

Managing Brown Patch



Pathogen: *Rhizoctonia solani*

Susceptible Species: Bentgrasses (*Agrostis* spp.), Ryegrasses (*Lolium* spp.), Annual Meadow Grass (*Poa annua*) and Tall Fescues (*Festuca arundinacea*) are the most commonly affected, but Smooth-Stalked Meadow Grass (*Poa pratensis*) and Red Fesuce (*Festuca rubra* spp.) can also be occasionally attacked.

Brown patch is one of the less common conditions in the UK as it requires a combination of high temperatures (20-30°C) and high humidity (or high levels of leaf wetness through irrigation). These conditions mean that it is becoming more common in sports turf stadia and training grounds where summer grow-ins and early season play in hot temperatures mean there is a demand for constant irrigation to produce a fast playing surface and constant growth for recovery.

Once considered a lesser disease in the UK, it is becoming more common and, if left unchecked, outbreaks can lead to unsightly damage and a loss over of turf cover.

Symptoms

On closer-mown golf and bowling green turf, circular patches of tan-coloured grass up to 50-60cm in diameter can be seen. This can develop into a darker, water-soaked appearance and there can be a brown or grey border on the outside of the infection (known as a 'smoke ring').

On longer, ryegrass swards of sports pitches the plants struggle to stand upright and patches of weak, blighted turf can be seen. The 'smoke ring' is a lot less common on sports pitches than on fine turf.

Patches can join together to form larger areas of damaged turf if left untreated and the disease can be spread via mycelium and sclerotia mechanically with machinery or by foot traffic. Brown Patch is more common on areas where high levels of nitrogen have been applied. Although it gives turf a very poor appearance, the disease rarely infects the crowns of plants and recovery is usually good.



Brown Patch on a putting green. The darker brown 'smoke ring' is very clear in this example.

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Cultural & Chemical Prevention:

Ensuring an adequate, but not excessive, amount of nitrogen is available to the plant is important. Maintaining good healthy growth without 'stretching' the cells with rapid growth is the key. Leaf wetness is very important for infection and development of the disease, so dew removal and regular brushing of damp surfaces will help reduce symptoms. Irrigation should ideally be carried out at a time that gives the leaf time to dry before nightfall when conditions for disease are present.

The disease can survive in soil for a number of years until conditions and/or a susceptible grass species are present and infection will then occur. Disease spread can be rapid when temperatures reach above 25°C in combination with rain/thunderstorms and an atmospheric relative humidity close to 100%. The greatest turf damage will occur with lush turf in this environment.

Fungicide Only Options:

Curative:

Propiconazole (Nimble Pro)
Difenoconazole + Fludioxonil (Instrata Elite)

Preventative:

Azoxystrobin (Pure Azoxy)
Propiconazole (Nimble Pro)
Difenoconazole + Fludioxonil (Instrata Elite)

Fungicide Tank Mixes:

- 3l Nimble Pro + 4l TKO Phosphite + 20l X-Xtra Iron
- 3l Nimble Pro + 20l X-Xtra Iron + 5l Fulvic Acid
- 3l Instrata Elite + 2.8l Pure Kelp SA
- 500g Pure Azoxy + 4l Companion + 4l TKO Phosphite
- 500g Pure Azoxy + 4l Companion + 10l Essential Plus

Non-Pesticidal Brown Patch prevention:

Use Sustane 4-6-4 as a base feed to maximise soil and plant health. Ensure growth levels are at a sensible level by utilising nitrogen sources that will give you the growth levels you require. Foliar programmes should use low salt, slow release nitrogen sources to prevent growth flushes such as Growth Products Nitro 30, Classic 18-3-6 and Quick Response 20-3-3 alongside high quality potassium sources such as potassium carbonate found in Pot Carb Max 0-0-25. Stimulate the plants natural defences using TKO Phosphite and harden the plant with X-Xtra Iron. Utilise biostimulants such as Essential Plus or Pure Kelp SA to condition soils and reduce plant stress. Out-compete soil-borne pathogens with a programme of Companion microbial inoculant.

A cultural programme of management throughout the growing season is important to enable surfaces to perform well with reduced reliance on chemical applications all year round.

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