

2025 AUSTRALIAN TURF FUNGICIDE RESISTANCE CHART

Repeated use of fungicides with the same site of action can result in the development of fungicide-resistant pathogens.

This chart groups fungicides by their sites of action 1) to maintain greater diversity in fungicide use and 2) to rotate among herbicides with different sites of action to delay the development of fungicide resistance. The Mode of Action (MOA) Group is a classification system developed by the Fungicide Resistance Action Committee (FRAC).

FRAC Code	Topical Mode of Action	Resistance Likelihood	Active Ingredient	Product Examples
1	xylem-mobile systemic	High Risk	Thiophanate methyl	Clean Sweep Trio
2	Locally systemic	Medium Risk	Iprodione	Voltar 500
3	xylem-mobile systemic	Medium Risk	Tebuconazole Propiconazole Triticonazole Triadimenol Mefentrifluconazole	Tombstone Duo Regiment 440 Impala Citadel Maxtima
4	xylem-mobile systemic	High Risk	Mefanoxam	Solitaire 240
7	xylem-mobile systemic	Medium to High Risk	Boscalid Flutalonil Fluxapyroxad Pydiflumetofen Fluopyram Penthiopyrad	Midas Monstar Lexicon Posterity Exeris Velista
11	xylem-mobile systemic Locally systemic	High Risk	Azoxystrobin Trifloxystrobin Pyraclostrobin	AzoForce 250 Tombstone Lexicon Fungicide
12	Locally systemic	Low to Medium Risk	Fludioxonil	Medallion
14	Contact	Low to Medium Risk	Tolclofos-methyl Etridiazole	Shiba Terrazole
21	Locally systemic	Medium to High Risk	Cyazofamid	Segway
28	Locally systemic	Low to Medium Risk	Propamocarb	Shrapnel
29	Contact	Low Risk	Fluazinam	Compass
33	Phloem-mobile systemic	Low Risk	Fosetyl aluminium	Grenadier
M3	Contact	Low Risk	Thiram	Pistol
M4	Contact	Low Risk	Captan	Captan
M5	Contact	Low Risk	Chlorothalonil	Squadron

The chart below lists turf registered [premix fungicides](#) by their trade names so you can identify the component fungicides and their respective mode of action groups. Refer to the Mode of Action Chart on the Left for more information.

Premix Trade Name	Active Ingredients	Site of Action Group
Clean Sweep Trio	Thiophanate-methyl Fluazinam Tebuconazole	1 29 3
Tombstone Duo	Trifloxystrobin Tebuconazole	11 4
Impala	Azoxystrobin Triticonazole	11 3
Lexicon Intrinsic	Pyraclostrobin Fluxapyroxad	11 7
Exeris Stressgard	Trifloxystrobin Fluopyram	11 7
Headway Maxx	Azoxystrobin Propiconazole	11 3
Instrata	Chlorothalonil Propiconazole Fludioxonil	M5 3 12
Interface	Trifloxysulfuron Iprodione	11 2
Enclave	Chlorothalonil Iprodione Thiophanate-methyl Trifloxysulfuron	M5 2 1 11

Timeline of Fungicide Resistance for common Turf Fungicides

