

Brown Patch

Overview

Brown patch, caused by *Rhizoctonia solani*, is the most widespread turf disease, capable of infecting all known cool- and warm-season turfgrass species. Brown patch can cause significant turf damage in the spring through fall, with the highest risk in the summer. *R. solani* becomes active in spring with soil temperatures >60°F but symptoms typically do not appear until air temperatures rise above 80°F with high humidity and nighttime

temperatures >65°F. Disease progresses rapidly when turf is under heat stress with limited growth. Dense, highly fertilized, frequently watered turf with leaf wetness periods greater than 10 hours is most susceptible to infection.

Symptoms

- Appears as a blight in circular patches ranging in size from a few inches to several feet (Figure 1).
- Dark purple to grayish-brown border ("smoke ring") may appear at patch margins (Figure 2), especially during periods of high humidity.
- Smoke ring appearance most common on close-cut turf (<1").
- On high-cut turf leaves, irregular lesions with purplish to brown borders and tan centers are visible with affected leaves eventually turning brown and drying out (Figure 3).

Cultural Management Strategies

- Maintain adequate nitrogen for growth but avoid excessive nitrogen applications.
- Improve surface and subsurface drainage.
- Reduce leaf wetness by knocking off / removing dew.
- Prune trees and shrubs to improve air circulation and light penetration.
- Maintain thatch levels below 0.75".

Fungicide Solutions

- Implement a preventive fungicide program for tall fescue and creeping bentgrass when conditions favor disease development.
- For best results, initiate fungicide applications in late spring or early summer when night temperatures consistently exceed 60°F.
- Effective fungicide solutions include Artavia[™] 2 SC (azoxystrobin), Protégé[™] (azoxystrobin + difenconazole), Artavia[™] Xcel (azoxystrobin + propiconazole), Dornic[™] 720 F (chlorothalonil), and Token[™] SC (fludioxinil).



Figure 2. Characteristic "smoke ring" on close-cut turf. Photo credit: Rob Golembiewski, Atticus



Figure 3. Brown patch lesions on turf leaves. Photo credit: Lee Butler, North Carolina State University.

