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TECHNICAL FACT SHEET

Dollar Spot Management

Introduction to Dollar Spot

Note the following about Dollar spot

- ❑ High humidity in the turf canopy is just as problematic as the period of leaf wetness. A dense turf sward will have a high canopy humidity.
- ❑ Reduce the frequency of irrigation as much as practical but do not induce drought stress. Infection is greater if leaves are rolled or folded in response to drought.
- ❑ Irrigate or pole in the early morning hours to remove sugar exudates from the foliage (i.e. guttation).
- ❑ Fertiliser applications can predispose turf to disease, it is important to wash the fertiliser solution into the root zone. Excessive nitrogen applications in particular can lead to thin cells walls, making it easier for disease to penetrate and infect the plant.
- ❑ Ensure the mower is sharp.
- ❑ Mow the greens early to enhance drying, wipe or pole the greens on days when not mowing.
- ❑ Tank mix fungicides with 10 – 12kg/ha urea. Do not mow for at least 24 hours following the fungicide application. Apply the fungicide product in 730-800L/ha water.
- ❑ Avoid other types of mechanical injury (i.e. topdressing/brushing etc).

Chemical Controls

Our generally recommended approach to fungicide control of dollar spot is to use the contact fungicides from spring through to February, switching to the systemic fungicides from February through to late autumn (such as the DMIs).

In the case of preventative control of dollar spot, it is important not to stretch the interval between systemic fungicide applications when the disease is active, otherwise new disease spots will appear. New outbreaks will necessitate heavier rates of application, at closer intervals, compared with a preventative programme commencing before symptoms develop

Contacts

We recommend the application of contact fungicides at 14 – 21 day intervals, with the best products being Thiram, Bravo and Mancozeb. Mix the contacts with a sticker such as Codacide Oil to help showerproof the fungicides.

Systemics

Of the systemics, the DMI's are usually the best against dollar spot. Tilt and Sportak seem to be the best products. Chlorocarb (a mix of carbendazim and chlorothalonil) is also very effective, except where excessive bendazidamole application has occurred (benzamidazole resistance can develop -Carbendazim is from the benzamidazole group).

Rovral and Sumislex are of limited use against dollar spot and are best left for use against other diseases such as melting out.

Amistar should be avoided when dollar spot is present or conditions for the disease are favourable as Amistar can promote dollar spot development.

Attached is a table of fungicides that can be used against dollar spot. Note that they vary in their effectiveness.

Research has shown the following fungicides to be very effective for the control of Dollar spot:

- ❑ Cereous 6L/ha.
- ❑ Benlate 3kg/ha.
- ❑ Chlorotek (i.e. Bravo) 15L/ha, fortnight intervals.
- ❑ Tilt at 3-6L/ha (3 L/ha prevention, 6L/ha curative).

Check the label or with your agronomist to ensure that the application rate is correct for the formulation that you are using. Some of the products named above are available at different strengths and hence the rate of application may change.

Cultural Controls

The removal of dew and guttation water by mowing or poling during early morning hours will significantly reduce the incidence and severity of dollar spot. This process can be time consuming although where staff are available the benefit from this process often outweighs the labour cost involved.

During periods of high dollar spot incidence, employing a high nitrogen fertility programme and irrigation to hold the soil at or near to field capacity help to reduce the disease severity. It is important to note that the nitrogen effect is transient. During periods of high dollar spot incidence, neither of these practices alone will provide a satisfactory level of disease control (fungicide applications are likely to be required)

Minimise shading and poor air circulation. Both contribute to increased humidity and extend the duration of leaf wetness. Shading also reduces growth due to lower light intensities and temperatures. If the shading is due to trees, consider pruning or removal.

Potassium Application

It is important to ensure that potassium levels are adequate coming into spring. Research has shown that the application of potassium in spring can significantly reduce the incidence and severity of dollar spot disease. This is due to the potassium thickening the cell walls, making it more difficult for the disease to penetrate and infect the plant cells. Potassium is also vital to stomatal function which regulates the internal plant temperature (i.e. helps prevent heat stress).

