Fusarium Blight in Kentucky Bluegrass – Turf Tips

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Turf Tips for the homeowner
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# Fusarium Blight In Kentucky Bluegrass

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Fusarium blight causes severe losses on Kentucky bluegrass lawns and golf course fairways. The disease occurs most commonly on Kentucky bluegrass although it has been reported on other turfgrass species. **Fusarium roseum** f. sp. **cerealis** and **Fusarium tricinctum** f. sp. **poae,** were reported to cause the disease in 1966, but controversy about the exact cause of this disease still exists. Factors such as nematodes, other soil fungi (ie., fairy ring-like fungi) and/or normal aging of the turf are thought to be involved in the Fusarium blight disease.


**Figure 1: "Frog eye" appearance of Fusarium blight showing healthy patches of turf surrounded by dead or browned grass.**

Fusarium blight is usually seen from late June through August in Michigan, and is most severe when Kentucky bluegrass is under drought stress. The optimum conditions for Fusarium blight occur when daytime temperatures are between 80 and 90 degrees F. Kentucky bluegrass lawns three or more years old are most often affected.

**Figure 2: A lawn severly infected with Fusarium blight where the rings have coalesced.**

## Symptoms

The ring first appears as dark blue to purple patches of wilted turf 6 to 24 inches in diameter. As the disease progresses, the turf turns to a light straw color. Fusarium blight usually occurs in a circular pattern with healthy appearing grass in the middle surrounded by a ring of dead turf. This symptom is referred to as a "frog eye" pattern (Fig. 1). Infected turfgrass plants have rotted roots that are brown to reddish in color. The pinkish growth of **Fusarium roseum** and **Fusarium tricinctum** may be seen on the roots and crowns of the turfgrass plants near the soil surface during times of high soil moisture.

## Cultural Management

Proper management of turfgrass can minimize the damage caused by Fusarium blight. **Fusarium** resistant seed or sod should be used when new turf areas are established. Kentucky bluegrass cultivars such as "Adelphi," "Parade," "Glade," "Baron," "Majestic," "Touchdown," "Victa," "Brunswick," and "Edmundi" have shown resistance to Fusarium blight. Avoid susceptible cultivars such as "Merion," "Fylking," and "Kenblue." Differences between susceptible and resistant varieties are shown in Figure 2. Since drought stress favors Fusarium blight, infected lawns should receive light, daily irrigation during summer months. Keeping thatch at a minimum also helps prevent drought stress and reduce disease severity. Kentucky bluegrass plants going into summer dormancy are more susceptible to Fusarium blight. Apply 1/2 pound of nitrogen per 1000 square feet in June, July and August to prevent summer dormancy, and 1 pound per 1000 square feet in September and November. The November application is made after the grass has stopped growing. Addition of phosphorus and potassium should be based on soil tests. Turf mowed shorter than 2 to 3 inches in height may be more susceptible to Fusarium blight.

**Table 1. Recommended fungicides for the control of Fusarium blight.**

| Common Name | Trade Name | Manufacturer |
|---|---|---|
| Benomyl | Tersan 1991 | duPont |
| Thiophanate-ethyl | Cleary 3336 | W. A. Cleary |
| Thiophanate-methyl | Fungo 50 | Mallinckrodt |
| | Topmec 70 W | PBI Gordon |
| Triadimefon | Bayleton | Mobay |

## Chemical Management

Research has shown the chemicals benomyl, thiophanate-ethyl, thiophanate-methyl and triadimefon to be the most effective fungicides for Fusarium blight control (Table 1). Apply benomyl, thiophanate-ethyl and thiophanate-methyl at the first sign of symptoms (wilting patches in the turf). Triadimefon is only effective when applied as a preventive. It should be applied around July 1 on lawns with a past history of the disease. Benomyl, thiophanate-ethyl and thiophanate-methyl are only effective when they are drenched into the root zones. To achieve this, the lawn or fairway should be thoroughly irrigated (1/2 to 1 inch) the day before application, then irrigate immediately after application before the fungicide dries on the foliage. It is not necessary to drench in triadimefon. CAUTION: Any time that chemicals are to be applied, follow labeled instructions and take all proper precautions.

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