

Stop 6. Managing Necrotic Ring Spot on Kentucky Bluegrass

Dr. Joe Vargas, Jr., and Nancy Dykema

Necrotic ring spot is a turf disease caused by the fungus *Leptosphaeria korrae*, which attacks the roots of the turfgrass plant. Kentucky bluegrass is the primary host of this disease. In the cool weather of the spring and fall in Michigan, the fungus actively infects the plants which produce characteristic red- to purple-colored leaves. As the disease progresses, infected plants with injured or depleted roots begin to wilt during stress periods and droughty conditions in the summer. Eventually, severely infected plants turn straw-colored and die in a characteristic circular ring, and over time, weeds or weedy grasses grow in the center. This is referred to as a “frog-eye” symptom. The disease is worse in areas with low fertility and frequent drought periods.

An integrated approach to management of this disease is very successful. Light, daily irrigation helps to alleviate stress due to depleted roots which function poorly in taking up water. It is a key component of this management regime. Slow release fertilizers, or spoon feeding on shorter intervals, are effective in producing uniform nutrient availability for the plants. In addition to fungicides, necrotic ring spot-resistant cultivars of Kentucky bluegrass are available.

Stop 7. Cultural Practices to Prevent Grub and European Crane Fly Damage to Lawns and Sports Fields

Dr. David Smitley, Dr. Trey Rogers, and Dr. Kurt Steinke

We have recently completed a research project supported by Project GREEN: “A New Approach to Grub Tolerance for Growing Healthy Lawns Without Insecticides”. Michigan residents treat their lawns with approximately \$20 million of insecticides each year (TurfTrends Survey). They apply insecticides because of real or perceived turf damage caused by insects. Nearly all (>90%) of the insect injury to home lawns in Michigan is caused by European chafer grubs consuming turf roots. No turf types have yet been discovered that are resistant to white grubs (Potter and Held 2002, Bughrara et al. 2003). Recent research at MSU has shown that if turfgrass in home lawns has an adequate root biomass it is very tolerant to infestations of white grubs. This proposal meshes these new findings with previous research in turf management to propose and test a practical way for homeowners to maintain a healthy lawn without insecticides.

Objectives:

(1) Under low maintenance conditions, determine the root mass produced by 3 cultivars each of tall fescue, perennial ryegrass, Kentucky bluegrass and fine fescue.