

CHALKBOARD

TIPS FROM THE PROS

Summer Disease Recovery

By Eliot Roberts

Most common turf diseases are far less active in the cooler weather of fall than during summer months. The fall is a good time to help turf recover from any patches, spots or thinning caused by recent disease activity. Basically, this is a matter of encouraging regrowth and spread of existing grasses. It should include overseeding with new disease-resistant varieties to prevent summer damage next year.

Fall is a good time to have the soil tested. Correcting soil deficiencies will greatly aid in turfgrass recovery. Adjust fertilizer applications and amend soil as indicated by the test results. After the fall playing season ends, aerify to relieve soil compaction. Often, thin diseased turf will respond to loosening of the soil in the fall. Root growth is stimulated and recovery from disease is speeded.

Thatch promotes diseases in turf. Any accumulation over 1/2-inch should be removed in the fall. A vertical mowing machine or powered rake will slice out this excess material above the soil surface. Rake and remove the thatch from the field.

Following the use of a vertical mower or power rake, the lawn should appear well-thinned with fewer plants per square foot. Overseed with certified seed of disease-resistant varieties. The new grasses will thicken the turf and make it easier to protect it from diseases next summer.

EDITOR'S NOTE: Eliot Roberts is executive secretary of The Lawn Institute.

Management Practices Cited For Increase in Pythium

Pythium is back in force on bentgrass surfaces in many parts of the country this year. Leon Lucas, turfgrass pathologist at North Carolina State University, thinks the problem is caused in part by common management practices.

Warm summer weather and poor drainage have combined to make this disease a great concern to many superintendents, says Lucas. Poor drainage and summer irrigation practices are robbing the bentgrass roots of valuable oxygen at a time when the roots need to be their healthiest.

Lucas blames a compacted layer of soil two to three inches below the surface. Roots

find it difficult to penetrate this layer and water will not percolate through it to drainage systems below. Surprisingly, this layer is often linked to compaction caused by the tips of aerifier tines. Aerifying at the same depth every time packs the soil at the bottom of aerifier holes. As a result, root growth is hampered and damp conditions persist at the surface.

Lucas believes the poor surface drainage also robs fungicides of their effectiveness since conditions hamper the distribution of the chemicals in the rootzone. Pythium species were found on the roots of healthy bentgrass on trouble-free greens, so the weakened state of bentgrass roots caused by the subsurface layer reduces the bentgrass plant's resistance to the disease.

Poor drainage appears to trap fertilizer salts near the soil surface. High levels of soluble salts probably killed some of the short roots, Lucas theorizes, and encouraged top growth over root growth. Low potassium levels were also discovered in problem greens. Since this nutrient is important for root growth and stress tolerance, a deficiency may have hindered root development.

Roots of bentgrass weakened by pythium were very short in late summer and fall and remained shallow into the winter. Bentgrass root growth remained slow due to high soil temperatures through late November and December 1985 in North Carolina. Root regrowth is encouraged by cooler temperatures.

But don't stop aerifying, says Lucas. Greens with good drainage, aeration, fertilization and careful irrigation have fewer problems with pythium. Aerifying in midsummer, with small tines and leaving the holes open, helps the bentgrass overcome root rot. He also believes periodic use of deep aerifiers to break up the hardpan layer can help in some cases.

Lucas states, "A combination of factors contributed to the pythium root rot problem. Pythium was the straw that broke the camel's back. I don't anticipate the disease will be severe unless poor soil drainage exists, too much water is applied or improper fertilization practices are used."

On the same subject, Clinton Hodges, turfgrass pathologist at Iowa State University, reports pythium problems on old greens recently rebuilt with sand. The bentgrass grows well during the mild periods of spring and early summer the year following renovation. With the arrival of hot, humid weather, the turf begins to die in a pattern typical of pythium-induced cottony blight or foliar

blight. Fungicides have not been effective so far.

Intense aerification followed by application of fungicides into the aerifier holes may slow the disease, says Hodges, but will not stop it. Wetting agents in conjunction with fungicides have proven useful in some cases. He has also observed that decreasing irrigation to an absolute minimum may slow the development of the disease.

Hodges says the disease remains a serious problem for about three years after reconstruction and then diminishes in severity. He speculates that organic matter and wind blown silt amend the sand during this period, but no specific reasons are available at this time. The problem is confined primarily to old golf greens reconstructed with sand. The disease is rarely found on newly constructed sand greens.

Spring Transition Tips

Many sports turf managers begin to worry in the spring when the overseeded perennial ryegrass seems to keep the bermudagrass from coming out of dormancy. As the spring season starts, these managers tend to worry about the mixed stand of turfgrasses on their fields.

According to Dr. James Beard, their concern is often justified. Research at Texas A&M University has established two important facts about spring transition. First, bermudagrass has very poor shade tolerance. Ryegrass can actually shade out the bermudagrass if allowed to grow tall. To counteract this, Beard recommends relatively close mowing (3/16 inch) and modest weekly vertical cutting to open up the turf and let the sun and warmth reach the bermuda.

Secondly, Beard warns that holding back water in the spring to discourage the ryegrass can also harm the bermudagrass. The reason is that bermudagrass experiences root decline in the spring. The weakened root system is less capable of extracting limited moisture from the soil. To overcome this weakened state, maintain irrigation and fertilize with one pound of nitrogen per 1,000 sq. ft. per WEEK.

If you have a tip you would like to pass along to other sports turf managers, please send it to sportsTURF magazine, P.O. Box 156, Encino, CA 91426. Photos are encouraged to help illustrate your tip.