

# Science of Seeds



## **Turfgrass Diseases of Summer** - *Summer patch, Necrotic Ring Spot, Brown Patch*

By Dr. Leah Brilman

The first line of defense against serious turf diseases should be using improved cultivars, adding in different species if needed and modifying your management. As summer comes on and heat and humidity rise we see an increase in questions about many diseases. Three that we see the most in landscape and sports settings during the summer are summer patch, necrotic ring spot and brown patch. The first two are root diseases that were once both included under the name Fusarium patch.

Necrotic Ring Spot is caused by *Ophiosphaerella korrea* (formerly *Leptosphaeria korrae*) and primarily affects Kentucky and annual bluegrass. Root infection occurs in cool (60 to 75degrees), wet periods in spring and fall but symptoms are often not noted until summer due to drought stress from the damaged roots. As the disease progresses the areas that have died back enlarges and surviving plants appear in the middle giving a "frog-eye" appearance with living grass in the center of a dead circle. Summer patch looks almost identical but if it starts in May or early June it is probably Necrotic Ring Spot. The first line of defense against this disease can be establishing Kentucky bluegrass with higher levels of resistance or repairs can be made with perennial ryegrass or fine fescues. Many of the last few NTEP trials had few ratings for necrotic ring spot resistance. The cultivars mentioned in many University Turf bulletins have not been in production for many years. Sombrero, Fielder, and Mercury show high resistance and many other cultivars currently have no ratings for this disease. Cultural management strategies include using sulfur products to acidify the soil, planting on good soil or improving it by aeration, do not overwater or overfertilize and remove thatch. When you remove thatch or aerify is an excellent time to add in seed for better long term resistance. If fungicides are used it is best to hire a service and ensure they treat when the disease is actively growing with products that can reach the root system.

Summer Patch, caused by *Magnaportheopsis poae* (*Synonym Magnaporthe poae*), is a very destructive root disease of Kentucky and annual bluegrass. Fine fescues can be infected by *Magnaportheopsis poae* and *Magnaportheopsis meyeri-festuciae*, with hard fescue being more susceptible than other fine fescues. Creeping bentgrass has also been reported as a host in North Carolina. This disease can look very similar to Necrotic ring spot but tends to express later in the year infecting when soil temperatures are between 65 to 80 degrees. Ratings for summer patch resistance can be variable across NTEP trials. In general Martha and Keenland have rated excellent for summer patch resistance, even in traffic trials. While Jackrabbit and Mercury have shown good resistance. Perennial ryegrass, tall fescue and red fescues, including Chewings and strong creeping red fescue, have shown better resistance to this disease and can be interseeded into your lawn to help with control. Acidifying fertilizers, relief from compaction and deep irrigation to relieve stress all help in combating this disease.



*Necrotic Ring Spot*



*Summer Patch*

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Brown patch (*Rhizoctonia solani*) is a foliar disease that can attack all cool-season grasses but is most severe on tall fescue and perennial ryegrass. It is not a disease of crowns or roots so can thin or damage turf but does not typically kill it. Brown patch typically appears when dew is on the grass for more than 10 hours and nighttime temperatures are above 65 degrees F. It tends to be more severe with high levels of summer nitrogen. The disease spreads by mycelium in a circle and individual lesions may be present on leaves. Newer cultivars of tall fescue, including Bloodhound, Crossfire 4, Rhizing Moon, Houndog 8, Turfway, Foxhound, Fayette, and Standout. As well as perennial ryegrasses such as Bandalore, Stamina, Karma, Diligent, Banfield, Wicked, and Aspire show improved resistance to this disease while also having increased density and turf quality. Although Kentucky bluegrass can get this disease it can usually break leaf to leaf transmission in a strand of tall fescue or perennial ryegrass so is a valuable part of the turf stand.



*Brown Patch (Tall Fescue)*

