



Warm, Wet Weather Leads to Brown Patch

By Nick Goltz, DPM, UConn Plant Diagnostic Lab

This summer has been a tough one for our plants. Not only has the abundant rain stressed the roots of plants grown in areas with poor drainage, but the warm, wet weather has also been very favorable for the growth of plant pathogenic fungi. Woody ornamentals with dense canopies such as lilac (*Syringa vulgaris*) have been particularly troubled by foliar pathogens, but large trees like maple (*Acer spp.*) and small plants like grasses are not being spared.

One fungal pathogen that has been affecting grasses more commonly this summer is *Rhizoctonia solani* and related species, which cause a disease known as “brown patch”. Although a variety of plants can be affected by *Rhizoctonia* fungi, the turfgrasses most commonly affected are cool-season grasses such as bentgrass (*Agrostis spp.*), fescue (*Festuca spp.*), and perennial ryegrass (*Lolium perenne*).

Brown patch usually appears in mid to late summer when nighttime thatch (the dead grass and old plant material beneath active green shoots) temperatures reach 70° F. As the name implies, symptoms on lawns presents as a brown, roughly circular, patches that can be as small as a few inches in diameter up to several feet. Sometimes, a dark purple-tinged ring can appear at the edge of the patch in the early morning hours. Individual leaf blades may have brown-grey lesions with a dark border. *Rhizoctonia*, the fungus that causes Brown Patch, is capable of surviving the winter in infected thatch.

Rhizoctonia fungi rarely produce spores and are instead identified in a lab using characteristic hyphal morphology. *Rhizoctonia* species are generally soil inhabitants and usually only colonize aboveground plant parts in certain cases, such as leaves and low-growing plant tissue that had been splashed with soil after a heavy rainstorm. The fungus grows most vigorously in high humidity and warm temperatures. It will produce "resting" survival structures called sclerotia when environmental conditions are not favorable for growth, such as during droughts or cold weather. When conditions are again favorable for growth, the sclerotia germinate and allow the fungus to colonize new plant tissue. Because the sclerotia are found in old plant tissue and in upper soil layers, soil from these areas should never be moved to new areas where it can infect healthy plants. Brown patch can be difficult to manage without thatch removal and reduced irrigation.

Managing brown patch begins with improving turf health and preventing spread of the fungus to new areas. Rake-up and remove infected thatch during dry weather if possible. Put the thatch and any diseased clippings in a trash bag and throw in the landfill trash. Do not compost it or allow it to stay on-site. Do not move soil that may have come in contact with symptomatic turf. When the

turf affected by brown patch borders a garden, use mulch to reduce soil splashing from the affected area to aboveground plant parts.

Reduce high-nitrogen fertilizer application for the areas affected by brown patch. Also try to minimize extended periods of soil wetness and soil splashing however you can. Avoid excessive overhead or sprinkler watering, if possible. When providing supplemental water using a sprinkler system, do so in the morning rather than evening to allow time for plant tissue to properly dry.

For additional advice on lawn care, please contact the UConn Home & Garden Education Center by emailing ladybug@uconn.edu. The UConn Soil Nutrient Analysis Laboratory and the UConn Plant Diagnostic Laboratory can also support lawn health this fall by providing nutrient analysis and disease analysis, respectively



A low, wet area of the author's yard is prone to fungal diseases such as brown patch. Nick Goltz, DPM