

HOME GROUNDS FACT SHEET



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Necrotic Ring Spot and Summer Patch

(formerly fusarium blight syndrome)

Necrotic ring spot and summer patch are primarily diseases of Kentucky bluegrasses that occur during the summer. They are caused by an interaction of environmental factors with root and crown rots caused by the fungi *Leptosphaeria korrae* and *Megneporthe*. For many years these diseases were called fusarium blight, then fusarium blight syndrome. They are so similar in appearance that it is impossible to differentiate between them.

Symptoms

It can be difficult to diagnose necrotic ring spot and summer patch in their early stages. They begin as scattered, light green patches, 1/2"-6" in diameter, that may become as large as 2' in diameter and turn dull-tan to reddish-brown. The most discernible of these larger diseased patches in the lawn is the "frog-eye" pattern, in which an apparently healthy green patch of grass is partially or completely surrounded by a ring of dead grass. Distinct streaks, crescents and circular patterns in the affected area are characteristic. Leaf lesions are often found. If so, they are variable in size, shape and color. They usually extend across the blade and are yellowish, dull-tan or reddish-brown.

Blighted areas are often found on lawn sites that receive direct sun on south-facing slopes, near sidewalks, driveways, buildings or other "hot spots" in the yard. In the cool weather of autumn, the grass may begin to grow into these dead areas again, but disease is likely to reoccur in previously affected areas the following summer and increase in intensity. Necrotic ring spot and summer patch are less of a problem in cool, wet summers.

Disease cycle

The fungi infect root, rhizome and crown tissues and tend to grow outward from a central infection center. This process results in circular to arc-shaped patterns of weakened plants. During the winter and spring, the infected plants generally do not exhibit symptoms of disease. When the stresses of summer occur, the plant roots are unable to provide the water and nutrition needed for leaf growth. Such stressed plants may die or be further stressed to the point of death by infections of the ever-present fungi. Symptoms of the disease usually appear in June, July or August.

(IPM) Integrated Pest Management

Practices

IPM is a common sense approach to pest control. It employs a number of measures to prevent and control pest problems such as resistant plant varieties, biological and mechanical controls, proper plant selection and good aftercare. Prior to using a fungicide, turf should be monitored for disease and a sensible control measure considered. As a last resort, a fungicide, which is least-toxic to people and natural predators, can be considered after all non-pesticide remedies have been explored.

Cultural Control

The primary stresses that influence disease development include excesses of soil acidity, thatch, fertilizer, turf canopy temperature, incorrect timing of fertilizer applications and low mowing height. They can be reduced through appropriate culture.

Low pH (6.0 or less) weakens bluegrass plants and favors disease. Correct excess soil acidity by liming annually to maintain a pH of above 6.2. Excess nitrogen in the fertilizer program also encourages disease. Do not apply even small amounts of fertilizer during the June-August stress period because this tends to stimulate the disease.

Water the soil under disease-prone areas before it dries out during the dry parts of the summer.

Turfgrass is more prone to disease when the cutting height is reduced. Cut lawns to 2" to 3" and often enough so that less than 1/3 of the leaf blade is removed during each mowing.

Thatch (the layer of organic matter between the soil and the grass) should be no more than 1/2" thick. Thatch can be managed by vertical slicing machines

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(dethatching) and/or aeration during the spring and early fall. Over a longer period, use the management procedures discussed earlier.

Kentucky bluegrass cultivars such as Adelphi, Aspen, Belmont, Challenger, Eclipse, Enmundi, Fairfax, Georgetown, Glade, Midnight Parade, Sydsport, Ram I, Touchdown and Vantage are less susceptible to necrotic ring spot and summer patch. Seed of a resistant cultivar should be blended with that of one or more otherwise desirable cultivars. Blending 10-15% (by weight) of perennial ryegrass seed into bluegrass seed will prevent these diseases from occurring. Ryegrass can also be seeded into most existing lawns. Since the patch diseases rarely occur in shade, when all else fails, you might consider planting a tree that will allow filtered light (not dense shade) onto the lawn.

Chemical Control

Chemical treatment is efficient only where the previously mentioned cultural practices were first exercised and where applications were made before the crown rot

developed sufficiently to cause visual symptoms of disease. Apply the fungicide at preventively high rates in April to June and make a second application 2 to 3 weeks later.

If you choose to use a pesticide, call your local Cornell Cooperative Extension office for specific recommendations.

ALWAYS ADHERE TO THE RATES AND PROCEDURES RECOMMENDED ON THE FUNGICIDE PACKAGE LABEL.

Since it is impossible to differentiate between necrotic ring spot and summer patch without a laboratory culture, it is recommended that only fungicides that will prevent either disease be used.

For Certified Pesticide Operators (CPO), information on pesticide use may be found in Cornell Recommends for Turf for the current year.