



# Bayer

## Weeding out the Enemy

*As autumn fast approaches, Jack Spencer looks at the key methods and products used in the fight against the spread of disease*

The summer has come and gone once more. The slight chill in the morning air suggests that autumn is well and truly on its way. For course managers, the fall can often be a challenging time - one where disease can be rife if the correct steps have not been taken to limit the risks.

The combination of residual summer warmth and late season humidity suggests the onset of Fusarium Patch is not far away. Many turf managers will be familiar with the signs of this and many other diseases, too.

Some groundcare professionals will have various types of fungicide at the ready, but the very fact that the disease caused by the fungal pathogen *Microdochium nivale* tends to be common around the same period each season, means that advanced preparation and taking a longer term view is key to minimising its effect of disease and limit the input of pesticides.

A programme to maximise plant health going into, and during, this autumn period can have a hugely positive effect on reducing the incidence of turf disease. This approach takes a longer term, strategic view of turf management using preventative applications of plant elicitors and plant hardeners, applied prior to the main disease period, rather than relying solely on costly, repeated fungicide applications.

The key to disease reduction is rooted in diligent course maintenance and a commitment to good practices, believes Dr. Colin Mumford, Technical Support for Bayer CropScience Ltd.

“Good cultural methods are still the bedrock of disease reduction. Chemicals play an important role, but by putting in place a good programme of course maintenance in the peak period - through the late autumn and early winter – we can reduce the opportunities for disease to flourish.

“It’s down to the basics really: practices such as keeping the surface as dry as possible and cutting cleanly might sound obvious but it’s this due diligence that helps keep disease to a minimum. A blunt mower will cause a larger wound to the grass plant than a clean cut, and as such allow a greater area for disease to take root.”



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Where chemical applications are needed, Mumford is eager to stress the importance of rotating the active ingredient in the fungicides they use. “If you don’t maintain a rotation strategy with your active ingredients diseases could potentially become resistant which means that fungicides may become less effective methods of control. Disease resistance in turfgrass has not yet been established, and the activities of the Fungicide Resistance Action Group (FRAG) are key to understanding the potential for disease resistance in the future.

“Bayer, like all good manufacturers, has a suite of products designed to facilitate this rotation but I’m a firm believer that no one company offers a one-stop-shop – it’s important to do your homework and know what works best for the individual micro climate of the site.”

Based on independent trials carried out at the STRI over the last five seasons, Headland Amenity customers are among those who have benefitted from the company’s pro-active strategy to help better maintain surfaces in this peak autumn season.

The now well established Headland ‘20/20/30’ mix of specific plant hardeners and elicitors has shown excellent results and forms the backbone of many of its customer’s late season management programmes - the aim being to reduce the effects of disease occurrence by promoting a healthy, strong plant, which is more resistant to infection.

The programme utilises a tank-mix application of three liquid plant health products alongside a liquid fertiliser. Of the plant health products, Liquid Turf Hardener is a calcium based plant hardener that helps increase cell wall thickness. Seamac ProTurf is a citrate chelated iron formulation that also hardens cells and creates an acidic leaf environment, and Turfite is a phosphite liquid, formulated to trigger the natural defence mechanism of the plant (SAR or Systemic acquired resistance) aiding plant growth even in the presence of a pathogen.

The combination of these three products applied prior to the onset of disease, at rates of 20L/Ha (Liquid Turf Hardener), 20L/Ha Turfite and 30L/Ha Seamac ProTurf (hence ‘20/20/30’ mix) has shown to be the most beneficial in helping to minimise the effects of *Microdochium nivale* over the autumn/winter period.



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As with all maintenance, timing is key. If *Microdochium nivale* is not allowed to proliferate in those early autumn weeks, then experience has shown a much cleaner, healthier sward is will be the result going into the new season. Headland's 20/20/30 approach is based on helping the plant to defend itself more efficiently from disease. Any

significant level of disease reduction might result in a reducing need for fungicide alongside a more easily managed situation and higher quality turf going into winter.

The focus of all ongoing fungicide trials is guided by a need to reduce the volume of chemicals needed to carry out the job effectively - currently all new products to market need to use the lowest rate of chemicals possible that achieves 80% control.

Tighter controls on chemical usage and testing is certainly one of the upsides of the role EU legislation plays in chemical applications, Mumford believes, but not all in the industry see the tightening of controls as wholly positive. "Tighter legislation leads to companies like Bayer producing innovative solutions which are beneficial to the environment and turf manager."

"One of the biggest issues affecting the industry is the withdrawal of chemicals. We have seen many other countries ban them completely, and long term this will no doubt occur in the UK too," explains Clive Pearson, Technical Sales Director at XL Pro Bio Ltd.

"There is a change in the industry, though, and more and more professionals are looking at ways to treat problems without the use of chemicals. Questions are being asked: why are we getting disease? Is it down to climate change, poor management of turf surfaces or a lack of cultural methods?"

"Many clubs are now looking at alternative practices to provide healthier sports areas – one that isn't a quick fix but a short term pain for long term gain," Pearson explains.

XL Pro Bio's approach is to use good biology to redress the balance back in the growing profile. Essentially, making sure the plant has a balanced controlled diet. "Due to the nature of the sports we play the plant is continually under stress before any applications of products have even been made," he adds.



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“Good biology works, but it has to be part of a programme which assists the health of the plant. There are a lot of products on the market today that are more harmful than those we use for disease control, so we need to take a step back and look at how we use the materials supplied to us otherwise we’ll be at risk of creating our own problems by adopting quick fix attitude.

“We are only the custodians of our playing surfaces, and much of this is rooted good maintenance practices. Afterall, a healthier plant is less susceptible to disease and is more likely to have a good, sustainable future.”

