



GET ACTIVE UNDER THE SNOW BLANKET

Recent snowfall across England and Scotland, combined with the sudden plunge in temperatures from icy northerly winds, has highlighted the risk of damaging Microdochium (Fusarium) Patch attack, warns Syngenta Technical Manager, Dr Simon Watson.

He pointed out that while last December last year was memorable for the incessant rainfall and unseasonably mild temperatures, prolonged periods of snow cover have been more common in recent seasons - resulting in extensive damage to unprotected turf beneath the snow blanket.

"When snowfall threatens, greenkeepers and turf managers must be ready to make a Medallion TL application and get protection in place early," he advised. "Treatment now means they can relax over the Christmas period, with the assurance their turf is protected."

Dr Watson reported that in 2010 the temperatures quickly plummeted, with many areas under significant snow cover by early December. Although temperatures eased in the second week with a welcome thaw, mid-month saw a return to icy conditions and a further 10 to 14 days snow cover for many areas.

"Experiences in 2010 highlighted that when the snow thawed, turf without fungicide protection had been seriously hit. However, turf managers who had applied Medallion TL ahead of forecast snow cover and predicted high disease risk conditions, reported very good results with turf remaining disease free."

In 2010, Hanbury Manor Golf Club Golf and Estate Manager, Stan Power, applied Medallion TL just prior to 10 days of snow cover. When the snow receded, visual results on the treated greens were very good and disease free, whilst Fusarium infection had started to occur on untreated surrounds.

Further heavy snowfall through December prevented further treatment, yet when the snow melted the trial greens still showed no signs of disease. On final inspection - six weeks after application - Stan reported all the greens treated with Medallion TL had come through the harsh winter period with no signs of disease. The untreated green, however, had seen a substantial amount of disease on the main playing surface and collars.

"We have been very happy with the results at Hanbury Manor, and would not hesitate to recommend Medallion TL to other courses as a contact fungicide," he added.

SOUTH EAST GOLF & DINNER

Walton Heath Golf Club hosts one of greenkeeping's longest running events on Friday 8th March 2013. Please come along and support this hugely popular day.

For more details please contact Clive Osgood, South East Regional Administrator at cliveosgood@yahoo.co.uk or call 01737 819343 or 07841 948410

WHAT IS PHOSPHITE AND WHAT CAN IT DO FOR TURFGRASSES?

Phosphorous is a major plant nutrient, in plants taken up and used in the form of phosphate (PO₄). Phosphite (PO₃) is very similar to phosphate, only one molecule of oxygen in the difference. However, where phosphate is vital for plant growth, phosphite cannot be utilised by plants as a source of P nutrition and importantly should not be applied to P deficient plants.

Phosphite, derived from phosphorous acid is phototoxic and has to be modified prior to use with a neutralising substance - most commonly potassium hydroxide, producing potassium phosphite - currently marketed as a biostimulant and promoted as a means to reduce Microdochium nivale.

We have two questions to answer; Does phosphite suppress Microdochium nivale in turfgrasses? And by what means does this occur?

To date field trials and laboratory procedures have produced interesting results. Trial plots composed of three turfgrass species were established in 2010, to which treatments were applied and the effect on disease incidence and turfgrass quality assessed.

Plots are assessed monthly for disease occurrence and turf quality. Results have shown applications of potassium phosphite reduces disease by 50%, compared to untreated controls. Combinations of Chipco Green and PK Plus fully inhibited disease, indicating differing

modes of suppression or possible synergistic effect. A significant improvement in turf quality in all phosphite treated plots was also determined. How does this occur? There are two possible methods:

Direct - Phosphite acts as a fungicide - and indirect - Phosphite stimulates the plants natural defences.

To test whether phosphite acts as a fungicide we carried out a range of in vitro studies. Microdochium was grown on petri dishes, amended with concentrations of phosphite and phosphate, the growth then compared to unamended controls. Results showed concentrations of 100µg/ml of phosphite fully inhibited mycelial growth and at lower concentrations caused disruption of hyphal morphology. Phosphate amended samples caused no effect.

Using a range of laboratory procedures we determined that following foliar applications there was rapid assimilation and accumulations in turfgrass leaves, full systemic mobility and no conversion in the plant to phosphate.

In summary, what can be concluded from the results of this research to date is that routine and sequential applications of phosphite, as part of an integrated disease management program, will significantly reduce the incidence and severity of the disease and also gives rise to significantly improved turfgrass quality than untreated controls.

