

Brown Patch of Tall Fescue Lawns

Aaron Patton
Assistant Professor -
Turfgrass Specialist

Stephen Vann
Assistant Professor -
Urban Plant Pathologist

Introduction

Brown patch of tall fescue (*Festuca arundinacea*) is caused by a fungus (*Rhizoctonia solani*) that can be severe in both urban and commercial landscapes in Arkansas where this cool-season grass occurs. This is a foliar disease and thus does not damage the roots or crown of the turfgrass. The fungus can also attack perennial ryegrass (*Lolium perenne*) and creeping bentgrass (*Agrostis stolonifera*). The fungus is the same species that causes large patch on zoysiagrass and bermudagrass but a different group. Therefore, there is no risk of large patch from an adjacent zoysiagrass lawn causing brown patch on a neighboring tall fescue lawn.

Symptoms

On tall fescue, symptoms are readily recognizable on the leaves as straw-colored lesions with a dark brown edge (**Figure 1**). Under optimum weather conditions, these lesions expand to kill the entire leaf. Diffuse olive-green circular patches of



Figure 1. Rhizoctonia leaf lesions

declining turf can occur following infection. Over time, grass in the interior of these patches starts to recover, producing a “smoke ring” appearance (**Figure 2**).



Figure 2. Brown patch in tall fescue
(Courtesy A. Windham)

Brown patch of tall fescue typically occurs during the summer when the fungus becomes active during hot, humid days and nights. Symptoms can be confused with those of drought stress. Extended dew periods and nighttime irrigations favor disease activity. Excessive nitrogen fertility during these environmental conditions often exacerbates disease onset and severity. Lush, succulent turf that has been highly fertilized with nitrogen and watered at night is a prime candidate for a severe disease situation. Warm to hot rainy weather can greatly speed disease development. Large areas of grass can become blighted overnight.

On tall fescue, brown patch symptoms may be confused with another fungus disease called dollar spot; however, this disease is not known to commonly occur on this turfgrass.

*Arkansas Is
Our Campus*

Visit our web site at:
<https://www.uaex.uada.edu>

Disease Cycle

The brown patch fungus is well adapted to survive year after year in lawn thatch, diseased plant tissues and in the upper soil layer by means of small dark brown to black resting bodies (bulbils). These bodies are usually about 1/16 inch, making them virtually impossible to spot by the homeowner or groundskeeper. Under favorable conditions, the bulbils are able to germinate to initiate infections. The brown patch fungus can also survive on diseased plants and dried grass clippings as mycelium (hyphae). The right angle branching habit of the mycelium is useful for microscopic identification (**Figure 3**). The fungus grows rapidly on most lawn grasses when the temperature is 80 to 85 degrees F.

Management

Cultural practices are very important for brown patch management. Although all cultivars of tall fescue can develop brown patch under heavy disease pressure, you should select cultivars that are more tolerant (**Figure 4**) (**Table 1**). Choose a seed blend or mixture containing tall fescue cultivars that have low brown patch incidence and severity. For the most up-to-date information, visit www.ntep.org. It also may be wise to choose tall fescue seed mixtures that contain 10 percent Kentucky bluegrass (*Poa pratensis*) to help improve disease tolerance and recovery. Kentucky bluegrass is not as susceptible to brown patch, and it recuperates better from disease than tall fescue because Kentucky bluegrass spreads by rhizomes, whereas tall fescue plants cannot spread.

Avoid applying nitrogen fertilizers to tall fescue lawns in June, July or August. It is best to apply two-thirds or more of the total nitrogen fertilizer

Table 1. Recommended tall fescue cultivars and blends with low brown patch incidence based upon data from the 2001 National Turfgrass Evaluation Program Tall Fescue Test and additional trials (Fayetteville, Arkansas). For the most up-to-date data visit www.ntep.org.

