

# It's snow joke as winter bites

**We chat to a technical expert to find out how to prevent turf diseases as the snow falls**



**With a hard winter forecast for this year, the chance of snow cover is a strong possibility. Greenkeepers are reminded not to underestimate the risk of *Typhula incarnata* to cause Grey snow mould or *Fusarium patch* (*Microdochium nivale*) developing into Pink snow mould, should greens be subject to snow.**

Dorin Pop, Technical Manager at Bayer, explains that snow cover prevents photosynthesis, reducing the plant metabolism which weakens the turf's natural defence system.

The snow cover also encourages contact with the snow mould pathogen. Pink snow mould may occur following growth of *Fusarium patch* from the organic matter in conducive conditions.

He adds: "The snow also incubates the turf to an extent. This creates a microclimate which will keep the turf surface moist and unfrozen providing an ideal habitat for disease to thrive.

"The two diseases most commonly associated with the winter months are Grey snow mould and Pink snow mould.

"Both Grey snow mould and Pink snow mould require periods of cold, wet weather to develop, but Grey snow mould is very localised in the UK. This is because the turf needs to have prolonged snow cover in order for the disease pathogen to develop. For this reason it tends to occur in Scotland and the north of England."

He adds that Pink snow mould is actually the same strain of *Fusarium patch* that normally occurs during the year when the conditions are favourable but as the snow melts, white to pink mycelium develops around the margin of patches. Unlike Grey snow mould, this can occur quite quickly under the snow as the pathogens take less time to develop.

"The disease pathogen can survive adverse conditions in plants or organic matter but the disease symptoms are only observed in the winter and early spring encouraged by low temperatures, high moisture in the turf, long grass, excessive nitrogen and excessive top dressing just prior to snow cover. Just like controlling *Fusarium patch* at any other time of the year, applying a fungicide at the very early stage of disease will avoid any potential scarring of the turf. This is especially important in the winter due to the slow rate of turf growth. Any scarring will take much longer to repair in the colder months and with the expectation now to be

able to play golf all year round, prolonged periods of unplayable turf conditions are unlikely to be met favourably."

During the autumn, golf courses tend to undergo renovation. The activities associated with renovation put a great deal of stress on the turf. Dorin explains that good practice is to maximise their maintenance programme prior to this period. Activities include applying the correct fertiliser, avoiding heavy top dressing, removing any fallen leaves in the autumn and adjusting the height of cut as well as reviewing the sward composition.

He adds that the fundamentals for preventing winter turf disease lie in maintaining good practices throughout the year. "If due diligence is paid to cultural practices throughout the autumn, alongside a robust fungicide programme, greenkeepers will really help safeguard their turf throughout the winter."

As well as delivering appropriate cultural practices in the run up to the cold weather, Dorin advises greenkeepers to apply the fungicides preventatively before the first snow when the ground is not frozen. "Providing the label instructions are adhered to, this treatment should protect the turf while the snow is lying on top."

However, he notes that if a greenkeeper does experience a situation where snow has fallen on an unprotected green, a contact fungicide can be applied just after snow melt, directly to where the disease symptoms are visible. "Providing the snow hasn't been lying too long and the disease isn't too advanced, this should help prevent any further development."

When considering appropriate products to use in these situations, he explains that Bayer's product *Dedicate*® has both a contact and systemic mode of action which offers long-term preventative and early curative control of turf disease.

"I'd recommend that *Dedicate*® should be used up until the stage when the temperature drops significantly and the turf ceases to grow. After that, once the soil temperature drops, I'd suggest using *Chipco*® Green. It's a contact fungicide which will remain effective following snow melt and will offer a good level of protection throughout the snow cover."

He adds that if there is sign of disease after the snow has thawed, then an immediate application of *Chipco*® Green is recommended. "*Dedicate*® can then be used once



the weather begins to warm up and the grass begins to grow again."

Although there may be a temptation to remove the snow from the greens, doing so will inflict added stress and damage to the turf beneath and should be avoided. Walking on the greens when there is heavy snow or frost cover is also not recommended due to compaction.

Dorin adds that frost presents an entirely different challenge to the turf. "Frost actually halts the development of disease pathogens, so in that respect it actually works in a greenkeeper's favour. However it is often counterproductive because although the disease is restrained,



ABOVE: Examples of pink patch

## **"Greenkeepers will face much less of a challenge if they adopt a preventative approach to combatting disease"**

it is essentially dormant. In the meantime, the frost significantly weakens mainly *Poa* swards, therefore making it more susceptible to the disease pathogens that are still there and that become active once the conditions become favourable.

"Greenkeepers will face much less of a challenge if they adopt a preventative approach to combatting disease.

"While Bayer's *Chipco*® Green and *Dedicate*® have curative properties, the fact that snow could remain on the ground for long periods of time preventing greenkeepers from getting to the turf could have damaging results.

"By the time it melts, the damage could be quite significant and during a period of slow growth, its repair could be long and difficult. In this instance, prevention is certainly the best approach."



Dorin Pop, Technical Manager at Bayer