LATE SPRING & EARLY SUMMER LAWN DISEASES

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Remember the majority of lawn problems are not caused by diseases but are the result of two key factors:
1. From adverse weather conditions that are not conducive for growing cool-season grasses in the summer.
2. From injury / damage to the turf plants form maintenance procedure that were not properly executed.

This article will focus on and review several of the more common infectious diseases that can occur in lawns in Ohio and the Midwest. These are caused by fungi. Remember if a fungicide treatment is used to manage a turfgrass disease successfully - an effective product needs to be selected and then - applied as a preventative application.

Often there are questions if the fungus that causes lawn diseases is moved from lawn to lawn on mowers, equipment, on shoes or boots, etc.? The answer is NO, not to any significant degree, the environment and normal life cycles of these diseases are the key factors for survival and spread of the pathogens. Keep in mind that the different grasses that make up a lawn will vary in their susceptibility to different diseases.

RED THREAD

Diagnostic Information

Cool, mild temperatures, humid, overcast periods typical to Ohio's wet spring and autumn provide the best environment for disease development. Prolonged leaf wetness and slow turfgrass growth also contribute to disease development and severety. Red thread is most severe under low Nitrogen and / or low Phosphorous levels. In Ohio, Red thread has been recorded as being active in every month of the year but in most years spring and early summer or the fall is when the disease is most active.

Management and Control Strategy

- In general, any practice that encourages optimal growth of turf should be employed such as maintenance of a balanced fertility program, good drainage, good light, etc. Increased N and P fertility has been correlated to decreased red thread susceptibility.
- Varieties with different levels of red thread susceptibility are listed at the National Turfgrass Evaluation Program website: www.ntep.org
- Manage water properly to prevent drought stress and avoid prolonged leaf wetness
- There are many good fungicides that can be used as preventative treatments. Refer to the information sheet on our web site "Fungicides for Residential Turf" for specific products and follow label recommendations. turfdisease.osu.edu/

Over-all view of symptoms of red thread in a lawn. (Photo by J.W. Rimelspach)

Affected "spot" with red thread in a lawn of bluegrass and ryegrass. (Photo by J.W. Rimelspach)

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Close up of the red thread fungus growing out of the end of a perennial ryegrass leaf. (Photo by J.W. Rimelspach)

Red thread fungus growing out of turfgrass leaves. (Photo by David Gardner)

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DOLLAR SPOT

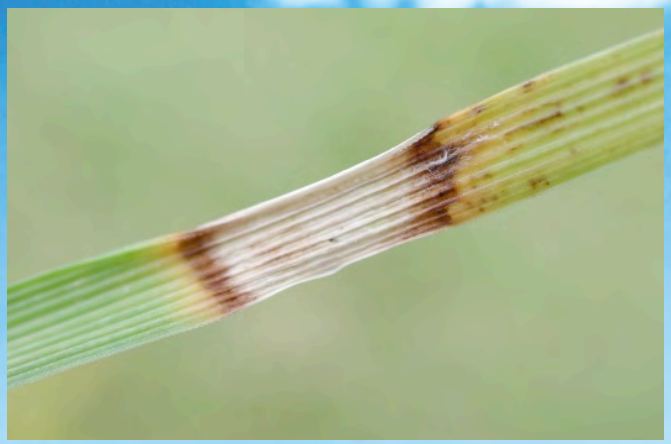
Diagnostic Information

The first symptoms of the disease appear as tiny yellow spots on individual grass blades. The spot expands to a straw colored or tan band with dark reddish-brown margins. The tip of the affected leaf often remains green. The tan band, or lesion, is often narrower in width than the leaf, resulting in the lesion taking on an "hourglass" shape. The entire blade soon becomes bleached. As the grass dies and the infected areas enlarge, light straw-colored spots 2 to 3 inches in diameter appear in the lawn. A fine, cobwebby white mold may be visible early in the morning when heavy dew is present. This mycelia growth of the fungus will disappear as the turf dries. The turf in these spots may be killed all the way from the lesion to where the plant comes into contact with the soil. If left unchecked, the spots may merge and form large, irregular straw-colored patches. On low cut turf, such as that on golf greens and fairways, the spots are often well defined and smaller than those on high cut residential or commercial turf and as the name implies are about the size of a silver dollar. Thus, the descriptive term "dollar spot.'

