

INSECTICIDE CLASSIFICATION



Do not make repeat applications of insecticides with the same mode of action as this can result in the development of resistant insect and mite populations.

THIS CHART CLASSIFIES INSECTICIDES AND MITICIDES LABELED FOR USE IN AUSTRALIAN TURFGRASS.

by MODE OF ACTION (MOA)

This chart groups insecticides and miticides by their modes of action to help you to rotate among effective insecticides with different modes of action to delay the development of insecticide resistance.

GROUP No	MODE OF ACTION	CHEMICAL FAMILY	ACTIVE INGREDIENT	PRODUCT EXAMPLES (Trade Name)
NERVE AND MUSCLE ACTION				
1	Acetylcholinesterase (AChE) inhibitors	carbamates	bendiocarb	Taser Pro, Ficam W
2	GABA-gated chloride channel blockers	phenylpyrazoles	fipronil	TermiForce 100SC
3	Sodium channel modulators	pyrethroids	beta-cyfluthrin	Tempo Xtra
			bifenthrin	Compel Pro, Biforce Granular, Rumbler 100SC
4	Nicotinic acetylcholine receptor antagonists	4A neonicotinoids	clothianidin	Scarlet Trio
			imidacloprid	Merit, Recruit 200SC, Pride
6	Glutamate-gated chloride channel (GluCl) allosteric modulators	ivermectin	abamectin	Malice 18, Agador, Malice Duo
			thiamethoxam	Meridian, Echelon Duo,
22	Voltage dependent sodium channel blockers	indoxacarb	indoxacarb	Provaunt, Twister
28	Ryanodine receptor modulators	diamides	chlorantraniliprole	Acelepryn
			cytraniliprole	Spinner
			tetraniliprole	Tetrino

GROWTH REGULATION

GROUP No	MODE OF ACTION	CHEMICAL FAMILY	ACTIVE INGREDIENT	PRODUCT EXAMPLES (Trade Name)
10	Mite growth inhibitors		clofentezine	Apollo, Prophesy, Malice Duo
			etoxazole	Finesse
15	Inhibitors of chitin biosynthesis	benzoylureas	novaluron	Twister

INSECT MIDGUT

GROUP No	MODE OF ACTION	CHEMICAL FAMILY	ACTIVE INGREDIENT	PRODUCT EXAMPLES (Trade Name)
11	Microbial disruptors of insect midgut membranes	Bacillus thuringiensis(Bt)	Bacillus thuringiensis (Bt)toxin	Delfin WG, Dipel

ENERGY METABOLISM

GROUP No	MODE OF ACTION	CHEMICAL FAMILY	ACTIVE INGREDIENT	PRODUCT EXAMPLES (Trade Name)
12	Inhibition of mitochondrial ATP synthase	thiourea	diafenthuron	Hygran

by PREMIX

This section lists premix insecticides by their trade names so you can identify the premix's component insecticides and their respective site of action groups. Refer to the **Mode of Action** section on the left for more information.

PREMIX Trade Name	ACTIVE INGREDIENT	Group No
Malice Duo	abamectin	6
	clofentezine	10
Tempo Xtra	beta-cyfluthrin	3
	imidacloprid	4
Twister	novaluron	15
	Indoxacarb	22
Spinner	thiamethoxam	4
	chlorantraniliprole	28
Scarlet Trio	abamectin	6
	clothiadinin	4
	clofentezine	10

ADJUVANTS

Product	Reason						
	Extension of Contact Insecticide Activity	Susceptible to alkaline hydrolysis	Tend to cause foam	Odour Issues	Spread	Soil wetter	
ProForce Echelon Duo Advanced							
Abamectin							
Abamectin + Clofentezine							
Bendiocarb							
Beta-cyfluthrin + Imidacloprid							
chlorantraniliprole							
Diafenthuron							
Imidacloprid							
Indoxacarb							
Indoxacarb + Novaluron							
Bifenthrin							
ProForce Scarlet Trio Advanced							
Fipronil							
Tetraniliprole							
Thiamethoxam							
Thiamethoxam + chlorantraniliprole							

- Octane
- Manta Ray
- Foam Aid
- Odour Aid
- Optisread



INSECTICIDE OPTIONS

Product	Turf																
	Ants (Various nuisance ants & Funnel Ant)	African Black Beetle (Adult)	African Black Beetle (Larvae)	Argentine Stem Weevil	Argentine Scarab	Billbug Adults	Billbug Larvae	Couch Fly	Couch Mite	Ground Pearl	Lawn Armyworm	Mole Cricket	Prunose Scarab	Sod Webworm	Aphids	Caterpillars & Loopers	Cutworm
ProForce Echelon Duo Advanced																	
Abamectin																	
Abamectin + Clofentezine																	
Bendiocarb																	
Beta-cyfluthrin + Imidacloprid																	
chlorantraniliprole																	
Diafenthuron																	
Imidacloprid																	
Indoxacarb																	
Indoxacarb + Novaluron																	
Bifenthrin																	
ProForce Scarlet Trio Advanced Insecticide																	
Fipronil																	
Tetraniliprole																	
Thiamethoxam																	
Thiamethoxam + chlorantraniliprole																	

