



Technical Article- Fusarium Patch Disease

Way back in 1929 when the Sports Turf Research Institute was founded, its first Director, Mr Bennett described fusarium patch disease as the commonest most severe and most damaging of fine turf in UK. Despite 90 years of research and the development of new grass cultivars and fungicides, this statement is as true today as it was when it was first made. Why should this be and how can we minimize the effects of Fusarium Patch.

As I write, iprodione (Chipco) a fungicide that has been available for decades for fusarium control, is being withdrawn. Chemicals will still play a future role in disease control but their use is becoming more restricted. How can we do things differently?

The purpose of this article is to give a personal insight into the disease and how to prevent and control it. I have added two downloadable files which give a lot of background information on the disease and it is not my intention to repeat this here.

10 Top Tips relating To Fusarium Patch Disease.

Names

Do not be confused by the Latin names for the causal fungus and the common names for the disease. Fusarium became Gerlachia then Microdochium and now Monographella. These changes are the taxonomists reclassifying the causal fungus, but it remains the same fungus just with a different name. Fusarium patch and pink snow mould are caused by the very same fungus, the latter being a term used when the disease appears after snow. It's not always the case though as snow mould symptoms can appear without snow having covered the turf. All very confusing!

Management not control

It is impossible to eradicate fusarium but it is possible to manage it at acceptable (low) levels. Use integrated disease management practices to achieve this (see article).

Clue is in the symptoms

Fusarium patch which is active and harming the grass gives very distinctive symptoms. The first signs of attack are small water soaked scars, brown in colour and sometimes surrounded with white mycelium. Bleached grass is usually old scars and the disease is inactive.



Image 1- Treat when disease looks like this



Image 2 (left)- *By the time it looks like this fungicides will be ineffective against advanced disease.*

Image 3 (Right)- *When white mycelium is present the disease is causing significant damage and is difficult to stop.*

Annual meadow grass

Annual meadow grass is the most susceptible species although other grasses are only moderately resistant as well. Do everything possible to minimize the quantity of annual meadow grass in the greens.

Treat early

If brown scars appear apply fungicide at the earliest opportunity. Treating at the very first signs of disease always gives the best results. In situations that are known to be prone to fusarium at certain times make a preventative application of fungicide. One well timed fungicide at the earliest signs of the disease will work as well a 3 or 4 applied after the disease has become established.

Harden the turf with iron

There are several liquid iron products available which have been shown to restrict the development of fusarium patch disease. These products are acidic and are combined with surfactants that create an acidic film on the surface of the leaf which acts as a barrier to fusarium. Applied monthly through the winter they can reduce fusarium incidence by as much as 40%, thus minimizing the need for fungicides. They also give good winter colour and may also affect moss.

Low fertility

There are numerous benefits from applying adequate fertilizer only and making sure nitrogen in particular is not over applied. Fusarium prefers soft nitrogen rich grass so restrict its development by being careful with the fertilizer inputs.

Surface wetness

Fusarium likes wet humid conditions and dewy surfaces are ideal for its development. Always remove dew by brushing or using a dew dispersant.

Resistance to fungicides

A lot has been written about fungicide resistance whereby the fungus becomes tolerant of the fungicide to the point it no longer works. This has been shown to be the case in other countries where fungicides are applied much more frequently than in the UK but is unlikely to be a significant problem here. Failure of control with fungicides is most likely to be due them being mis-applied or applied after the disease has become established. Apply early!

Failure of control

Every year we see cases where repeated applications of fungicides have given poor results, and often the fungicide itself is blamed for this. It is extremely unlikely that the fungicide itself is at fault. Most failures are due to cultural methods of disease prevention not being used and fungicides being over relied on and perhaps the biggest error of them all applying fungicides after the disease has become established.