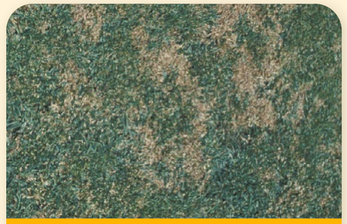
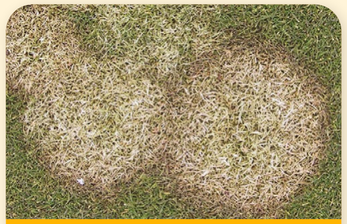
TURF FUNGICIDE GUIDE

Your knowledge. Our Science.
Less disease. Fast recovery.

Select a disease:

Root and/or Foliar Disease		Foliar Disease	Root Disease	Other
 Anthracnose	 Pythium (incl. Leaf Blight, Root Blight, Seedling Damping Off)	 Dollar Spot	 Take-all Patch (ERI)	 Fairy Ring
 Brown Patch	 Winter Fusarium (Microdochium Patch)	 Grey Leaf Spot	 Spring Dead Spot (ERI)	
 Leaf Spot/ Helminthosporium (incl. *Bipolaris* spp, *Drechslera* spp, *Exserohilum* spp)		 Red Thread	 Couchgrass Decline (ERI)	

Anthracnose

Colletotrichum graminicola. **Anthracnose typically infects turf grass, particularly Winter Grass (*Poa Annua*) during warm weather when the turf grass canopy is wet and or humid.**

SYMPTOMS

- Leaves of infected plants turn yellow to a light tan to brown before dying.
- Infected areas are seen as irregular shaped patches.
- Fruiting bodies of black spiny setae may appear on infected leaves – visible through a 10X hand lens.

CONDITIONS FAVOURING DISEASE

- Warm, humid conditions favour disease development.
- More than 10 hours a day of leaf wetness for consecutive days.

MANAGEMENT TIPS

- Decrease the foot traffic.
- Maintain adequate nitrogen and balanced fertility.
- Avoid management practices which encourage humidity and extended leaf wetness.
- Make preventative fungicide applications where the disease is a chronic problem.

DISTRIBUTION

Found in all mainland states of Australia and the north island of New Zealand. Disease prevalence is increasing, particularly in coastal NSW.

Treatment Options

1 First Line Option

Velista® Turf fungicide	Translaminar Group 7

R Rotation Option

Instrata® Turf fungicide	Systemic Contact Group 3 | M5 | 12

Can also be used

Banner® Maxx Turf fungicide	Systemic Group 3
Headway® Maxx Turf fungicide	Systemic Group 3 | 11
Heritage® Maxx Turf fungicide	Systemic Group 11
Medallion® Turf fungicide	Contact Group 12

Brown Patch

Rhizoctonia solani. **The symptoms of Brown Patch can vary depending on the grass cultivar, climatic and atmospheric conditions, soil and intensity of the turf grass management.**

SYMPTOMS

- Brown discoloured circular patches, from a few centimetres up to a metre in diameter, sometimes with a “smoke ring” of mycelium around the edges.
- “Smoke rings” appear as borders around the diseased patches in the early morning.
- Infected leaves are water-soaked and dark, later dying and turning dark brown.

CONDITIONS FAVOURING DISEASE

- High relative humidity and temperatures of over 28°C during the day and over 15°C at night.
- More than 10 hours a day of foliar wetness for several consecutive days.

MANAGEMENT TIPS

- Avoid nitrogen applications when the disease is active.
- Increase the air circulation.
- Reduce thatch and remove dew from turf early in the day.

DISTRIBUTION

Found in all Australian states and in New Zealand.

Treatment Options

1 First Line Option

Headway® Maxx Turf fungicide	Systemic Group 3 | 11

R Rotation Option

Velista® Turf fungicide	Translaminar Group 7

Can also be used

Banner® Maxx Turf fungicide	Systemic Group 3
Heritage® Maxx Turf fungicide	Systemic Group 11
Instrata® Turf fungicide	Systemic Contact Group 3 | M5 | 12
Daconil WeatherStik® Turf fungicide	Contact Group M5
Medallion® Turf fungicide	Contact Group 12

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Leaf Spot/Helminthosporium

incl. *Bipolaris* spp, *Drechslera* spp, and *Exserohilum* spp.
Helminthosporium is a complex of diseases commonly associated with leaf diseases and often called Melting Out.

