

## Fabric lends harmony to nutritional rivalry

Traditionally, trees and turf have been considered complementary of each other in the landscape. However, when placed side by side on certain areas of the golf course, an intense rivalry can develop between them for essential water and nutrients.

In effect, when trees are located too close to greens, tees, fairways or sand traps, they have the potential to cause tree root competition.

In these areas, trees have an excellent ability to absorb water and nutrients from the surface layers of the soil. This often robs the turf of these vital elements. In fact, a tree's feeder roots are located in the same soil as grass roots and the roots of ground covers and other plants.

All of this can be troubling for superintendents who want vigorous, deep-rooted, playable and aesthetically pleasing turf stands.

Putting surfaces are usually cut closer than collars or approach areas, and these areas are often more affected by competition from roots. If the turf shows stress due to tree roots, some relief can be obtained by raising the cutting height and implementing proper management techniques.

At times, however, it is necessary to prune tree roots to stop their unwanted invasion. Unfortunately, this practice is only temporary because tree roots can regrow quickly. A better solution to root problems is to use a root barrier after root pruning.

A new type of root barrier called Typar Biobarrier, marketed by DowElanco, offers several significant advantages over other barrier methods, especially long-term control.

Biobarrier is a multi-year root control system consisting of herbicide time-released nodules permanently attached to a permeable geotextile fabric. This fabric creates a vapor barrier that stops plant root encroachment into golf course greens, tees, fairways, sand traps, cart paths and other areas.

When installed vertically between the tree roots and the green, tee, fairway or paved surface to be protected, Biobarrier's control will be the most effective.

By pruning tree roots and installing Biobarrier, it is possible to reduce shock to the tree in the long run because repeated root pruning every

few years can be eliminated.

Mike O'Connell, superintendent at the Maketewah Country Club in Cincinnati, Ohio, installed Biobarrier around some of his greens, fairways and roughs.

### Subsurface competitors

In the past, his only method of control was to prune tree roots occasionally as needed. This proved time consuming and disrupted play too much in some areas, and the roots returned in just a



The Biobarrier system provides long-term prevention of root encroachment.

few years.

"We think Biobarrier will control our root problem for many years," says O'Connell, "which will lead to improved moisture conditions in troublesome turf areas."

Before installation, tree roots grew unobstructed into turf areas. This meant that O'Connell had to use more water in some locations to compensate for the great amount of water taken by trees.

In fairways, for example, maple and oak tree roots were growing under the turf, causing dry areas and taking water and nutrients away from the turfgrass.

### Short greens require more

At the Hole in the Wall Country Club in Naples, Fla., Buddy Carmouche installed 200 feet of Biobarrier next to a green that was competing with oak and ficus trees for water and nutrients. Because the turf can't always handle the combination of lower cutting height and tree root competition, the cutting height must often be raised in the summer just to maintain grass in some areas.

"We recently rebuilt a bunker that has ficus trees growing about 30 feet away," Carmouche says. "So when we dug the bunker out deeper, we

used the opportunity to cut the tree roots on the greens side and on the bunker lip side and just pull the roots out. We then installed Biobarrier, curving it along the new lip. We already see some results from last summer's installation. If this continues, we will probably use it on all the greens next year."

### Cutback in cutting

Root cutting was a ritual for Dale Caldwell, superintendent at Minneapolis Golf Club. He'd use a trencher or vibratory plow every four or five years to sever problem roots.

"We're using Biobarrier now in our roughs bordering our fairways," explains Caldwell, "plus along our greens, sandtraps and bunkers to keep the roots from encroaching those areas and sapping the nutrients and moisture from the turf."

And Caldwell reports dramatic change. "In the rough, the turf is dried out; the trees are taking a lot of their moisture. But beyond the trench where we put Biobarrier, the turf is green and looking healthy."

### Saving cart paths

Cart paths can also fall prey to errant roots. What's more, structural damage can be compounded by a lawsuit if a golfer is injured due to faulty pavement.

Dick Naccarato of the Naples Beach Hotel and Golf Club in Naples, Fla., is attempting to solve his root problems on cart paths by installing Biobarrier along certain areas.

"Some people prune tree roots on a regular basis to help alleviate the problem temporarily," says Naccarato. "But I'd have to do this so often that I'm afraid I'd be taking away too much of the tree's support system. That's why I really haven't been able to do much about roots until now."

Naccarato bought several rolls of Biobarrier to install along cart paths next to troublesome trees. The course contains a total of four miles of cart paths, but only certain areas must be replaced regularly. Because the cart paths are asphalt, tree roots grow easily into them, creating cracks and bumps in a few years. Naccarato plans to install Biobarrier in those areas, in the hope that it will forestall as much as \$5000 in cart path replacement costs.

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