

Best Management Practices: Brown Patch in Cool-Season Turfgrass

Description

As management conditions change from cool spring temperatures to hot, humid summer temperatures disease pressure begins to increase. One of the most common diseases turf managers face is brown patch. Brown patch (*Rhizoctonia solani*) can infest all major cool-season turfgrass types. However, the more susceptible turfgrasses are tall fescue, creeping bentgrass, and perennial ryegrass.



Environmental Conditions Favoring Disease Development

Brown patch begins to develop in summer when daytime temperatures are 80°F or higher and nighttime temperatures are above 65°F. As with other foliar diseases, extended leaf wetness (dew, rainfall, or improperly timed irrigation cycles) increases disease development. Too much nitrogen applied during hot, humid conditions can lead to more severe brown patch infestations.

Symptoms and Identification

On higher cut turfgrass, white mycelium may be observed on the leaf blades under humid conditions. Tan lesions with dark reddish margins can be observed on the leaf blades. As these lesions coalesce infected turfgrass becomes blighted creating large irregular-shaped patches. Often times these patches will have light tan margins with green centers giving a “frog-eye” appearance. Mycelium is typically not observed on short cut turfgrass like golf course putting greens. Instead, symptoms develop into tan to brown irregular-shaped patches up to 1 ft in diameter with purple margins referred to as a “smoke ring” pattern.



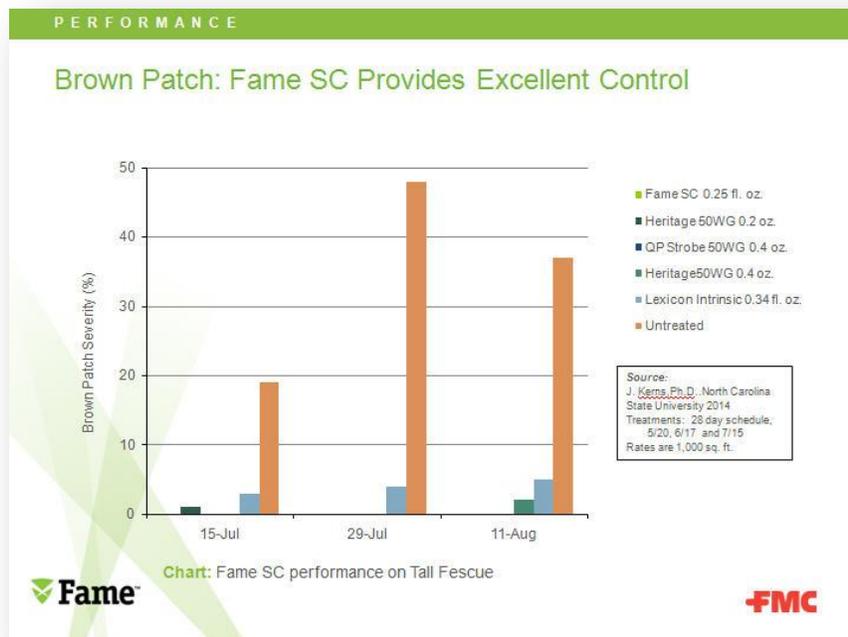
Management

Cultural:

The two main cultural strategies to aid in brown patch severity is timing of nitrogen applications and irrigation. Avoid applying high rates of nitrogen when conditions are favorable for brown patch development. Higher rates of nitrogen should be applied in spring or fall for cool-season turfgrass. Adjusting irrigation cycles to occur in early morning as opposed to late afternoon or early evening will reduce the amount of time the leaf blade stays wet. Turfgrass variety selection may also be an option for establishment or interseeding situations. Research has found that some varieties are less susceptible to brown patch than others. It is important to select a turfgrass variety that performs well in your geographic area.

Chemical:

Timely preventative fungicide applications are very important to achieve acceptable control. Brown patch is typically easier to control preventatively compared to curatively. Applications should be made when nighttime temperatures first appear consistently above 65°F under high relative humidity with daytime temperatures consistently above 80°F. The Fame fungicide portfolio is built on strong and lasting brown patch control. Fame SC is a proven strobilurin fungicide for effective brown patch control. In higher cut turfgrass, such as home lawns or golf course roughs effective brown patch control was achieved using 28 day application intervals. On golf course greens where other diseases may occur along with brown patch products like Fame +T and Fame +C deliver. On a 14 to 21 day application interval, because of the combination of active ingredients multiple diseases occurring under the same conditions as brown patch can be controlled with Fame +T and Fame +C.



References

Photos Courtesy: Purdue University Extension. NC State University TurfFiles.
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