SYMPTOMS

- Helminthosporium symptoms can vary with initial symptoms presenting as small lesions on leaf blades.
- Severely infected leaves may die and appear light tan to straw-coloured.

CONDITIONS FAVOURING DISEASE

- Helminthosporium is able to develop at temperatures between -5°C and 30°C.
- Leaf moisture is necessary for infection to occur.
- Any stress situation such as drought, excessive rain, over-irrigation, herbicide injury or heavy traffic can increase the severity of the disease.

MANAGEMENT TIPS

- Irrigate infrequently and deeply.
- Avoid late afternoon or evening irrigations.
- Do not allow the turf to become extremely dry during warm weather.

DISTRIBUTION

Found in all states of Australia and in New Zealand.

Treatment Options

1 First Line Option

Medallion® Turf fungicide	Contact Group 12

R Rotation Option

Instrata® Turf fungicide	Systemic Contact Group 3 | M5 | 12

Can also be used

Banner® Maxx Turf fungicide	Systemic Group 3
Headway® Maxx Turf fungicide	Systemic Group 3 | 11
Heritage® Maxx Turf fungicide	Systemic Group 11
Daconil WeatherStik® Turf fungicide	Contact Group M5
Velista® Turf fungicide	Translaminar Group 7

Pythium (incl. Leaf Blight, Root Blight, Seedling Damping Off)

Pythium spp. **There are many species of Pythium known to cause damage to turfgrass and symptoms are equally diverse.**

SYMPTOMS

- Pythium Leaf Blight appears suddenly during hot, humid weather as patches that can enlarge at a rapid rate and often presents as small circular patches, that coalesce.
- It can physically move across a green with mowers or flooding waters.
- In high humidity, especially at night, the collapsed leaves become matted and covered with a fluffy white mass of fungal mycelium.
- Symptoms of Pythium Root Rot are typically non-distinctive but can appear as yellow, irregular shaped patches 4 to 7 cm in diameter.

CONDITIONS FAVOURING DISEASE

- Warm nights (over 20°C) and hot days (over 30°C) and high humidity (over 90%) combined with wet weather.
- Damping Off outbreaks favour high temperatures and humidity.
- Pythium Root Rot occurs in areas with high soil moisture, poor drainage and low light.

MANAGEMENT TIPS

- Water early in the day, infrequently and deeply.
- Do not over fertilise turf with nitrogen.

DISTRIBUTION

Found in all states of Australia and in New Zealand.

Treatment Options

1 First Line Option

Subdue® Maxx Turf fungicide

Systemic Group 4

Can also be used

Headway® Maxx Turf fungicide

Systemic Group 3 | 11

R Rotation Option

Heritage® Maxx Turf fungicide

Systemic Group 11

Winter Fusarium (Microdochium Patch)

Microdochium nivale (formerly *Fusarium nivale*). **Symptoms are evident from May to September in the southern states of Australia or in cooler climates.**

SYMPTOMS

- Patches can present as pinkish in colour and can change from orange-brown to dark brown and finally to a light grey.
- Spots may enlarge indefinitely but are usually less than 20 cm in diameter.
- In very wet conditions a thin to fluffy covering of white mycelium may be seen on matted leaves.

CONDITIONS FAVOURING DISEASE

- More than 10 hours a day of foliar wetness for several consecutive days.
- Cool temperatures.
- Soil high in nitrogen fertility and low phosphorous and potassium.

MANAGEMENT TIPS

- Use slow release fertilisers when fertilising in autumn.
- Increase air circulation to speed turf's drying process.
- Minimise the amount of shade.

DISTRIBUTION

New South Wales, Victoria, South Australia, Tasmania and in New Zealand.

