

**Problem:** Brown Patch - *Rhizoctonia solani*



**Hosts:** Affects many turfgrasses but most severe on tall fescue, perennial ryegrass and creeping bentgrass.

**Description:**

Brown patch normally occurs in midsummer and results in the formation of unsightly patches of blighted turf. The fungal disease is capable of killing tall fescue during extended periods of hot, humid weather.

On some lawns, the disease may appear as roughly circular patches of blighted turf that range in size from a few inches to several feet in diameter. Turf in patches initially develops a dark purple-green color similar to that associated with drought stress. The damaged turf quickly fades to light tan or brown. Patches may coalesce to blight large sections of the turf. A more common symptom on the newer tall fescue varieties is a uniform blighting without formation of distinct, circular patches. Diseased lawns exhibit a droughty or wilted appearance even though sufficient soil moisture is present.

Symptoms on individual plants are also helpful for diagnosing brown patch. The brown patch fungus initially attacks the leaves of the turfgrass plant, causing the formation of irregular, water-soaked spots. The spots may be bordered by a dark brown margin. As the disease progresses, the fungus attacks the plant crown and kills the plant.

Brown patch development can be very rapid; large blighted areas may develop within a 24- to 48-hour period. In light attacks, turf recovers within two to three weeks. When conditions favorable for disease persist, the tall fescue plants may be killed.

Disease development is favored by nighttime temperatures above 70 F and by a high relative humidity and/or a thin film of moisture on the leaf surface. Those tall fescue lawns under high management, especially high nitrogen fertilization, are more susceptible to severe damage from brown patch. In most cases, the fungus attacks only the leaves, but during severe disease pressure, the crowns or roots may also be killed.

**Recommendations:**

None of the tall fescue cultivars have good resistance to brown patch. The old Kentucky 31 cultivar is less susceptible but does not possess many of the desirable horticultural characteristics of the new varieties. Also, KY-31 sold in Kansas is commonly contaminated with orchardgrass and is not strongly recommended for home lawns. Tall fescue varieties that have shown less damage from brown patch include Adventure, Arid, Falcon, Finelawn I, Jaguar, Olympic and Trident.

Brown patch occurs less frequently when the available nitrogen supply is adequate or low and phosphorus and potassium levels are adequate. Do not overfertilize and apply a majority of the nitrogen fertilizer in the fall. Applications of more than 4 lb of actual nitrogen per 1000 square feet per year will predispose the turfgrass to increased brown patch activity. This is true even if the majority of the fertilizer is applied in spring and fall when the disease is not active. Never apply nitrogen fertilizer when brown patch is active. However, a light fertilization after a brown patch epidemic may speed turfgrass recovery.

Do not irrigate lawns in late afternoon or evenings if possible. This extends the number of hours the leaves remain wet and increases the likelihood of brown patch development. Irrigation after midnight to mid-morning is preferable. These are the hours the turf would normally be wet from dew, and irrigation at this time does not extend leaf wetness periods.

Brown patch can be suppressed by fungicide applications. Preventive applications of the following fungicides help suppress the disease. Flutolanil and Azoxystrobin are only available for commercial use.

Captan: (Bonide Captan Fruit & Ornamental)

Chlorothalonil: (Daconil, others)

Flutolanil: (Prostar)

Azoxystrobin: (Heritage)

Propiconazole: (Banner, Fertilome Liquid Systemic)

Triadimefon: (Bayleton, Hi-Yield Lawn Fungicide Granules; Bayer Fungus Control for Lawns; Fung-Away Systemic Lawn Spray Hose-End Concentrate)

Myclobutanil: (Fertilome F-Stop; Immunox Lawn Disease Control; Green Light Fung-Away Systemic Granules)

These fungicide treatments are helpful on highly managed lawns, but they are expensive. In many cases, lawns damaged by brown patch will recover in two to three weeks, provided that the outbreak is not sustained by continuous hot, humid weather. Therefore, treatments may not be necessary to maintain the turf stand through the growing season.

#### **References:**

1. [Brown Patch in Tall Fescue Lawns](#), K-State Research and Extension pub, Plant Pathology

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