Management and Control Strategy

- Adequate fertilizer program. Proper nitrogen fertility will greatly reduce the occurrence and severity of dollar spot. Refer to Home Yard and Garden fact sheet 4006, "Fertilization of Lawns." Note: Careful consideration must be given to fertility programs to avoid excessive nitrogen fertility which aggravates other diseases such as Brown Patch.
- Avoid periods of prolonged leaf wetness. Avoid over watering and frequent late afternoon or evening irrigation that prolongs the time grass stays wet. This is especially true for mornings when heavy dew is likely. Prune trees and shrubs to facilitate optimal penetration of sunlight and remove barriers or wind blocks to promote optimal air movement so grass dries faster.
- Irrigate turf during dry conditions. Provide adequate soil moisture for continuous and optimal turf growth.
- Select resistant cultivars. Before seeding, consider recommended cultivars that are resistant to dollar spot. This is especially helpful when planting Kentucky bluegrass, check with the National Turfgrass Evaluation Program.
- Chemical control used early in disease development can be quite successful. Once dollar spot gains a foothold

Dollar spot damage – in a Kentucky bluegrass lawn (photo by J.W. Rimelspach)



Dollar spot lesions on a Kentucky bluegrass blade. Note there is a band across the leaf, the center is a tan color with darker brown edges before the normal green leaf color. (Photo by Dr. David Gardner)

Active dollar spot in the morning when the turfgrass is still wet from dew and fungi is present. As the grass dries the fungi (mycelium) dissipates and not present however the fungus is inside the leaf tissue and will grow again when the leaves are wet and or there is adequate humidity in the turf canopy. (Photo by J. W. Rimelspach)

and is widespread, chemical management will be difficult. For specific fungicides refer to the OSU Turfgrass Pathology Program web site: turfdisease.osu.edu Read the label and follow all instructions.

BROWN PATCH

Diagnostic Information

There are many challenges to acutely diagnosis Brown Patch /Rhizoctonia Blight caused by *(Rhizoctonia solani)* in lawns. Since all common turfgrasses can get the disease it is difficult to rule out the disease on the bases of the type of grass in the lawn. However, many tall fescue lawns are prime candidates to be the first to develop brown patch when weather is favorable for the disease. There are differences in susceptibility by the different cultivars of tall fescue. Check the web site of the national Turfgrass Evaluation Program for rating tall fescue cultivars and susceptibility to brown patch at – www.ntep.org. A key factor that needs to be present for active Brown Patch/Rhizoctonia Blight is wet conditions (heavy rainfall, over irrigation, wet & humid sites, poorly drained areas, long periods of wet foliage/thatch and soils). If there are "brown patches" in a lawn and the turf and site are dry continue the diagnostic process since Brown Patch/Rhizoctonia Blight is most likely NOT the problem. A lush stand of turf is also a high candidate for the disease, especially if the lawn is wet and the temperatures are right. If there are questions about the specific diagnosis of this disease, submit a sample to a turf diagnostic lab for verification. In the lab a trained diagnostician can easily look for the fungus and usually confirm the problem.

Management and Control Strategy

- Wet leaf blades greatly increases infection and disease. If the lawn needs moisture, water deep and infrequent, early in the day, so the grass leaves will dry quickly. Do not water in the late afternoon or early evening. Night watering is not recommended in hot, humid weather. Avoid frequent light sprinklings.
- Avoid nitrogen applications that cause a flush of succulent growth since it is very susceptible to brown patch. Avoid nitrogen fertilizer applications before or during hot weather whenever possible. Several lighter fertilizer applications are less likely to trigger disease than one heavy application.
- Turfgrass cultivars that are more resistant to brown patch may be available. A source of information on turfgrass assessment for disease is the National Turfgrass Evaluation Program in Beltsville, MD or check the web site at http://www.ntep.org or contact the state land grant University for State Recommendations.
- Fungicide Management: When a lawn has had previous brown patch problems, fungicides may be applied when humid weather and hot nights are predicted. Applications should continue according to the fungicide label for as long as the hot, humid weather persists. For specific fungicides refer to the OSU Turfgrass Pathology Program web site: http://turfdisease.osu.edu.