Treatment Options

1 First Line Option

Instrata® Turf fungicide	Systemic Contact Group 3 | M5 | 12

R Rotation Option

Posterity® Turf fungicide	Translaminar Group 7

Can also be used

Banner® Maxx Turf fungicide	Systemic Group 3
Headway® Maxx Turf fungicide	Systemic Group 3 | 11
Daconil® WeatherStik® Turf fungicide	Systemic Group M5
Heritage® Maxx Turf fungicide	Systemic Group 11
Medallion® Turf fungicide	Contact Group 12

Dollar Spot

Clarireedia homoeocarpa (formerly *Sclerotinia homoeocarpa*).
This fungus overwinters as sclerotia and as a dormant mycelium in the crowns and roots of infected plants.

SYMPTOMS

- Closely mowed areas exhibit small (less than 5 cm) deep sunken circular tan-coloured spots.
- May coalesce into larger areas – especially in higher mowed turf.
- Closer inspection reveals water-soaked lesions that will turn tan (hourglass) with definite reddish-brown margins.

CONDITIONS FAVOURING DISEASE

- Temperature ranges of 15°C to 30°C and continuous high humidity.
- Warm humid weather with cool nights that produce heavy dews.
- Low nitrogen levels.
- More severe in dry soils.

MANAGEMENT TIPS

- Provide adequate level of nitrogen, particularly in the spring and early summer.
- Remove dew from the turf early in the day.
- There is anecdotal evidence in Australia of resistance to Group 3 Fungicides.

DISTRIBUTION

Found in all states of Australia and in New Zealand.

Treatment Options

1 First Line Option

Posterity® Turf fungicide	Translaminar Group 7

R Rotation Option

Medallion® Turf fungicide	Contact Group 12

Can also be used

Banner® Fairway Turf fungicide	Systemic Group 3
Banner® Maxx Turf fungicide	Systemic Group 3
Headway® Maxx Turf fungicide	Systemic Group 3 | 11
Instrata® Turf fungicide	Systemic Contact Group 3 | M5 | 12
Daconil® WeatherStik® Turf fungicide	Contact Group M5
Velista® Turf fungicide	Translaminar Group 7

Grey Leaf Spot

Pyricularia grisea. **Grey Leaf Spot is more severe in newly established plantings with high nitrogen levels.**

SYMPTOMS

- Grey Leaf Spot first appears as tiny, brown leaf and stem lesions, which enlarge rapidly into round to oval spots.
- If disease is severe, the entire planting may appear scorched as if it were suffering from severe drought.

CONDITIONS FAVOURING DISEASE

- Grey Leaf Spot is most severe during warm, humid weather.
- Temperatures between 25°C to 30°C.
- Can be problematic in Buffalo Grass *(Stenotaphrum secundatum).*

MANAGEMENT TIPS

- Irrigate turf deeply and as infrequently as possible to avoid water stress.
- Allow water to remain on leaves for only a short period of time.

DISTRIBUTION

Found in all states of Australia.

Treatment Options

1 First Line Option

Daconil WeatherStik® Turf fungicide

Contact Group M5

Can also be used

Headway® Maxx Turf fungicide

Systemic Group 3 | 11

R Rotation Option

Heritage® Maxx Turf fungicide

Systemic Group 11

Red Thread

Laetisaria fuciformis. **This disease is particularly difficult to diagnose when Red Threads or cottony flocks are not present.**

SYMPTOMS

- Circular or irregularly shaped, small to large patches (5 to 15 cm) in diameter of infected grass become water-soaked and die rapidly.
- Pink to pale red or orange fungal growths (red threads) may extend up to 10 mm beyond the leaf tips.

CONDITIONS FAVOURING DISEASE

- Foliar wetness, heavy dews, light rains and fog resulting in more than 10 hours a day of foliar wetness for several consecutive days.
- Thrives in temperatures between 17°C to 29°C.

MANAGEMENT TIPS

- Maintain adequate nitrogen and a balanced fertility.
- Maintain the soil pH between 6.5 and 7.0.
- Irrigate turf deeply and as infrequently as possible.
- Avoid frequent watering in the late afternoon.

