



## NECROTIC RING SPOT

### DESCRIPTION AND DAMAGE

Necrotic Ring Spot is the most common and most destructive turf disease in the Inland Northwest. It first appears as small circular dead areas which enlarge and move outward as the disease progresses. Both roots and shoots are killed. The centers of these circles may be filled in by weeds and resistant grasses, creating a "doughnut" effect. Actively expanding patches have reddish-brown borders. Symptoms may appear at any time, but are most common in late spring and from mid-August through fall.

The causal organism is the fungus *Leptosphaeria korrae*, commonly called Necrotic Ring Spot (NRS). Within the last few years vast areas of turf have been infested with the disease. Most of our cool season turfgrasses are somewhat susceptible to the disease, but it is most common on Bluegrass or mixes of Bluegrass and fine fescues, although there are some varieties of turf grasses that are resistant.

NRS occurs most often on sodded lawns, especially those that have been sodded in the last 2 to 5 years. Layered soils and hardpan conditions are strong contributing factors. NRS is most prevalent on sandy soils that are low in organic matter. These soils generally have poor fertility and lack beneficial microorganisms that help keep the disease in check. Either too much or too little water can cause adverse conditions which make symptoms worse.

### CONTROL

Perennial ryegrasses and turf-type tall fescues are generally quite resistant to NRS. They are drought tolerant and have many of the favorable qualities of Bluegrass varieties. There are some cultivars of Bluegrass that have shown less susceptibility to NRS.

Fungicides may be used with cultural practices in an integrated approach. Research in the Pacific Northwest has shown that one or two applications of some DMI-type fungicides, such as myclobutanil and fenarimol, effectively control the disease when the equivalent of 0.5 to 1 oz. active ingredient is applied per 1,000 sq. ft. in late April or May. Label rates for home garden fungicides would require multiple applications during a six-week period for effective control of this disease. *Annual treatments are necessary to prevent new symptoms each year.*

Minor symptoms may occur in September or October, even in treated lawns, depending on cultural practices and the weather.

## CULTURAL CONTROLS

Fungicide treatments are only a small part of a total disease management program. If you have Necrotic Ring Spot it is important to alter your cultural practices to provide for optimum turf growth. NRS is most common in stressed or overwatered lawns.

- Adequate fertilizer is necessary throughout the season to keep the turf healthy. Use a balanced formula which includes sulfur and iron. Avoid single heavy applications, as they are very stressful to the lawn and will encourage NRS. The use of slow release and organic fertilizers enhance the levels of beneficial organisms which help discourage the disease.
- Core aeration will reduce thatch and compaction, allowing air and water to get to grass roots.
- Water the lawn thoroughly and let the surface dry slightly before watering again. Water needs will vary with soil conditions. One to two hours once or twice a week is sufficient for most lawns.
- Mow regularly at the recommended height for your turfgrass (bluegrass grows best when mowed at 1 1/2 to 2 1/2 inches) and never remove more than 1/3 of the leaf blade at one time.
- Water in the morning so grass can dry quickly. Avoid watering late in the evening, as it encourages disease development.
- Don't use lime. It raises soil pH.
- Never overwater the turf. Soggy lawns encourage NRS.
- Overseed with Bluegrass cultivars resistant to Necrotic Ringspot.