

# Lawn Diseases

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## 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.

Spring dead spot is the most common disease for bermudagrass. Symptoms include dead patches in the turf that appear in the spring as the turf emerges from winter dormancy. 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. 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.
- **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. Current varieties recommended in Virginia are available at the following link: <http://www.pubs.ext.vt.edu/3008/3008-1456/3008-1456.html>.
- **Friendly insects, animals, and organisms:** There are a number of commercially available biological fungicides that may reduce the severity of turfgrass diseases. The majority of these products contain beneficial bacteria or fungi. No biological fungicides tested in Virginia provide complete control of turfgrass diseases. However, several fungicides suppressed diseases, such as brown patch and dollar spot, and aided in turfgrass recovery.

## When to call a professional

It is difficult to determine when turfgrass diseases can be handled at home or if a professional consultation is needed. In most cases, lawns recover with limited damage from disease if the above-mentioned practices are followed. However, when conditions remain favorable for a disease for long periods of time, damage can be quite extensive. Any subsequent stress that prevents the turf from recovering makes the problems worse. For example, if weather conditions remain warm and wet for several

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days or longer, brown patch can become more severe. In many cases, the turf dies if drought and heat stress follow the warm, wet weather. It is impossible to predict the weather accurately over a long period of time, and it is hard to know, season by season, what weather conditions the turfgrass will endure. Calling a professional may be the right thing to do if weather conditions make turfgrass diseases worse, especially if losing the turf is unacceptable.

Additionally, there are many more fungicides available to control common lawn diseases than what are listed. However, many of these fungicides can only be used by a certified applicator, or are not packaged in small enough quantities for a single homeowner's lawn. If listed chemicals do not provide adequate control or are difficult to find, additional products may be used by turf professionals.

The following table shows the most common active ingredients that can be found by end users at several common retail centers. Efficacy of each chemical is highly dependent on product formulation, active ingredient use rate, reapplication interval, and environmental conditions.

**Table 5.1 - Common Active Ingredients**

	azoxystrobin	fluoxastrobin	myclobutanil	propiconazole	thiophanate-methyl
Brown patch	+	+	+	+	+
Dollar spot	-	+	+	+	+
Fairy ring	+	-	-	-	-
Gray leaf spot	+	+	-	+	+
Large patch	+	+	+	+	+
Melting-out/leaf spot	+	+	+	+	+
Microdochium patch (pink snow mold)	+	+	+	+	+
Pythium blight	+	+	-	-	-
Red thread	+	+	+	+	+
Rust	-	-	+	+	+
Spring dead spot	+	+	+	+	-
Summer patch	+	+	+	+	+

- Active ingredient is (+) or is not (-) labeled for control of disease.
- Additional products are available to certified professional applicants.

**Timing of chemical applications:** For optimal control, most fungicides should be applied preventatively when conditions become favorable for disease development. As noted above, most common diseases of cool-season lawns occur during the summer months; most common diseases of warm-season lawns occur during the spring and fall. When to reapply chemicals depends on active ingredients, product formulation, target pests, and environmental conditions. Systemic fungicides that move acropetally within the plant typically provide control for longer than contact fungicides.