

Lawn Diseases

David S. McCall, Assistant School of Plant and Environmental Sciences, Virginia Tech

Overview

There are many diseases that occur on turfgrasses throughout the world. However, there are only a few diseases that consistently cause major concerns on lawns in Virginia. Diseases of lawn grasses are typically most common in the summertime for cool-season grasses, such as tall fescue or Kentucky bluegrass, or in the spring and fall for warm-season grasses, such as bermudagrass or zoysiagrass. This is largely due to the shift in growth habits of the grasses from active growth to survival, giving a competitive advantage to the pathogens responsible for diseases.

Tall fescue is the most common turfgrass species used in home lawns in Virginia. The most common and troublesome disease for tall fescue is brown patch. Brown patch occurs most frequently during warm and wet weather, but the lawn typically recovers in the fall when managed properly. However, heavy brown patch infestation in conjunction with drought or heat stress can cause total plant loss. Pythium blight and gray leaf spot can also be active at the same time as brown patch. Symptoms often overlap. Consult a professional, VCE Agent, or turf specialist if you are unsure which disease is developing as chemical control recommendations vary by disease.

Gray leaf spot has become increasingly problematic in late summer and early fall during prolonged periods of rainfall in association with warm temperatures. This disease can devastate a tall fescue lawn within a few days if conditions remain favorable for pathogen growth and reproduction. Curative applications for active gray leaf spot will only prevent infection of new plants while infected plants likely will not recover. The timing for severe gray leaf spot outbreaks has coincided with fall overseeding in recent years. This can cause additional problems as seedlings are more susceptible to the disease but are also watered more frequently during establishment.

Spring dead spot is the most common disease for bermudagrass and is most prevalent on intensively managed areas. Symptoms include dead patches in the turf that appear in the spring as the turf emerges from winter dormancy. However, the pathogen responsible for this disease is most active in the root zone during the fall and winter. This disease is often unpredictable, but is usually found in high traffic or compacted areas and after severe winters.

General Cultural Controls

- **Fertility:** Turfgrass plants are healthier when steady supplies of nutrients are available, as opposed to spikes in nutrient levels that may result in rapid growth. The ideal time to fertilize is when conditions are optimal for root growth. Optimal conditions are usually in the fall for cool-season grasses and during the summer for warm-season grasses. A good fertilizer has nitrogen sources with around 30% water-insoluble nitrogen. Excessive readily-available nitrogen can increase the likelihood of brown patch, gray leaf spot, Pythium blight, and snow mold development. Conversely, insufficient nitrogen may cause diseases such as dollar spot, rusts, or general leaf spots to be more problematic. Have the soil tested and only apply other nutrients based on soil testing recommendations.
- **Irrigation:** It is impossible to control rainfall, but homeowners do have control over the frequency and duration of lawn irrigation. The ideal time to irrigate for minimizing disease is around sunrise. This decreases the leaf wetness period, which is critical for disease development, and rinses the leaves of dew and guttation water rich in sugars that attract fungi. Watering in the late morning or early evening prolongs leaf wetness and increases the likelihood of disease development. Lawns should not be irrigated excessively where water stands for prolonged periods of time in low-lying or poorly draining areas.
- **Mowing height:** In most cases, turfgrass that is cut too short is more susceptible to disease. Taller cut grasses can withstand more stress and recover faster after disease pressure subsides than turfgrass cut too short. Tall fescue lawns should be between three and four inches, especially during periods of heat and drought stress. Bermudagrass and zoysiagrass should be mowed around an inch and a half to two inches.
- **Air Movement:** Areas with poor air circulation have more turf diseases. Strategic pruning of trees and shrubs is a good way to improve air movement and allow additional sunlight into trouble areas.
- **Sanitation:** Wash mowing equipment to remove infested leaf clippings following each use. Many pathogens can survive on living and non-living plant debris and are later transported to new locations.

General Biological Controls

- **Disease resistant varieties:** Different varieties of turfgrass are susceptible to different kinds of diseases. Choose a variety of turfgrass that has performed well in the National Turfgrass Evaluation Program. Recent cultivar improvements have resulted in lower disease severity with many grasses. Specifically, there are new tall fescue varieties that are resistant to gray leaf spot and have reduced susceptibility to brown patch. Newer cold-tolerant bermudagrasses are less likely to be impacted by spring dead spot. Current varieties recommended in Virginia are available at the following link: <http://www.pubs.ext.vt.edu/3008/3008-1456/3008-1456.html>.