

Deep-tine aeration solves wetness, compaction woes

It's given credit for helping Midwest courses bounce back from the rains of 1993 and other problems.

■ The rain indeed fell mainly on the Plains last year. It was a record-breaking wet summer in many parts of the Midwest, with some areas experiencing severe flooding. Mother Nature was especially unkind to golf courses in the region, leaving many saturated or under water.

"The amount of turfgrass lost last year due to the weather has been devastating to many Midwest clubs," observes Bryan Wood, owner of Commercial Turf, a contractor and distributor of turf maintenance equipment in Chillicothe, Mo.

Wood visited a dozen courses in Missouri, Iowa, Kansas, Nebraska and Illinois last fall. "Almost every course I visited, or superintendent I spoke to, had problems with wet wilt, algae, pythium root rot and/or brown patch," Wood says. "In addition, at times during the hot, dry days between rains, dry wilt became a factor due to the turf's shallow root systems caused by the wet weather."

Wood observed two other problems surfacing:

1) Open pore spaces in greens soil were reduced to a bare minimum from continuous days of saturation and water coverage, creating an immediate need to re-establish a desirable oxygen level.

2) Because of the large amount of chemicals used to fight disease, some courses developed a toxic chemical hardpan layer three or four inches below the surface, which could have led to compaction.

Wood made recommendations on a case-by-case basis, but in general he combined Verti-Drain deep-tine aeration, which had been successful in treating clay or heavily-compacted soils, and reseeding.

To re-seed more than 1.5 million square feet of turf last year, Wood used the Verti-Seed, a machine designed specially

for minimal turf surface disturbance.

Three other Midwestern clubs faced similar problems: Bob-O-Link Golf Club and North Shore Country Club in the Chicago area, and Oak Hills Country Club in Omaha, Neb.

Bob-O-Link—Even before last year's rainy season, Bob-O-Link had poor drainage. According to assistant superintendent Rick Bowden, poor percolation was caused by severely compacted clay soil.

"By the late 1980s, the turf simply couldn't absorb water effectively," Bowden says. "After a one-half-inch rain, we couldn't use carts for two days.

Five years ago, Bob-O-Link began a deep-tine aeration program, using $\frac{3}{4}$ -by-14-inch solid tines to penetrate to depths up to 12 inches.

"The course is ready for play again within hours, even after a one-inch rain," Bowden reports. "In addition, we find that we're watering less. The water gets deeper into the roots."

North Shore—This state-ranked course, home to the 1983 U.S. Amateur,

had extremely high levels of sodium in its well water. Foliage and trees that were irrigated were being burned up by July. The soil also had a crusty layer of compaction developing under the clay-based, push-up greens.

Six seasons ago, superintendent Dan Dinelli hired an outside contractor to deep-tine aerate the greens, and he's seen steady improvement in them.

"Root growth has been spectacular," Dinelli confirms. "And our aeration equipment is getting easier to use because the ground is more and more receptive."

Dinelli uses $\frac{1}{2}$ -by-12-inch solid tines so play isn't disrupted. He chooses not to fill the resulting holes, believing the turf's roots will breathe better that way.

Oak Hills—When the USGA Greens Section toured the course in 1989, representatives told superintendent Mark Stewart that 16 greens would have to be rebuilt. "The only alternative," Stewart says, "according to the USGA, was deep-tine aeration."

Stewart has been using his Model 105 Verti-Drain twice a year since just after that 1989 inspection. In the spring, it's fitted with $\frac{3}{4}$ -by-12-inch solid tines, in the fall with $\frac{3}{4}$ -by-10-inch hollow-core tines. After each treatment, the greens are top-dressed with sand.

"The last time the USGA visited," Stewart relates, "they pronounced the greens in their best condition ever. Root penetration has increased from three or four inches to as deep as 10 inches."



Bryan Wood of Commercial Turf uses a Verti-Drain deep-tine aerator to relieve compaction, increase percolation rates and introduce much-needed oxygen to the soil. The solid tines reach a foot below the surface.