DISTRIBUTION

New South Wales, Australian Capital Territory, South Australia, Victoria, Tasmania and in New Zealand.

Treatment Options

1 First Line Option

Heritage® Maxx Turf fungicide — Systemic Group 11

Can also be used

Headway® Maxx Turf fungicide — Systemic Group 3 | 11

Velista® Turf fungicide — Translaminar Group 7

Take-All Patch

Gaeumannomyces graminis var. *avenae.* **Take-All Patch is predominantly a disease of cool season grasses and often presents in newly sown Bent Grass golf greens.**

SYMPTOMS

- Established patches continually spread.
- Stressed grass appears bronze to reddish brown and then fades to a dull brown.
- During winter affected patches turn grey.

CONDITIONS FAVOURING DISEASE

- Severe during cool, wet years and in poorly drained turf.
- Greatly enhanced on turf grown in soils with high pH.

MANAGEMENT TIPS

- Use acidifying fertilisers and maintain pH below 6.5.
- Apply moderate to high levels of phosphorous, potassium and minor elements (like manganese) where these nutrients are depleted from the soil.

DISTRIBUTION

New South Wales, Victoria, Tasmania, South Australia, Western Australia and in New Zealand.

Treatment Options

1 First Line Option

Headway® Maxx Turf fungicide

Systemic
Group 3 | 11

R Rotation Option

Banner® Maxx Turf fungicide

Systemic
Group 3

Spring Dead Spot

Ophiosphaerella narmari (formerly *Leptosphaeria korrae*).
Spring Dead Spot is typically a disease of mature turf that is intensively managed.

SYMPTOMS

- Circular patches of bleached, straw coloured dead grass appear in spring as the dormant grass regrows.
- Patches are also visible in autumn and winter after a series of unusually cool days or wet, cold weather.
- After 2 to 3 years, the centres of active patches may remain alive, and the patch takes on a “ring-like” appearance.

CONDITIONS FAVOURING DISEASE

- Spring Dead Spot is most active when temperatures are cool (12°C to 14°C) and wet mainly in spring and autumn.
- Slow root growth of Couch occurs at low temperatures (<15°C) which provides a competitive advantage for this fungus.

MANAGEMENT TIPS

- Good fertiliser management especially nitrogen and potassium.
- Improve drainage of turf and reduce thatch.
- Apply preventative fungicides in autumn when soil temperatures are below 21°C. Two applications on a 14 or 28 day interval is recommended.

DISTRIBUTION

Found in all states of Australia and in New Zealand.

Treatment Options

1 First Line Option

Posterity® Turf fungicide	Translaminar Group 7

R Rotation Option

Headway® Maxx Turf fungicide	Systemic Group 3 | 11

Can also be used

Banner® Fairway Turf fungicide	Systemic Group 3
Banner® Maxx Turf fungicide	Systemic Group 3
Heritage® Maxx Turf fungicide	Systemic Group 3
Velista® Turf fungicide	Translaminar Group 7

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Couchgrass Decline

Gaeumannomyces graminis var. *graminis.* **Couchgrass Decline is also known as Ectotrophic Root Infecting fungi (ERI). Symptoms in the leaf often appear several weeks after the pathogen has been active on the root system.**

SYMPTOMS

- Symptoms appear as irregular shaped patches of chlorotic turf that can range from a few centimetres to a metre in diameter.
- Roots initially appear off white with black lesions, which progress rapidly to a black shortened rotted root system.

CONDITIONS FAVOURING DISEASE

- In combination with high temperatures, prolonged periods of rainfall are most conducive to this disease.
- Couch decline pathogen tolerates temperatures above 25°C and is therefore active throughout the warmer months.

MANAGEMENT TIPS

- Minimise stress – ensure greens are renovated well before the summer stress periods occur.
- Adequate nutrition with phosphorous, potassium and micronutrients while excessive nitrogen inputs should be avoided.
- Raising mowing height before symptom onset will reduce disease impact.
- Apply fungicides prior to symptom onset and water into the root system.

DISTRIBUTION

New South Wales, Victoria, Tasmania, South Australia, Western Australia and north island of New Zealand.

