ADVANCE GRASS SOLUTIONS

Managing Microdochium

Pathogen: ***Microdochium nivale*** **(formerly** ***Fusarium nivale*****)**

Susceptible Species: Many turfgrass species can be affected, but it is most commonly seen on and will usually first infect Poa annua. Ryegrass swards on sports pitches can also be damaged.

Microdochium patch will be very familiar to almost every turf manager in the UK as it is the most common disease seen in cool, damp climates. It is most commonly experienced in autumn and early winter, but can be found at any time of year when conditions are suitable for disease development.

Conditions which are known to increase the likelihood of disease development include thatch build-up, excess nitrogen applications, alkaline surface, poor air movement caused by surrounding buildings or trees, shade, long overnight periods of dew/drizzle/fog and poor drainage.

With the ever-shrinking list of UK-available fungicides, a long-term strategy of reducing the chances of disease development must be the turf manager's goal. This will include an all year round programme of cultural operations designed to eliminate as many of the causal factors listed above as possible. This is why proactive turf managers will implement the correct maintenance schedule of aeration, top dressing, overseeding and tree management that is best suited to their own individual sites.

Symptoms

Initial symptoms are small dark brown spots of watersoaked turf that will continue to spread into larger patches if conditions allow. The outer edge of the patch often shows as a darker brown than the centre whilst the infection is spreading outwards and there can be visible fluffy light pink mycelium here too.

Microdochium Patch: Mild, damp weather brings on disease development. Note the distinctive lighter centre and darker brown outer ring of active microdochium. Cold, frosty weather will halt disease development, but when temperatures pick up and moisture is still prevalent, disease activity will pick up too.

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Cultural & Chemical Prevention:

Several cultural measures can be taken to reduce disease incidence: aeration, top dressing, drainage, scarification, acidifying the surface, removal of trees blocking light and airflow and the use of well-timed and 'just enough – not excessive' nutrition to maintain plant health without forcing 'soft growth' that is prone to disease.

Recent research suggests that the traditional autumn application of large amounts of potassium as a 'hardener' to reduce disease is ineffective at best, and possibly causing more harm than good. Research at the University of Nebraska suggests that excess potassium in plant tissues increased the plants susceptibility to microdochium. Many UK Turf Managers are now reporting similar findings after reducing autumn K applications to more moderate levels.

Fungicide Only Options:

Curative:
Propiconazole (Proklass Span)
Tebuconazole + Trifloxystrobin (Tebloxy)

Preventative:
Propiconazole (Nimble Pro)
Azoxystrobin (Pure Azoxy)
Tebuconazole + Trifloxystrobin (Tebloxy)
Fludioxonil (Medallion TL)
Trifloxystrobin (Aquarius)

Fungicide Tank Mixes:

- 1l Tebloxy + 4l TKO Phosphite + 20l X-Xtra Iron + 10l Cal Mag Max
- 3l Nimble Pro + 20l X-Xtra Iron + 2.8l Pure Kelp SA
- 3l Nimble Pro + 10l Cal Mag Max + 10l X-Xtra Iron
- 500g Pure Azoxy + 4l Companion + 4l TKO Phosphite
- 700g Aquarius + 5l Fulvic Acid + 20l X-Xtra Iron

Non-Pesticidal microdochium prevention:

Use Sustane 4-6-4 as an early season base feed to maximise soil and plant health. Use Sustane 5-2-4, 5-2-10 or 10-2-10 if using a granular programme to promote low yield, healthy growth. Foliar programmes should use Classic 18-3-6, K-Builder 7-2-21, Pot Carb Max, Nitro 30 or Quick Response 20-3-3 alongside TKO Phosphite/X-Xtra Iron and should look to reduce K applications going into the peak disease season. Utilise biostimulants such as Essential Plus or Pure Kelp SA to condition soils and reduce plant stress. If microdochium pressure is high, acidify the leaf surface to reduce infection using citric acid (pH Reducer) or a low pH chelated iron (X-Xtra Iron).

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.