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A patch caused by "Brown patch" in a tall fescue lawn. (Photo by J.W. Rimelspach)

Brown patch fungus (mycelium) in tall fescue lawn. (Photo by J.W. Rimelspach)

Lesions caused by brown patch on the tall fescue leaves. (Photo by J.W. Rimelspach)

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Look under publications for – Management of Turfgrass Diseases Bulletin (L-187 Disease Section). Read the label and follow all instructions.

SUMMER PATCH

Diagnostic Information

Summer patch, is a crown and root infecting disease caused by the fungus *(Magnaporthe poae)*. Since there is damage to the roots, the root system cannot function properly to take up water, so under heat and drought conditions symptoms of wilt, decline and death develop.

Symptoms – include brown more or less circular patches. The fungus attacks the below ground parts of the grass plants (roots, crowns, stolons, and rhizomes). In the summer it is difficult to distinguish between summer patch and necrotic ring spot on a Kentucky bluegrass lawn since the overall symptom patters are very similar. The key to managing the diseases is growing healthy stress free turfgrass.

Turfgrass Affected – most common in Kentucky bluegrass and fine fescue. Diagnostic features – Dead "circular" patches usually ½ - 2 feet in diameter (circles or crescents) the affected circle is often sunken. Dead rings with green grass in the middle are referred to as frogeye patches. Over time different type of grass(s) may develop in the center of the patch. These are resistant to the diseases. The roots, stems and crown area are often dark brown on the affected plants due the presents of the pathogen fungus growing on these parts of the plants.

Management and Control Strategy

There are three main approaches: maintenance of healthy turf/culture, grass resistance to the disease and chemical applications.

Cultural:

- Reduce compaction (a good way to relieve compaction is through the use of a core removal machine, which removes a small plug of turf and soil. This procedure should be done several times a year and it is recommended to pull a minimal of 20 cores per square foot. The goal is to dramatically improve the root growth and health of the Turfgrass.
- Raise mowing height if possible (≥ 2.5 inches).
- Water frequently to avoid ANY MOISTURE stress. Since

the root system is not functioning properly soil moisture levels need to be carefully managed. Avoid wilt! Also do not over water and create a water logged root zone since this will cause a further decline of an already weak root system.

- Properly prepare site for sod, address compaction and poor quality soils. The goal is to have a similar soil as the sod was originally grown on.
- Maintain the Turfgrass with a very slow release fertilizer. Do not allow the lawn to be "hungry" again remember the roots are not functioning well so continues slow realer feeding in needed to maintain growth and health.

Genetic:

- Overseed with a resistant cultivar of Kentucky bluegrass check the National Turfgrass Evaluation Program (NTEP) trials for resistant cultivars at http://hort.unl.edu/ntep/
- The use of genetic resistance turfgrasses is limited to new seeding, renovation and overseeding.
- Perennial ryegrass and turf type tall fescues do not have this problem but because they have different colors and textures it is often hard to blend these with a Kentucky bluegrass lawn.

Chemical Management:

This is a disease that is very difficult to manage. Fungicide applications alone will usually not control the disease. Applications should be made in the spring when the pathogen is infecting the plants and long before symptoms develop. A general rule of thumb is to make the first application of a fungicide when the soil temperature is 65°F at 3 inches for several days in a row. Once grass turns brown in the summer fungicide applications do little to improve the lawn. Total turfgrass health management is recommended through the use of aggressive management strategies.

Circular symptom pattern of "patch" disease in a lawn. However affected turf be in spots and streaks.

Summer patch in a Kentucky bluegrass sodded lawn. Often the most severe damage occurs in areas subjected to the most heat and drought stress.

Summer patch in a Kentucky bluegrass sodded lawn in southern Ohio.