



# Rockin E Gardening Handouts

Tips and Suggestions for 'Year-Round' Gardening

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## Lawn Disease - Necrotic Ringspot

Necrotic ringspot is the most destructive disease of Kentucky bluegrass. Necrotic ringspot is particularly damaging to lawns because it is a problem that lasts many years. It spreads easily from one yard to another on lawnmower wheels, on shoes, by dogs, and even with deer walking from one neighborhood to another. Once your lawn has this disease, you will be struggling to control it for several years.

The fungus attacks and kills both the roots and the crowns. Recovery from this disease is often very slow. Once your lawn is infected it is sometimes best to 'just start over' by thoroughly raking the dead and infected areas, and planting new varieties of grass seed that are resistant to the disease.

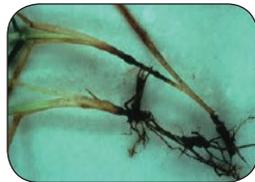
Preventing this disease can be as easy, or as difficult, as watering properly, fertilizing with slow release, or organic forms of nitrogen, and applying Humic Acid to stimulate beneficial soil micro organisms. The most effective prevention, and the only 100% cure, is to *over-seed* your lawn with disease resistant varieties of grass. Please read our 'Preventing Lawn Diseases' handout for more information.



The fungus *Ophiosphaerella korrae* or *Leptosphaeria korrae* infects roots, rhizomes, and shoot bases, where it forms dark strands of mycelium that run parallel to the root axis. It overwinters in infected plant material. It has become a common problem in Utah particularly on older Kentucky bluegrass lawns.

### Symptoms

Dead circles and arcs ranging from several inches to several feet in diameter are most obvious during late-summer, fall and early-spring.

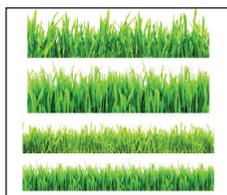


When the disease is active, the affected areas' margin is reddish brown. Short-necked, black pseudothecia sometimes are found on infected crowns and roots. Weeds and resistant grass species often invade the dead turf areas. Necrotic ringspot can be confused with 'Yellow Patch' and 'Fusarium Patch' because the diseases have similar foliar symptoms and occur in autumn and spring. Unlike the latter two diseases, whose symptoms usually subside in late-spring, necrotic ringspot can occur throughout the growing season and is characterized by a blackening of roots and rhizomes, and by dark brown ectorrhophilic hyphae on dying roots, rhizomes, and crowns. In the later stages of infection, black fruiting bodies (pseudothecia) occasionally are on these tissues.

### Cultural control

1. Use mixtures of two of more grass species and cultivars to reduce the possibility of disease.

2. No Kentucky bluegrass cultivar is completely immune to this disease, however, some cultivars are more resistant than others. 'Adelphi', 'Alpine', 'Apex', 'Award',



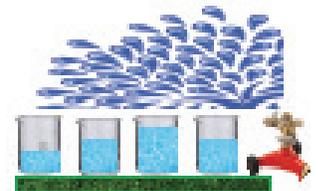
'Bristol', 'Classic', 'Eclipse', 'Impact', 'Kelly', 'Joy', 'Liberator', 'Midnight', 'Miranda', 'Mystic', 'NuBlue', 'Nugget', 'NewStar', 'Odyssey', 'P105', 'P104', 'Unique', 'Wabash' and 'Washington' are more disease resistant than other cultivars of Kentucky bluegrass.

3. Include perennial ryegrass, or turf-type fescue in your lawn seed mix. Resistant varieties of Kentucky blue grass are not always available. Perennial ryegrasses and turf type tall fescues are generally quite resistant to NRS. They are also drought tolerant, and have many other favorable qualities of Bluegrass varieties.

3. Maintain good growing conditions for turf by proper fertilizing, watering, core aerating and vertical mowing.

4. Avoid high-nitrogen and quick-release fertilizers. Use organic based fertilizers that can add, or stimulate micro-organisms in the soil. Add Humic acid regularly to help stimulate any beneficial soil micro organisms that are in the soil.

5. Avoid over-watering turf, especially when using automatic sprinkler systems. Water the lawn to a depth of 6 to 8 inches as infrequently as possible, usually no more than



twice a week in the spring, and three times a week in the summer, without creating water stress. Do not water every day, using the same amount of water all year. Lawns do not need as much water in the spring and fall as they do during the hot summer weather. Adjust your water schedule accordingly.

