



BAYER SOLUTIONS

Brown Patch

The Problem:

Brown patch is a common disease caused by the soil-borne fungus *Rhizoctonia solani*. It causes foliar blighting of nearly all cool-season turfgrass species which include creeping bentgrass, perennial ryegrass, *Poa* spp. and tall fescue. Among cool-season turf, Kentucky bluegrass has good levels of resistance whereas colonial bentgrass is highly susceptible.

What to Look for:

Brown patch is most active in warm, wet conditions, when minimum temperatures are above 15°C and daily leaf wetness periods are 10 hours or more. Night time temperatures above 20°C with extended leaf wetness are associated with severe brown patch outbreaks on golf course turf. Disease development is often greater in areas with saturated soils/poor drainage. Activity is often triggered by thunderstorms that cause localized flooding.

Brown patch occurs in irregular circular patches about 0.3-1 metre in size. Early in the morning, the outermost brown patch edge may be bordered by a 'smoke ring' of mycelia. Initial infection has a water-soaked appearance, but as the foliage dries the infected leaves will become necrotic/brown. On high mowed turf, such as tall fescue, irregular tan lesions with a chocolate-red border may be seen on leaf blades.

Brown patch can be confused for Pythium blight. Rapid diagnosis and selecting the right treatment are essential for management of brown patch.

Bayer Solutions:

Brown patch management requires an integrated approach. Avoid excessive amounts of nitrogen (N); 'spoon-feeding' N at low rates in the summer is recommended. Schedule irrigation at night from midnight to early morning to minimize periods of prolonged leaf wetness. Increase air movement by addressing excessive tree and shrub growth on the golf course. Installing fans in areas near golf greens where stagnant air is a problem can reduce brown patch pressure significantly.

Whenever possible, the mowing height should be adjusted higher because low mowing heights are associated with greater brown patch development. Core aeration will reduce thatch accumulation and this also helps to improve drainage. Avoidance of highly susceptible turf species, such as colonial bentgrass, is warranted in humid areas where brown patch is most problematic.

Preventive applications are more effective than curatives; brown patch causes disease quickly and significant injury to turf can occur prior to curative treatment. Additionally, all cool-season turfgrasses have poor recuperative potential during midsummer, a time when brown patch activity peaks. Preventive fungicides to target brown patch should begin late spring/early summer when low (night) temperatures exceed 15°C consecutively for two to three days.

Brown Patch Solutions

There are a number of choices for controlling brown patch, and all Bayer Solutions provide added control of other diseases that can be active at the same time. Interface Stressgard™, Mirage Stressgard® and Trilogy Stressgard™ provide broad-spectrum control of brown patch, anthracnose and dollar spot. Mirage Stressgard® and Compass 50WG are great rotational choices for brown patch as well.

Fungicides with Stressgard™ Formulation Technology can help reduce summer stress on turfgrass, increasing turfgrass damage recovery potential. Interface, Exteris, Trilogy and Mirage all provide Stressgard benefits and fungicidal activity to directly control brown patch. Signature Stressgard tank mixes promote plant health and reduce the effects of summer decline and stress including brown patch.

SOLUTION	USE RATE PER 100 m ²	APPLICATION INTERVAL*
Interface Stressgard™	95 - 160 mL	14 - 21 days greens 14 - 28 days fairways
Exteris Stressgard™	140 - 200 mL	14-21 days
Mirage Stressgard®	32 - 64 mL	14 - 21 days
Trilogy Stressgard™	65 mL	14 - 21 days
Compass® 50WG	4.6 g - 6.1 g	21 days (preventive) 14 days (curative)

*See fungicide labels for complete details. Always read and carefully follow label instructions.



Brown patch affecting a creeping bentgrass fairway in late summer. Photo: Derek Settle, Bayer.



Brown patch severely affecting a creeping bentgrass nursery green in early summer. Photo: Derek Settle, Bayer.



Creeping bentgrass with leaf wetness and active brown patch mycelium present. Photo: Derek Settle, Bayer.



Brown patch symptoms on tall fescue. Symptoms can show up as diffuse areas of disease rather than distinct circles or patches. Photo: Frank Wong, Bayer.