances with brown patch. Even at moderate levels, it creates sizable areas of sparse turf on his greens. For years, any chemical he used for brown patch lasted only a week or less before he began seeing symptoms again. But in 1989, he began using new Prostar fungicide under an Experimental Use Permit.

The product, a benzamide fungicide registered in 1993, can be used in rotation with demethylase inhibitor (DMI) products. Though it works most effective as a preventive treatment, Dale says Prostar also offers dependable results when applied as a curative.

"Nothing I used ever actually controlled brown patch until Prostar," says Dale. "It really lasts 21 days. It's a good feeling knowing I don't have to worry about brown patch for long stretches of the summer."

Dale, however, doesn't spray pesticides "unless it's absolutely necessary."

"I've been here for 19 years, so I know my turf pretty well. I know every spot and can gauge when and where diseases might hit.

"Superintendents are all trying to be environmentally conscious now. Most of the pesticides we use don't move around in

the soil. They do what they are supposed to do and stay on the plant. In fact, we've eliminated spraying herbicides in our roughs every year, going to every other year instead."

Though Radnor Valley's fairways—a mixture of bentgrass, *Poa annua* and ryegrass—fare better in hot weather than the greens, Dale tries to get better drainage there, as well:

- He caught and rerouted

some of the underground streams emptying onto several of the fairways.

- He also added more drainage to supplement the existing corrugated pipe system.

Dale, however, doesn't have all the answers.

"Intense summer conditions are the worst for me," he adds. "If you keep the place wet, you get cooked grass. If you keep it dry, it wilts. It's difficult to keep that happy medium when the weather stays hot for extended periods.

"We compromise by syringing every day to keep it just moist. Even so, the heat stress sometimes gets ahead of you. But as long as the members stay happy, I'm happy."



Tom Dale uses water injection once a month on clay-based greens. Drainage modifications have helped him prevent turf disease.