

**Problem:** Summer Patch - *Magnaporthe poae***Hosts:** Kentucky bluegrass and annual bluegrass

**Description:** Symptoms of summer patch normally develop in late June through August and reappear in the same location year after year. Early stages of the disease may be difficult to detect. Initially, small patches of turf, 2 to 6 inches in diameter, turn dull green. Eventually, foliage changes to a dull reddish-brown, then tan, and finally a light straw color. The crowns and roots of blighted plants may show a slight greenish-brown to black discoloration.

In the final stages of the disease, blighted areas of turf form throughout the lawn. These patches may form elongate streaks, crescents or circles 2 feet or more in diameter. Healthy grass may occur within the centers of patches of dead grass, giving a characteristic "frog-eye" pattern.

The soil borne fungus (*Magnaporthe poae*) which causes summer patch colonizes grass roots and crowns in May and early June. It first grows on the root surface but later penetrates the tissue and invades the inner root tissue. Conditions in spring are optimal for turfgrass root growth, and even though fungal colonization is occurring, the turfgrass is able to absorb water and maintain growth. Therefore, foliar symptoms do not develop at this time.

However, infected roots either die or become dysfunctional during the hot, dry summer months. Root growth is inhibited by high soil temperatures, and plants cannot rapidly replace diseased roots. Infected plants are no longer able to supply adequate water to the foliage and the plant dies. Circular patch symptoms develop because the fungus tends to grow radially out from a central infection point. The fungus can survive many years in the soil, and symptoms often develop yearly in the same location.

**Recommendations:** There are chemical controls for summer patch but it is essential to include cultural management. Avoid excessive nitrogen fertilization in the spring. A good rule of thumb for Kentucky bluegrass is to apply 75% of nitrogen in the fall, 25% in the spring. The spring fertilizer should be a slow release formulation.

Careful nitrogen management will prevent a susceptible flush of new growth during the hot months. Acidifying nitrogen sources such as ammonium sulfate can reduce disease severity, but if your water pH is high be aware that it can counter the acid in the fertilizer. Keep mowing heights at least 2 inches tall on lawns. Thatch reduction is also important. Lawns with a history of summer patch should be dethatched or core-aerated each year. If turf does become affected, watering during the afternoon can cool the plants and alleviate the stress. Chemical control is not completely effective but it can reduce disease if used in combination with the cultural practices outlined above. Chemicals should be applied first when 2-inch soil temps are consistently above 65F, with a second application as recommended on the fungicide label. Remember this is a root pathogen, so use enough water to get the fungicide down where it needs to go. Or, irrigate the chemicals in. Follow label instructions. How to get 2- in soil temps? Go to <http://mesonet.k-state.edu/weather/soil/> and choose a station near you, and select 2-in soil temps.

The common type Kentucky bluegrasses Park, Kenblue, SouthDakota Certified, Ginger, Alene, and Greenley are susceptible. The older cultivars Adelphi, Admiral, America, Baron, Bristol, Challenge, Columbia, Eclipse, Majestic, and Monopoly have moderate resistance. Data are lacking for many new cultivars. The National Turfgrass Evaluation Program (NTEP) provides cultivar information at [www.ntep.org](http://www.ntep.org).

### **References:**

1. [Summer Patch of Bluegrass](#), Kansas State University, K-State Research and Extension Plant Pathology Fact Sheet MF3239.

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