Biological Control Of Snow Mold

Gray snow mold caused by *Typhula ishikariensis* or *Typhula incarnata* is a major winter disease in New York. Canadian researchers have reported that gray snow mold was reduced where they applied a strain of *Typhula phacorrhiza.* This biological control showed great promise over a three year period. Increasing the rate of *T. phacorrhiza* resulted in: 1) a reduction in intensity of snow mold injury, 2) a reduction in time required for the turf to recover from injury, 3) increased the number of scerotia of *T. phacorrhiza*, and 4) decreased the number of scerotia of *T. ishikariensis* and *T. incarnata.*

(From: M. B. Lawton and L. L. Burpee. 1990. Effect of Rate and Frequency of Application of *Typhula phacorrhiza* on Biological Control of Typhula Blight of Creeping Bentgrass. *Phytopathology* 80:70-73.)

Endophytic Grasses for Billbug Control

The discovery of endophyte enhanced turfgrasses has opened the door to some very exciting prospects for natural insect resistance. Studies conducted at Rutgers University looked at the effects of endophytes on four species of billbugs feeding on tall fescue and perennial ryegrass. Billbug adults feeding on tall fescue infected with *Acremonium* endophyte had greater mortality than those feeding on non-infected tall fescue. When given a choice to feed on endophytic or non-endophytic tall fescue, the billbugs showed no preference; but again, the mortality was higher when billbugs fed on endophytic grasses. To conclude, the presence of *Acremonium* endophytes in tall fescue and perennial ryegrass appears to affect the adult survival of billbugs, thus supporting their usefulness for natural pest resistance.

(From: J. M. Johnson-Cicalese and R. H. White. 1990. Effect of *Acremonium* Endophytes on Four Species of Billbug Found on New Jersey Turfgrasses. *J. Amer. Soc. Hort. Sci.* 115(4):602-604.)

Nitrogen Form for Sodded Bentgrass

When establishing new areas with sod, most turf managers give little thought to the form of nitrogen used. Researchers at the University of Georgia recently confirmed the results reported previously by other scientists that the ratio of ammonium nitrogen to nitrate nitrogen may influence rooting. A comparison of N ratios showed that a 1:3 (ammonium:nitrate) ratio produced the greatest root mass, about three times more than the 1:0 on transplanted bentgrass sod. The similarity of the results with those reported by other scientists suggests that this effect will occur over a wide range of conditions. More work is needed to look at the use of nitrate fertilizers on transplanted sod.

(From: D. S. Glinski, H. A. Mills, K. J. Karnok, and R. N. Carrow. 1990. Nitrogen Form Influences Root Growth of Sodded Creeping Bentgrass. *HortSci*. 25(8):932-933.)

Drought Influences on Summer Patch

Summer patch is one of the most devastating summer diseases of turf. It has long been thought that the development of summer patch symptoms was enhanced by drought conditions. Three papers recently published by University of Maryland scientists in the journal *Phytopathology* have proven that this is not the case. In fact, they reported that the growth of *Magnaporthe poae*, the causal organism for summer patch, was restricted by drought at high temperatures. It appears that high temperatures will enhance the development of summer patch more than drought stress. Field studies confirmed that the disease was most severe where the turf was not stressed by drought. In short, summer patch is most likely to be severe at temperatures greater than 80 degrees with adequate soil moisture. These reports have provided great insight on environmental factors influencing this disease, and will no doubt foster research on water management in relation to disease severity.

(From: Kackley et al. 1990. Three papers in *Phytopathology* 80(7).)

Scanning the Journals

A review of current journal articles