6. Although sulfur applications can reduce the severity of NRS, they are ineffective in actually controlling necrotic ringspot on bluegrass. A fertilizer that includes sulfur may also help turf recover more quickly.

## Chemical control

Fungicide timing is critical for disease control. Timing may vary from one city to another by as much as a week or two. Sometimes timing may even vary from one yard to another because of micro climates.

J&L Garden Center does not sell any commercial chemical fungicides. None of the commercial chemicals that are listed below are available for homeowner use at this time. You will need to contact a commercial lawn care company to apply these products.

Banner - applied twice in early-spring.  
Chipco 26GT, Raven, Lesco, 18 Plus, Iprodione Pro  
Headway  
Eagle WSP.  
Fungo 50 - marginally effective  
Heritage - alternate with other fungicides.  
Immonox  
Trinity, Triton  
Rubigan



Apply 1 to 2 weeks before disease is expected to appear in April, May, or June. A single application in spring gives seasonal disease control, but that may not be apparent until late-summer or in fall. Apply to the entire lawn surface, not just to evident spots. Immediately and thoroughly irrigate lawn at least 1 inch deep.

## Homeowner Chemical Controls

Fungicide timing is critical for disease control. Timing may vary from one city to another, from one yard to another, and from one year to the next because of weather conditions.

**Fertilome 'F-Stop Fungicide'** and **Bonide 'Infuse Granular Fungicide'** contains a homeowner version *EAGLE fungicide (Myclobutanil)*. The label lists that it can control necrotic ringspot. This product is somewhat effective when it is applied at the proper time. Learning the proper time for application is the key to success.

**Fertilome 'Liquid Systemic Fungicide II'**, and **Bonide 'Infuse Systemic Liquid Fungicide'**, or other products containing the homeowner version of *BANNER fungicide (Propiconazole)*, may have some necrotic ring-spot control. They are marginally effective, again, timing is the critical factor.

## Best Homeowner Control?

Perhaps the best, most effective, and most economical control for Necrotic Ring Spot, is to basically 'start over'.

Power rake your entire lawn - severely enough to provide a good soft surface for new seed. Over seed your entire lawn with necrotic ringspot resistant grass seed. Make



sure your mixture includes perennial ryegrass or turf-type fescue for best results.

Fertilize at least once a year with an organic lawn fertilizer, such as **Dr. Earth Lawn Food**, instead of just using chemical fertilizers exclusively. The organic fertilizers may seem more expensive, but they are much more effective preventing problems than using fungicides and other chemicals on a regular basis.



Apply Humic Acid yearly to help stimulate and maintain a healthy soil, filled with beneficial micro organisms. Take time to learn more about the benefits of humate and humic acid. Please read our handouts '**Soil Activator**' or '**New Home Landscape**' for more information.



## For More Information:

*Necrotic ringspot is a major problem across the country with a lot of research taking place. It is hard to summarize this problem adequately. Please take time to read more about this subject. 'Take All Patch' is even a more difficult lawn disease to control than 'Necrotic Ring Spot'. Only a lawn expert or extension service diagnosticians can correctly diagnose the difference.*



*Chastagner, G.A. 1997. Management of 'Necrotic Ring Spot' and 'Take-All Patch' with DMI fungicides in the PNW. International Turfgrass Society Research Journal 8:833-846*

*2002 PNW Plant Disease Management Handbook Page 235*

*USU Extension Service - <http://extension.usu.edu/files/publications/factsheet/necrotic-ring-spot08.pdf>*



*Washington State University <http://www.spokane-county.wsu.edu/Spokane/eastside/Fact%20Sheets/C076%20Necrotic%20Ring%20Spot%2006.pdf>*

*Colorado State University <http://www.ext.colostate.edu/pubs/garden/02900.html>*



*University of Nevada [http://agri.nv.gov/PLANT\\_PATHOLOGY/2006/NecroticRingSpotLawn.pdf](http://agri.nv.gov/PLANT_PATHOLOGY/2006/NecroticRingSpotLawn.pdf)*

*Eagle Fungicide [http://www.dowagro.com/PublishedLiterature/dh\\_0039/0901b8038003980b.pdf?filepath=turf/pdfs/noreg/010-60048.pdf&fromPage=GetDoc](http://www.dowagro.com/PublishedLiterature/dh_0039/0901b8038003980b.pdf?filepath=turf/pdfs/noreg/010-60048.pdf&fromPage=GetDoc)*

*Fungicide Recommendations for Turfgrass <http://ag.udel.edu/extension/horticulture/pdf/pp/pp-07.pdf>*

