

Soil programs can help avoid renovation

By RICHIE VALENTINE

WEST PALM BEACH, Fla. — To rebuild or not rebuild. This is the difficult question confronting golf course superintendents across the country. Poor weather and a sharp increase in the number of rounds played every year have taken their toll on turfgrass that may have been less than ideal to begin with. There is a critical

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need for long-term, cost-effective solutions to this problem, not temporary Band-Aids.

To avoid costly and time-consuming course reconstruction, many superintendents are going back to basics — implementing turf-modification programs to amend and improve the existing soil on their courses.

Jupiter Hills Country Club, designed by George and Tom Fazio, consists of the 25-year-old Hills Course and the 16-year-old Village Course. Ask Superintendent

Dave Troiano about playing conditions at Jupiter Hills when he was hired in 1990, and he'll say turf on both courses was "severely stressed out." Balls hit off the tees routinely plugged in the fairways, and players arriving at the greens found their approach shots covered with soil. Not surprisingly, complaints from club members on the playing conditions were increasing.

Jupiter Hills is unique in many respects. The Hills Course, for instance, is built on a sand dune

and has dramatic elevation changes. But like many other clubs throughout the country, Jupiter Hills in 1990 came face to face with the realization that two decades of heavy course usage had strained the turf to the point of near unplayability.

"When the two courses were built," Troiano explains, "no one anticipated how much play they would receive in future years. Even though the club has only 372 members, we are very busy in the winter months, averaging 250 rounds per day."

It quickly became clear to Troiano why shots were plugging

in the fairways. The soil's percolation rate was minimal and there were heavy organics on the surface. The decision was made to rebuild the fairways, tees and rough on the Hills Course, replacing the 328 Bermudagrass with 419 Bermudagrass. This new turf is more wear-resistant and cold-tolerant. Even so, it was a costly proposition that caused lengthy interruptions in play.

"We solved one problem," said Troiano, "but we were facing a similar dilemma of whether to rebuild the Village Course. In addition, we still had to address the worsening conditions of the greens."

Two years ago, Jupiter Hills decided against rebuilding. Instead, the club chose to modify the turf and leased a deep-tine aerator to treat the soil. The aerator has a unique lifting and shattering effect on the turf, similar to the action of a pitchfork. This technique allows water and other nutrients to penetrate deeper into the soil.

In an effort to reverse Jupiter Hills' soil profile, Troiano used the Verti-Drain 305 model in combination with 1-1/4 inch by 12 inch hollow-core tines. Hollow-core tines are especially effective or deep cultivation of subsurface soil layers for sand or sodium removal. Holes made by hollow tines also remain open longer, providing a good opportunity to add modified soil materials.

According to Troiano, the turf modification technique worked like a charm. "We brought up a lot of 'bad' sand, allowed the plugs to dry, swept them up, then applied new sand into the holes. By taking the plugs out, we released harmful gases that were killing the roots. Several treatments later, the root structure was significantly better. Today, the Village Course has plenty of grass in the fairways and a great roll."

Club members were so satisfied with the Verti-Drain's performance in its first year of use that they authorized the purchase of a 305 model in 1992. It was immediately employed on the greens of both Jupiter Hills' courses.

Using the same size 1-1/4" X 12" hollow-core tines on the greens, and filling the holes with a mixture of sand and Canadian peat, Troiano has marveled at the results achieved in less than two years.

"We have gone from 1/2 inch roots to four inch roots on the greens," he reported. "We've also seen an increase in percolation rates from three and five inches an hour to nine and 10 inches an hour."

The ability of the deep-tine aeration treatments to promote effective water absorption is particularly important in South Florida.

In the summer it's not unusual for to get two or three inches of rain in an hour, Troiano explained. "Previously, that meant there would be puddles on the course many hours after the rain stopped. Now, after a big rain, players can go back out in 15 minutes."

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