

Problem: Spring Dead Spot of Bermudagrass - *Ophiosphaerella herpotricha*



Host Plants: Bermudagrass

Description: Spring dead spot is the most common and destructive disease of bermudagrass in Kansas. Spring dead spot does not occur on cool-season turfgrasses such as tall fescue and Kentucky bluegrass. However, a patch disease of zoysiagrass, tentatively called zoysia patch, has many similarities to spring dead spot.

Spring dead spot may occur on bermudagrass lawns of all ages, although it typically appears 3-4 years after the turf has been established. The disease results in the formation of circular or arc-shaped patches of dead turf in early spring as bermudagrass breaks winter dormancy. The dead patches, which are slightly depressed and straw-colored, may range in size from several inches to several feet in diameter and normally are randomly distributed throughout the lawn. Roots and stolons of affected plants are often dark brown to black and are severely rotted. It may be necessary to dig up a piece of sod near the margin of the dead area and wash it in water to observe this symptom. Bermudagrass slowly recolonizes spring dead spot areas, and by late summer there may be little or no evidence of the disease. Unfortunately, enlarged dead patches reappear the following spring in the same locations. Over a number of years, the patches can become quite large, coalesce, and develop arc-like patterns in the lawn. After 7 to 10 years, disease severity may begin to decrease to the extent that spring dead spot no longer occurs in the lawn.

Ophiosphaerella herpotricha is a soil borne fungus that colonizes the roots, stolons, and crowns of bermudagrass plants in late summer or fall. Roots infected with the fungus turn dark brown to black as a result of the extensive fungal growth in and on the roots. Although most fungal colonization occurs in autumn, foliar symptoms do not develop until late spring. During the winter dormancy months, infected roots or crowns are either killed directly by the fungus or are predisposed to desiccation or cold temperature injury. Root colonization by the pathogen decreases the cold hardiness of the bermudagrass. The disease tends to be more severe on high maintenance bermudagrass lawns. Excessive nitrogen fertilization during the summer months enhances symptom development the following spring.

Recommendations: Several cultural methods may limit the severity of spring dead spot. The basic philosophy is to maintain a vigorous but not excessively managed turf. Cultural methods may limit the severity of spring dead spot.

- *Maintain a vigorous but not excessively lush turf.
- *Lawns should be dethatched yearly when the bermudagrass is actively growing to promote good rooting.
- *Core aeration may also reduce spring dead spot severity.
- *Avoid excessive nitrogen fertilization. Application of excessive amounts of nitrogen (more than 4-5 lb active nitrogen/1000 sq ft/year) will increase disease severity.
- * Avoid heavy applications of fast-release nitrogen fertilizers during the summer following a severe outbreak of the disease.
- *Nitrogen applications should not be made after early August because this will increase turfgrass susceptibility to cold temperature injury.
- *Avoid high pH (>7). Application of ammonium sulfate helps reduce the pH.
- *Maintaining adequate potassium has been shown to help improve winterhardiness and reduce disease damage.

Bermudagrass cultivars vary markedly in susceptibility to spring dead spot. Vegetative cultivars with reduced susceptibility and which have performed well in our Kansas climate include Midiron, Midlawn, and Patriot. For seeded varieties, Yukon and Riviera have reduced susceptibility and perform well in our climate.

Several fungicides, including fenarimol (Rubigan), propiconazole (Banner, Bayer Fungus Control for Lawns, Fertilome Liquid Systemic Fungicide,), myclobutanil (Eagle, Immunox), and azoxystrobin (Heritage), are labeled for control of spring dead spot, usually calling for 1 or 2 applications in the fall. However, disease suppression with these fungicides has been erratic in Kansas trials. September applications of these fungicides have, in some years, reduced disease severity and enhanced recovery of the turf in the spring, but they did not completely control spot development. Therefore, fungicide applications are not currently recommended for control of spring dead spot in our state.

References:

1. [Spring Dead Spot of Bermudagrass](#), K-State Research & Extension Plant Pathology Fact Sheet.

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