Treatment Options

1 First Line Option

Headway® Maxx Turf fungicide

Systemic
Group 3 | 11

R Rotation Option

Banner® Maxx Turf fungicide

Systemic
Group 3

syngenta®

Fairy Ring

Basidiomycetes in the order *Agraricales* are capable of causing fairy rings. **Fairy Ring is a unique disease as its symptoms are not directly caused by fungi affecting the turf and damage is caused indirectly by the change in chemical and physical soil properties.**

SYMPTOMS

- Fairy Ring can present in rings or arc shapes or irregular patterns that may or may not have fruiting bodies (mushrooms) present.
- Type I – Appear as damaged or dead turf from drought stress.
- Type II – Appear as dark green rings or quickly growing turf.
- Type III – Appear as fruiting bodies (mushrooms) in a ring or line with no visible effect on turf growth.

CONDITIONS FAVOURING DISEASE

- Wet and warm conditions encourage fungi development.
- Hydrophobic (water-repellent) thatch and soil increase Type II symptoms.
- Fairy Rings are more severe on light soils, which have low fertility and low moisture content.

MANAGEMENT TIPS

- Reduce thatch and organic matter by vertical cutting coring.
- Use soil wetting agents to help penetrate hydrophobic areas.
- Assess the depth of the fungi in the soil and wash in the fungicide to the appropriate depth with a wetting agent.

DISTRIBUTION

All states in Australia and in New Zealand.

Treatment Options

1 First Line Option

Velista® Turf fungicide

Translaminar
Group 7

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First Line Option

1 Recommended choice for initial treatment.

Rotation Options

R Ideal to rotate with first line option.

✓ Can also be used.

For more information on turf disease management, contact your local Syngenta representative or visit syngentaturf.com.au

For application rates, water volumes and full details, please refer to product labels. Generally for leaf and crown applications, the water volume is 350-500 L/ha and for root applications 1000 L/ha.

		Systemic					Contact			Translaminar	
		BANNER FAIRWAY	BANNER MAXX	HEADWAY MAXX	HERITAGE MAXX	SUBDUE MAXX	INSTRATA	DACONIL WEATHER STIK	MEDALLION	POSTERITY	VELISTA
		Group 3	Group 3	Group 3 | 11	Group 11	Group 4	Group 3 | M5 | 12	Group M5	Group 12	Group 7	Group 7
Root and/or Foliar Disease	**Anthracnose** **Prevalence:** Any time of year. Most damaging in summer.		✓	✓	✓		R		✓		1
	Brown Patch **Prevalence:** Wet, humid summer with night temperatures >15°C.		✓	1	✓		✓	✓	✓		R
	Leaf Spot/Helminthosporium (incl. *Bipolaris* spp, *Drechslera* spp, *Exserohilum* spp) **Prevalence:** Cool, rainy, overcast spring and autumn.		✓	✓	✓		R	✓	1		✓
	Pythium (incl. Leaf Blight, Root Blight, Seedling Damping Off) **Prevalence:** Any time of year. Most common in wet, humid weather.			✓	R	1					
	Winter Fusarium (Microdochium Patch) **Prevalence:** Late autumn to early spring. Overcast, cold and wet conditions.		✓	✓	✓		1	✓	R	✓	
Foliar Disease	**Dollar Spot** **Prevalence:** Mid-spring to later autumn. Warm days, cool nights and heavy dew.	✓	✓	✓			✓	✓	R	1	✓
	Grey Leaf Spot **Prevalence:** Mid summer and late autumn, heat and drought stress.			✓	R			1			
	Red Thread **Prevalence:** Any time of year. Most common in rainy spring.			✓	1						✓
Root Disease	**Take-all Patch (ERI)** **Prevalence:** Cool, wet weather in autumn and spring.		R	1							
	Spring Dead Spot (ERI) **Prevalence:** Cool, wet weather in the spring and autumn.	✓	✓	R	✓					1	✓
	Couchgrass Decline (ERI) **Prevalence:** High temperatures and prolonged periods of rain.		R	1							
	Fairy Ring **Prevalence:** Typically occurs in spring and summer.										1

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