

Dollar Spot Disease in Tall Fescue Pastures



Tall fescue (*Festuca arundinacea* Schreb.) is a cool-season perennial grass that grows well in north Mississippi. It provides excellent forage in the spring and fall. Tall fescue is drought tolerant and resistant to diseases like brown patch, dollar spot, leaf spot, and others common to forage grasses.

However, several environmental factors and management practices can damage tall fescue and reduce its yield, persistence, and forage quality. By far, disease is the factor that poses the most threat to forage. It can cause yield and nutritional losses. For example, dollar spot disease may occur in tall fescue during conditions of drought, low soil fertility, and overgrazing.

Dollar spot is caused by the fungus *Sclerotinia homoeocarpa* F.T Bennett. It is more commonly found in turfgrasses (lawns and golf courses) but can also affect pasture grasses such as tall fescue, bermudagrass, annual ryegrass, and bahiagrass.

Contributing Factors

Several factors can make dollar spot occurrence more likely, including leaf moisture, inadequate soil fertility, and drought.

The fungus needs moisture to survive. Therefore, dollar spot activity increases when leaves stay wet, often due to humidity or thatch buildup.

Inadequate soil fertility also makes dollar spot more likely. Adequate nitrogen (N) and potassium (K) are especially important to help plants avoid dollar spot. Base your fertility management on soil analysis. Contact your local Extension office to obtain soil sampling instructions, soil sample bags, and information sheets. Apply fertilizer based on soil test recommendations.

These conditions can be made worse by a heavy buildup of thatch. Thatch tends to retain dew, keeping leaves wet. It therefore forms the ideal environment for overwintering fungi like dollar spot. Thatch also contains rotting material that ties up nutrients.

Dollar spot is likely to occur in times of drought. Drought damages roots and makes them less able to take up adequate water and nutrients from the soil. Because drought makes plants less able to absorb nutrients, dollar spot can occur during drought even if fertilizer applications have been ideal.

Under severe drought conditions, soil tests can be misleading. Soil nutrient levels may be adequate, but plants are unable to take up the nutrients due to lack of water or root thickening caused by drought stress. In times of drought, you should also get a tissue analysis to determine possible nutrient deficiency problems, especially with N and K. If K tissue levels are below 1.5 percent on a dry matter basis, apply 50 to 75 percent as much potassium based on the amount removed per ton of biomass.



Figure 1.

Symptoms and Identification

Dollar spot appears in the field as circular-shaped patches of straw-colored, scorched plants. The patches usually range from 2 to 12 inches in diameter (**Figure 1**). In tall fescue pastures with heavy thatch buildup, the spots may reach over one foot in diameter.

As the disease develops, the leaves collapse, producing sunken areas of dead grass.

The leaves of tall fescue at the edge of the dead patch have irregularly shaped lesions with dark brown borders. The lesions may be up to an inch long and are usually along the margins of the leaves. The mycelium of the dollar spot fungus looks somewhat like spider webs, and people sometimes confuse the two. However, spider webs are flat. Dollar spot mycelium takes on a “cotton ball” appearance as it colonizes the leaves and spreads from leaf to leaf.

Dollar spot fungus does not invade the rhizomes and roots of tall fescue. However, the fungus produces a toxin that directly affects the uptake of water and nutrients and causes the roots to thicken, stop growing, and turn brown. Replacement roots may soon become affected.

The dollar spot fungus overwinters, or rests, during cold conditions as dormant mycelium or stroma. Stroma looks like thin black flakes embedded into the leaves in the dead patch. Late in the spring or early summer, when the temperature and humidity levels become favorable, the dollar spot fungus resumes growth.

Management and Control

It may take weeks or months for dollar spot-affected areas to recover, even with proper management. There are no fungicides labeled to control dollar spot on forage grasses. Management of these areas should focus on removing as much of the infected grass as possible.

If dollar spot infection is severe throughout a large portion of a tall fescue pasture, burning the dormant forage grass may help reduce the amount of fungus that will reproduce the next growing season. Burning the infected grass also releases bound nutrients. New growth can then use the nutrients.

Before burning a pasture, contact the proper authorities to obtain a prescribed burning permit. Follow the specific guidelines for your area and always consider proper weather conditions. If burning is not allowed, mow the existing tall fescue to a 2-inch stubble height. This will help to reduce the dew accumulation that favors fungal growth.

Sclerotinia homoeocarpa will not harm livestock, so you can allow grazing on infected grass or cut it for hay. Taste may suffer because of the odors of decomposed tissue caused by the disease.

The dollar spot fungus is spread to new areas mostly through clippings or leaves transported by wind, farm equipment (tractors, mowers, and bailers), and livestock movement. To help prevent or reduce the severity of dollar spot, remove livestock from the infected areas. Wash equipment before moving from an infected tall fescue field to an uninfected one.



Figure 3.

Summary

In summary, dollar spot can become a problem on tall fescue due to drought stress conditions and poor fertility management. Currently, there is no scientific evidence indicating that dollar spot susceptibility in tall fescue is variety or cultivar specific. It is important that the infected forage is removed (preferably by burning) and the fertility managed to prevent future outbreak.



Figure 2.



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By **Rocky Lemus**, PhD, Extension/Research Professor, Plant and Soil Sciences; and **Maria Tomaso-Peterson**, PhD, former Research Professor, Biochemistry, Molecular Biology, Entomology, and Plant Pathology.

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