5 Tough Cool-Season Turf Diseases

Source: www.TurfMagazine.com

Many old medical adages like “An apple a day keeps the doctor away” and “An ounce of prevention is worth a pound of cure” are just as relevant to your tall fescue landscape as they are to your own health. In fact, there are a lot of similarities between human medicine and turfgrass management. Humans have fewer health problems when they eat right, get enough sleep, manage stress levels and exercise regularly. Easier said than done!

Turfgrasses are exactly the same way. Plants actually have an immune system with an incredible array of tools to defend themselves from pathogen attack. Very few disease problems occur on turf that is healthy, well-managed and growing optimally because these immune systems are functioning at full throttle.

Conversely, when turfgrasses are stressed and growing slowly they can quickly succumb to disease. Proper cultural practices, including mowing, irrigation and fertilization, can go a long way toward preventing this, but extreme weather conditions can put even the most well-maintained turf into a state of severe stress. Hot and humid weather during summer can trigger major disease outbreaks on cool-season grasses, whereas cool weather and lack of sunlight during fall, winter and spring cause warm-season grasses to become highly susceptible.
Pathogens that attack during times of stress are particularly troublesome and can have a long-term impact on the health and appearance of landscape turfgrasses. Other diseases like red thread, dollar spot and leaf spots may be more common, but are relatively easy to manage in the landscape with proper cultural practices. The following “least-wanted” diseases require an integrated approach, taking advantage of resistant grasses, proper cultural practices and well-timed fungicide applications.

1. Brown patch

Brown patch is the most common summer disease on cool-season grasses like tall fescue, Kentucky bluegrass and perennial ryegrass. Brown patch is a foliar disease that produces large, tan-colored lesions on the foliage that expand to blight circular patches of turf up to several feet in diameter. The brown patch pathogen, *Rhizoctonia solani*, becomes active in the spring or early summer when nighttime temperatures are above 60 degrees Fahrenheit, but is most aggressive when high temperatures are above 90 degrees Fahrenheit combined with high humidity. As a result, brown patch is most destructive in the transition zone where these conditions persist for months on end.

[Click image to enlarge.]

Photos courtesy of Dr. Lane Tredway, Syngenta Crop Protection.

Brown patch can be reduced with proper cultural practices, but preventive fungicide applications are often needed to prevent unacceptable damage, especially in the transition zone. For best results, initiate applications in the spring or early summer when low temperatures consistently exceed 60 degrees Fahrenheit and repeat on a 21- to 28-day interval depending on the product selected. Curative applications are effective in halting further disease activity, but may be slow because of
the effect of high temperatures on the cool-season grasses.

2. Large patch

Like brown patch, large patch is also caused by *Rhizoctonia solani*, but that is where the similarities end. Large patch is caused by a different strain of this pathogen that is specific to warm-season grasses. The most popular warm-season turfgrasses, centipedegrass, zoysiagrass and St. Augustinegrass, are highly susceptible to large patch.

The large patch pathogen infects the basal portions of the turf plant. Tan or reddish-brown lesions are evident on the leaf sheaths before the entire tiller is killed. Over time the disease expands to blight large circular patches of turf, sometimes 10 feet or more in diameter.

Large Patch attacks during fall, winter and spring when warm-season grasses are growing slowly. Its development is largely weather driven, so there are few cultural practices that can limit the disease. The pathogen becomes active in the fall when soil temperatures decline below 60 degrees Fahrenheit, so this is the best time to begin a preventive fungicide program. Two applications in the fall and one application in the spring will provide excellent control in the majority of cases. Curative applications are generally ineffective because the turf is dormant or semi-dormant.

3. Pythium blight

No disease highlights the relationship between stress and turf disease better than Pythium blight. Most turf managers think of Pythium blight as a hot and wet weather disease, and that is true on cool-season grasses. In warm-season turf, however, Pythium blight is caused by different species of Pythium that
infects during cool and wet weather in the fall and spring. Pythium blight is all about stress!

Pythium blight requires long periods of leaf wetness, so providing good soil drainage and implementing sound irrigation practices are crucial. Irrigate deeply and infrequently to wet the entire rootzone, and repeat when the turf first starts to show signs of drought stress. Daily irrigation is unnecessary in most situations and will only contribute to disease activity.

On sites with a history of Pythium blight development, consider a preventive fungicide program applied when the weather conditions are conducive to the disease. If you are already treating for brown patch or large patch, you don’t necessarily need a special fungicide application just for Pythium blight. Certain QoI fungicides, such as Heritage fungicide, provide excellent control of Rhizoctonia diseases (Brown patch, Large patch) and also control Pythium blight.

4. Spring dead spot

Spring dead spot is a devastating disease of bermudagrass, and can also occur on zoysiagrasses. The disease can occur wherever these grasses grow, but it is most severe in the northern parts of the transition zone. The pathogen, Opiosphaerella, weakens the turf and causes it to be more susceptible to freezing injury during winter dormancy. As a result, circular patches of infected turf fail to green up in the spring and are completely dead.

Recovery from spring dead spot damage is very slow, sometimes taking the entire growing season for the turf to spread back into the affected patches. The natural tendency is to apply extra fertilizer to stimulate recovery, but this is not
recommended because it can fuel more aggressive disease activity. Instead, break up the mat of dead turf with regular aerification or spiking, apply fertilizer and irrigate on a light and frequent basis to help the stolons root.

Spring Dead Spot can be managed with fungicides, but they must be applied preventively. Because spring dead spot attacks during the winter, a systemic fungicide must be applied in the fall to protect the plant during winter dormancy. The DMI fungicides, or DMI + QoI combination products (such as Headway fungicide), are the most effective options for spring dead spot control. Two or three applications prior to dormancy are typically recommended depending on the severity of the disease.

5. Fairy Ring

Fairy Rings are among the most complex and difficult to manage turfgrass diseases. There are in the neighborhood of 60 different fungi that have been shown to cause fairy ring in turf, and likely many more yet to be documented. All of these species vary in how they cause disease, when they are active and which fungicides are most effective.

Most Fairy Ring species do not infect the turf. Instead, they grow in the thatch and soil, using the organic matter as a food source. Fairy Ring fungi indirectly cause symptoms on the turf by changing the chemical or physical properties of the soil. For example, Fairy Rings can cause a ring of greener, more quickly growing turf, sometimes called a Type II symptom, by releasing nitrogen into the soil profile. Rings of dead turf, sometimes called a Type I symptom, are the result of water-repellent substances that are the remnants of Fairy Ring growth.
Fungicides can be effective on Fairy Ring, but they need to be applied preventively, before the fairy ring symptoms are expressed. Fungicides will not rid the soil of excess nitrogen or re-wet the soil that has turned hydrophobic. QoI, DMI, and SDHI fungicides are among the most effective products, but remember that not all fairy ring fungi are sensitive to the same fungicides, so some trial-and-error is typically needed to determine which products are best. To download a lawn disease ID guide with additional diseases listed, visit http://bit.ly/LawnGuide.

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Dr. Lane Tredway, a pathologist and a former member of the North Carolina State University Turf Team, is a technical representative of Syngenta Crop Protection.