Potassium sulphate is an inexpensive form of potassium that can be applied at up to 200kg/ha in mid-October, repeating in December. Fine grades are available for greens.

Phosphorus Application

If the greens are moderately acidic, phosphorus availability can be a problem. Depending on the levels as indicated by test results, application of phosphorus may be of benefit

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Fungicide Guide

Common name	Trade name	Rate(s)	Water rate	Comments
Benomyl	Benlate	3-6 kg/ha	500-1000 litres/ha	Use high rate for established disease
Bitertanol	Baycor 50	2.5-5 litres/ha	800+ litres/ha	Better preventative than curative
Carbendazim	Bavistin DF Carbendazim Headland Addstrem MBC 50 WP + MBC 500 FLO Prolific Protek	3-6 litres or kg/ha	300-400 litres/ha	Same group as Benlate (benzamidazole)
Chlorothalonil	Bravo 500 F Rover 500 SC Chlorotek Bravo 720 SC	5-10 litres/ha 3.5-7 litres/ha	400-750 litres/ha	Do not mix Bravo 500 F with EC products Do not apply Bravo 500 F during hot. sunny weather
Chlorothalanil / thiophanate-methyl	Greenguard Taratek 5F	10-30 litres/ha 5-15 litres/ha	800 + litres/ha 600 - 750 litres/ha	Taratek twice the strength of Greenguard, for fear of foliage burn apply late afternoon/early evening, rates above 10 litres/ha of Taratek not recommended
Cyproconazole	Alto 100 SL	1-2 litres/ha	200-500 litres/ha	May also be useful for fairy ring
Fenarimol			400-800 litres/ha	
Iprodione	Rovral Flo Rovral WP	10-20 litres/ha 5-10 kg/ha	100-500 litres/ha	14 - 22 day protection Not truly systemic, trans laminar through the leaf blade only
Mancozeb	Agpro Mancozeb 800 Dithane M-45 Mancozeb 80WP Manzate 200 Dithane M-45 WDG Penncozeb DF Chipco Fore Flo Kotek Manex II	6-25 kg/ha 6.4-26.6 kg/ha 20-40 litres/ha	200-500 litres/ha	Preventative at lower rates, curative at higher rates, apply every 7 - 10 days as a protectant treatment
Prochloraz	Octave 50 W	6-10 kg/ha	500 + litres/ha	
Procymidone	Sumislex Flo Sumislex WP	3-5 litres/ha 1.5-2.5 kg/ha	200-1000 litres/ha	

Common name	Trade name	Rate(s)	Water rate	Comments
Propiconazole	Tilt EC Bumper 250 EC	3-6 litres/ha	600-800 litres/ha	Water rate critical. Growth suppressant do not exceed rate, effect may last 3 - 4 months be careful of repeat treatments. Systemic movement upward in plant, no root absorption do not spot treat, likely to exceed rate = severe growth check/scorch. Rates: 3L/ ha prevention. 6L/ha treatment of existing disease.
Quintozene	Terraclor 75 WP	20-30 kg/ha	500 + litres/ha	Apply when foliage wet. Don't apply when air temp may rise above 20C
Thiabendazole	Tecto	4-8 litres/ha	300-400 litres/ha	
Tridimefon	Bayleton 5DF Miltek	10 kg/ha 8 litres/ha	800 litres/ha	
Triadimenol	Cereous	1.5-3.0 litres/ha	800 litres/ha	
Thiram	Thiram DF Thiram 80WDG Thiram Flowable Thiram 40F	7-12 kg/ha 14-24 litres/ha	200-400 litres/ha	
Thiophanate-methyl	Topsin M-4A	8-12 litres/ha	500 litres/ha	Same group as Benlate, carbendazim (benzamidazole).