brown PATCH

By David R. Spak, Ph.D.

Brown patch is the most widespread of all turfgrass diseases and can occur in both cool and warm season turfgrasses. A fungus known as Rhizoctonia solani causes brown patch. In warm season grasses, the disease is referred to as large patch. Disease symptoms vary greatly depending on environment, soil conditions, type of turfgrass, and height of cut, etc. In general, affected turf has rings or circular patches of brown, blighted grass. These turf patches range in size from a few inches to several feet in diameter. Under severely affected areas, the patches may coalesce leaving no evident pattern.

In cool season grasses, first signs of the disease include water-soaked, purplish-green patches that quickly turn to brown. Upon close inspection, cool-season grasses often have tiny, irregular tan-colored leaf spots with dark brown margins.

Warm season grasses usually do not develop leaf lesions, but instead have patches of thinned turf that occur as turf begins to break dormancy in the spring. Tip dieback and rotting of sheaths near the surface of the soil are commonly observed.

Optimal conditions

In cool season grasses, disease develops when humidity is high and night temperatures are approximately 70 degrees Fahrenheit or greater. Brown patch can develop rapidly and affect large areas in as little as 24 to 48 hours.

In warm season grasses, the disease occurs in late fall and early spring when turf is not actively growing.

Brown patch can quickly damage athletic fields and can lead to increased weed invasion during the summer. If extended periods of hot, humid weather persist, the disease is capable of killing turf, requiring costly and disruptive renovation.

Prevention tips

Sound agronomic practices, such as properly timed fertilizer applications, can help reduce the severity of brown patch. Turf that is over-fertilized, particularly with quickly available forms of nitrogen, tends to have more brown patch issues. Also, over-watering or watering at night can also increase brown patch. A properly timed fungicide application can provide effective brown patch control and greatly improve turf appearance. To get the most out of your fungicide application, apply a fungicide before the appearance of brown patch symptoms. Curative applications require high rates and are generally not as effective as properly timed preventative applications.

Brown patch in cool season turfgrasses can be controlled by monthly fungicide application treatments beginning in early summer and continuing until the onset of cooler weather in the fall. If necessary, curative applications will suppress further development of the disease.

Cultural practices to limit brown patch in turf:

- Minimize leaf wetness by irrigating in early morning.
- Avoid over-watering, particularly at night.
- Provide good drainage to both surface and subsurface areas.
- Reduce thatch.
- Maintain proper grass height.
- Remove clippings to prevent spread to other areas during mowing.

In addition, fertilizer containing slow release forms of nitrogen should be applied judiciously to maintain moderate levels turf growth. This disease is more severe under lush growth that excessive nitrogen promotes. ■

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