Brown Patch (also called Rhizoctonia Blight)

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Pathogen

Rhizoctonia solani

Turfgrasses Affected

All warm-season turfgrasses, especially St. Augustinegrass and zoysiagrass.

Occurrence

This disease is most likely to be observed from November through May when temperatures are below 80 F. It is normally not observed in the summer. Infection is triggered by rainfall, excessive irrigation or extended periods of high humidity resulting in the leaf canopy being continuously wet for 48 hours or more.

Symptoms/Signs

The fungus infects the leaf area closest to the soil, disrupting transport of water and nutrients to the upper portions of the foliage and eventually killing the leaf. A soft, dark rot will occur at the base of the leaf (Figure 1). The entire leaf will pull out easily from the leaf sheath due to this basal leaf rot. Eventually, entire plants will easily pull off the stolons. Roots are not affected by this pathogen.

This disease usually begins as small patches (1 foot) that turn yellow and then reddish-brown, brown or straw-colored as the leaves start to die. Patches can expand to several feet in diameter (Figure 2). It is not uncommon to see rings of yellow / brown turf with apparently healthy turf in the center. Turf at the outer margin of a patch may appear dark and wilted (Figure 3). This is where the fungus is most active.

This disease is often confused with phenoxy herbicide damage on St. Augustinegrass. Herbicide damage may cause the same overall symptoms of yellow or brown patches. The leaf may still pull out of the leaf sheath, but the base of the leaf is not dark and rotted (Figure 4). Instead, the leaf base is dry with a tan discoloration, and there is no distinct 'rotten' smell.

Cultural Controls

Avoid excess nitrogen during potential disease development periods. Do not use readily available forms of nitrogen such as soluble liquids or quick-release nitrogen sources just prior to or during these periods. Instead, use slow-release nitrogen sources. Apply a balanced fertilizer containing equivalent amounts of potassium, preferably a slow-release potassium form.

Irrigate only when necessary and do so only in the early morning hours (between 2 and 8 AM) when dew is already present. Since mowers can spread this disease, mow diseased areas last, and wash turf clippings off the mower, discarding in a compost, before proceeding to the next site.

Chemical Controls

azoxystrobin, chlorothalonil, flutolanil, iprodione, mancozeb, myclobutanil, PCNB, propiconazole, thiophanate methyl, thiram, triadimefon, trifloxystrobin, vinclozolin.

Many of these products are effective for Brown Patch *only* as preventive applications. In other words, they need to be used *prior* to disease development. Read the labels carefully before selecting a product.

Mancozeb can be applied to a residential lawn only by a professional pesticide applicator. Chlorothalonil, thiram, and vinclozolin cannot be applied to a residential lawn, but they can be applied to turfgrass in a business or industrial landscape.

Refer to "Turfgrass Disease Management"PPP-64 for explanations of chemical and cultural controls.

Please note that for the diseased turfgrass to recover, it must be growing. Symptoms will not disappear until new leaves develop, and the old leaves are removed by mowing. Since this disease normally occurs when the turfgrass is not growing very rapidly, recovery may be very slow. The fungicides simply stop the disease from spreading, they do not promote turfgrass growth! This is why it may be beneficial to apply these fungicides prior to disease development, but only if this disease has been a routine problem in the landscape. Always incorporate cultural control measures into the disease management program also.

Additional Information

There are two other *Rhizoctonia* species that are pathogens of turfgrass. They are *R. zeae* and *R. oryzae*. These pathogens are not very common. The disease these fungi cause is called Rhizoctonia Leaf and Sheath Spot. It occurs during the summer, when the temperatures are above 80°F. While overall symptoms may look like Brown Patch, the leaf symptoms are different. They do not cause a basal leaf rot, but rather cause a leaf blight. The entire leaf will turn yellow or reddish-yellow and then brown, and does not pull off the stem. The roots will be normal. This disease must be confirmed by a plant disease clinic prior to any control efforts as the controls are very different from Brown Patch.

Figure 1. Base of leaf is rotted due to Brown Patch.

Figure 2. Brown Patch symptoms on St. Augustinegrass.

Figure 3. Brown Patch symptoms on zoysiagrass. Note that the outer edge is a darker color indicating the fungus is active at this point.

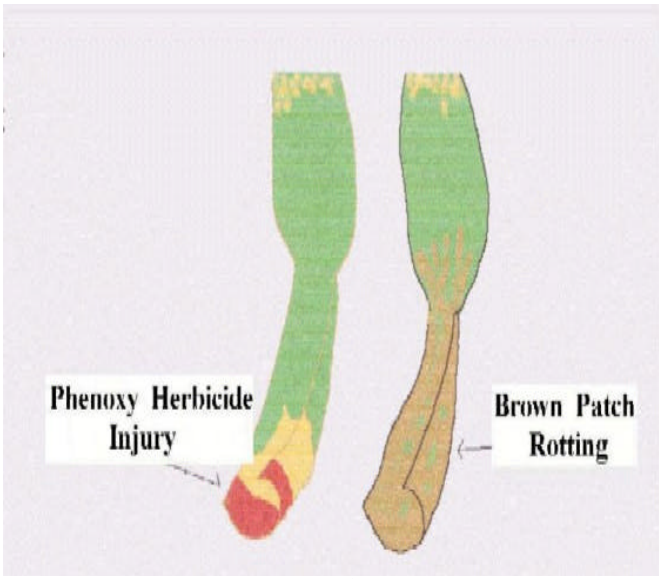

Figure 4. Comparison of phenoxy herbicide damage (left) and basel leaf rot due to Brown Patch (right).