Cultivars with low brown patch incidence and good turfgrass quality	'Apache III', 'Avenger', 'Biltmore', 'Blackwatch', 'Cayenne', 'Constitution', 'Cochise III', 'Fidelity', 'Finelawn Elite', 'Five point', 'Greenskeeper WAF', 'Guardian-21', 'Hounddog 6', 'Inferno', 'Justice', 'Kalahari', 'Lexington', 'Magellan', '2nd Millennium', 'Millennium', 'Mustang 3', 'Padre', 'Picasso', 'Plantation', 'Rebel Exeda', 'Rendition', 'Riverside', 'Serengeti', 'Silverado II', 'Silverstar', 'Solara', 'Titanium', 'Ultimate'.
Tall fescue seed blends with low brown patch severity	Tournament quality blend, Turf-seed blend, Proseeds Marketing blend, Pure-premium blend, Southern gold blend

during the fall (September, October and November). If you apply fertilizer in April or May, choose a slow-release source of nitrogen. See FSA2114, *Fertilizing Your Lawn*, for more information on nitrogen application timing and amount for tall fescue lawns. Applications should be based on a recent soil test. Irrigate lawns deeply and infrequently, and try to irrigate between the hours of 5 and 7 a.m. Reducing moisture will help to reduce disease severity.

Fungicides may be necessary on highly visible or high-value commercial or residential turf. These materials are most effective when applied on a preventative program, beginning when conditions favor disease onset. Materials containing the active ingredients propiconazole, triadimefon and

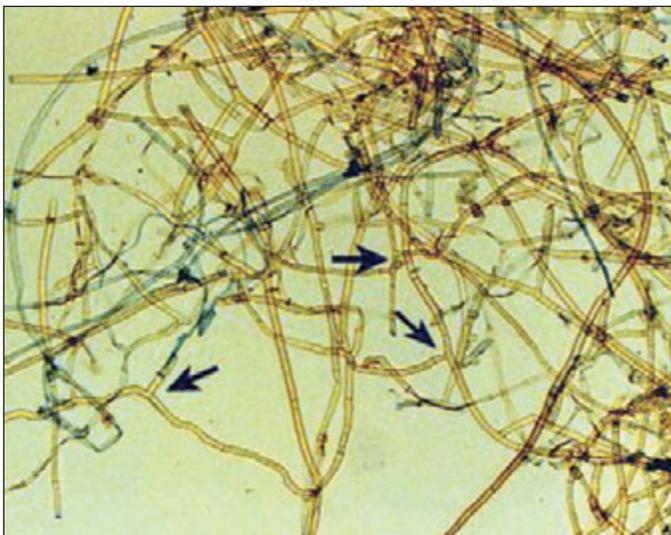


Figure 3. Rhizoctonia hyphae with right angle branching (arrows)



Figure 4. Visible differences between brown patch tolerance among two tall fescue cultivars (Courtesy M. Richardson)

myclobutanil are registered for brown patch. The newer strobilurin class of fungicides contains some of the most effective fungicides; however, they may not be readily available or cost effective for homeowner use. **Please note that the use of fungicides containing chlorothalonil is now prohibited in home lawns (turf).** In many cases, fungicides may not be necessary for homeowner lawns since damaged areas often recover when weather conditions favor turf growth and other stresses are corrected. When disease pressure is severe, reseeding in the fall after disease pressure has stopped may be necessary. If homeowners elect to use fungicides, they should consider using the services of a professional lawn company that has the appropriate application equipment.

Contact your local county Extension office for further information about obtaining an accurate disease diagnosis and control recommendations for brown patch. Effective disease management begins with a prompt and accurate identification.

References

- Corwin, B., N. Tisserat and B. Fresenberg. 2007. *Identification and Management of Turfgrass Diseases*. University of Missouri Extension. IPM1029. 54pp.
- Latin, R., 2005. *Turfgrass Disease Profiles – Brown Patch*. Purdue University. BP-106-W. 2pp.
- National Turfgrass Evaluation Program. 2005. *National Tall Fescue Test*. NTEP No. 05-8. U.S. Department of Agriculture, Beltsville, Maryland. Available at <http://www.ntep.org/>.
- Smiley, R.W., P.H. Dernoeden and B.B. Clarke. 2005. *Compendium of Turfgrass Diseases*. American Phytopathological Society. 167pp.

DR. AARON PATTON is an assistant professor - turfgrass specialist with the University of Arkansas Division of Agriculture, Cooperative Extension Service, Fayetteville. **DR. STEPHEN VANN** is an assistant professor - urban plant pathologist with the University of Arkansas Division of Agriculture, Cooperative Extension Service, Little Rock.

Pursuant to 7 CFR § 15.3, the University of Arkansas System Division of Agriculture offers all its Extension and Research programs and services (including employment) without regard to race, color, sex, national origin, religion, age, disability, marital or veteran status, genetic information, sexual preference, pregnancy or any other legally protected status, and is an equal opportunity institution.