

Real-Life Solutions

■ DEALING WITH MOISTURE, TEMPERATURE PROBLEMS ON GREENS

Getting Creative Around the Greens

Air machines help superintendents solve moisture and temperature woes

BY SHANE SHARP

Golfers love traditional holes with greens tucked away in shady groves.

But for superintendents, such tranquil settings can spell trouble when it comes to turf maintenance.

Thick stands of trees coupled with dense underbrush can limit the airflow and sunlight reaching a green. As a result, the putting surface often suffers from excess moisture, with symptoms ranging from



spotty, inconsistent growth to complete turf loss.

Golf courses frequently rely on labor-intensive solutions to combat moisture and temperature problems on greens. Superintendents and their crews cut down trees, clear out underbrush and frequently aerify to increase sunlight and airflow.

The problems

The 14th hole at the Tournament Players Club at River Highlands, outside of Hartford, Conn., is one of those holes that drives golfers to their cameras — and superintendents to early graves. The 413-yard, par 4 drops 60 feet downhill to a green that's stashed in a small hollow, surrounded by trees on three sides.

The 14th had experienced moisture and temperature

problems since a major rerouting of the course in 1989 left it enveloped by a shady dale with just enough airflow to dry Andre Agassi's hair. The course is home to the PGA Tour's Greater Hartford Open, as well as a cadre of maintenance-conscious members. Hence, superintendent Tom DeGrandi is expected to have the challenging hole and the entire layout in championship condition throughout the playing season.

Ballantyne Golf Resort in Charlotte, N.C. is the one of the only full-fledged golf resorts between Pinehurst and Asheville, and is among the highest priced daily-fee courses in the Charlotte area. Because of the region's benign climate, superintendent Paul Stroman is expected to have Ballantyne's bentgrass greens

The 14th green at the TPC at River Highlands had experienced moisture and temperature problems until a Soil Air Technology Unit was installed.

in top condition year-round.

The course's precariously hilly terrain and the resulting green complexes meant 13 of the course's 18 putting surfaces were holding excess moisture in the upper portion of the greens. Subsequently, excessive algae and black layer were beginning to cut off the breathing of the turf's root system.

The solution

DeGrandi and Stroman sought Soil Air Technology, a Connecticut-based construction and engineering firm, to help them with their problem greens. Soil Air Technology

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Problem

Two courses, one in Connecticut and one in North Carolina, experienced temperature and moisture problems with their greens.

Solution

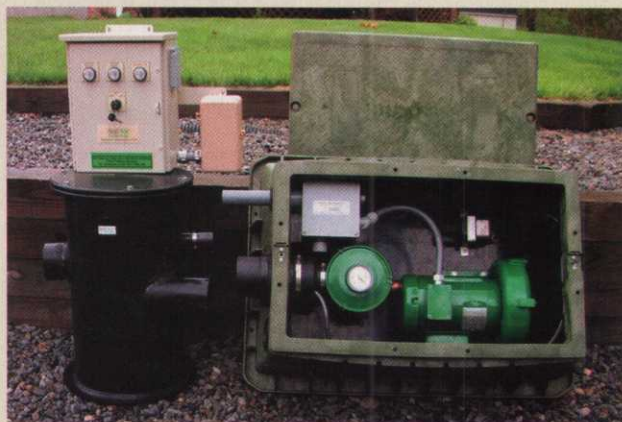
Install machines to push and pull air through greens and their root systems, thus improving the health and playability of the putting surfaces and saving hours in manual labor.

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designs and manufactures systems that connect to the main drainage lines of golf greens. These machines are able to push and pull air through greens and their roots systems, thus improving the health and playability of the putting surfaces and saving hours of manual labor. Units are available in a variety of models and can be either stationary or portable, depending on a course's specific needs.

DeGrandi says he considered a variety of options to bring the 14th green up to par with its 17 true-rolling siblings. But after a few years, it was obvious traditional treatments weren't working. Soil Air Technology approached DeGrandi in 1999 about installing one of its Model 110V



The Soil Air Technology units increase the amount of oxygen to greens to help them drain better.

VPC-T units free of charge as a demonstration project, and DeGrandi jumped at the opportunity.

"The quickest, cheapest option would have been to do it with just the tree removal and create wind channels, but we chose to do everything at the same time to correct the situation as quickly as possi-

ble," DeGrandi says. "The Soil Air Technology unit was a long-term solution to a recurring problem."

The unit was installed on the 14th green prior to the Greater Hartford Open. The submerged, stationary model was so quiet the players didn't even know it was running. Two weeks after its installation, the green's roots were deeper and the putting surface was firmer.

Today, the unit runs up to six hours a day and members hardly notice. DeGrandi, however, is quick to say that superintendents who consider using Soil Air Technology units should approach their problems from a variety of angles.

"Any good superintendent is going to look at a combi-

nation of things to make an improvement," he says. "We also installed a fan on that green to dry it out. But what we were hoping to get from the device was to increase the amount of oxygen in the green so it would drain better, and we've gotten that."

In the summer months, the unit is used primarily to



The GTS-RG portable unit is easily transferred between holes.

pull air through the green. In the early spring and late fall, it's used to push air up into the green to melt the morning frost. "Mainly, we just want to create airflow through the green, and this is the optimal way to do it," DeGrandi says.

To combat Ballantyne's problem, Stroman and his staff purchased Soil Air Technology's GTS-RG portable gasoline engine-powered system a year after the course opened in 1998. The unit, which cost \$12,000, is easily transferred between holes. Stroman also installed hookups on the remaining five greens in case problems developed down the road.

"We wanted a good portable unit," Stroman says. "If we didn't have it, we'd have to increase the aeration in the greens by way of spiking and small-tine aeration. We are a resort course, and we're a popular local course, so we didn't want to disturb play that much. Anyone that knows Charlotte golf knows it's a very competitive market for daily-fee golf."

Unlike the submerged unit at TPC River Highlands, the portable model does generate enough noise to disturb

golfers, and Stroman says this limits its use. The Ballantyne crew typically runs the unit early in the morning, or during the middle of the day in the summer when few golfers are on the course.

The outlook

Free handout or not, DeGrandi says he would have opted for the Soil Air Technology unit. "Based on its theory, I would have paid for it anyway," he says of the Model 110V VPC-T unit, which costs \$7,500.

At Ballantyne, Stroman says his crew will continue to use the portable Soil Air Technology unit because of its spectrum of benefits.

"The main benefit of the unit is that we are able to control the moisture in the greens," Stroman says. "We pull air through the green for soil moisture and temperature control. But the other benefit is that you are changing the air combinations in your greens. If you have a high concentration of carbon dioxide, you can get more oxygen in the green." ■

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