AWRI Australian Wine Research Institute | Wine Australia

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Agrochemicals registered for use in Australian viticulture:

commonly known as the '**Dog book**'

AN ESSENTIAL REFERENCE WHEN GROWING GRAPES FOR **EXPORT** WINE

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1 June 2026

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A PDF version can be downloaded from the AWRI website.

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Growing grapes for export wine?... comply with the EHI

Governments around the world set maximum residue limits (MRLs) for the amount of residue of a fungicide, insecticide or herbicide that is legally allowed in a food, such as grapes or wine. For Australia they are listed in the Australia New Zealand Food Standards Code – Schedule 20 – Maximum residue limits.

In the twelve months to 31 March 2026, Australian wineries exported wine worth $2.28 billion (Wine Australia Export Dashboard accessed 23 April 2026), to countries that have MRLs cometimes vastly different to, and lower than, those set by the Australian Government. In fact, some chemicals commonly used by Australian grapegrowers do not have MRLs in certain major export markets. Often this is because grapes are not grown commercially in these countries, and therefore, there is no need to register products for use on grapes. As a result, no MRL is set. This means that the importing country will either not allow any detectable residue of the agrochemical in wine, or only permit 'safe' amounts of it.

To ensure that wine meets the requirements of our export markets, it is necessary to restrict the application of certain chemicals or to avoid their use altogether. As a result, it is important to pay particular attention to the 'export harvest interval' (EHI) (the minimum number of days between the last application and harvest) listed in Table 1. The export harvest interval is sometimes much longer than the withholding period stated on the chemical label, and has been calculated to minimise the likelihood of residues in the final wine resulting in trade barriers.

For supporting information on MRLs and to search the online AWRI Agrochemical & MRL Search database, refer to the AWRI website or contact the AWRI helpdesk on 08 8313 6600 or email helpdesk@awri.com.au.

Table 1 'Recommendations for export wine' on page 4 lists the preferred agrochemicals for use in the production of grapes for export wine, and any restrictions on their use, for the 2026/2027 season. Some biological control agents are also listed. The recommendations have been developed to satisfy the lowest MRL for any of Australia's major wine markets, after considering available data on the persistence of the chemical, both on grapes and through winemaking.

IF YOU ONLY SELL WINE IN AUSTRALIA, OR TO ONLY A FEW COUNTRIES, CONTACT THE AWRI (08 8313 6600 or helpdesk@awri.com.au) TO DISCUSS HOW THE RECOMMENDATIONS MIGHT DIFFER.

Important spray tips

Record your sprays

- Most wineries will not accept delivery of grapes without submission of a signed spray diary from the producer. An industry-accepted spray diary template can be downloaded from the AWR website.

Understand application timing restrictions

- Ask your winery/grape purchaser if they have specific agrochemical restrictions. These might differ from the advice in Tables 1 or 2.
- Avoid applying foliar fertilisers closer than 60 days before harvest, as wine quality might be affected.
- Label permitting, avoid applying herbicides within 30 days of harvest.
- Base assessments of grapevine growth stage on the **most advanced** vines in the block to minimise the possibility of residues at harvest. Refer to the grapevine growth stage chart on page 13, or download a copy from the AWRI website.
- Each year, some agrochemical products are voluntarily cancelled by registrants, or use patterns can be changed as a result of APVMA regulatory reviews. Refer to page 29 or to the AWRI website for a list of cancelled agrochemical products.

Read product labels before use

- Pay particular attention to all label statements starting with "DO NOT". These label restraints, precautions and protections must be adhered to.
- Adhere to all personal protective equipment requirements for mixing chemicals and entering a vineyard after chemical application. Refer to Table 2 and to page 27 for associated Re-entry periods.
- Ensure that the amount of chemical applied does not exceed the rate (including concentration factor) specified on the label. Refer to page 30 for more information.
- Take note of the **activity group** as a number, or lettter and number. This reflects the 'mode of action' of the active ingredient and can be important for resistance management. For more information on resistance management – for fungicides refer to pages 15-18, and for herbicides refer to page 28.
- Take note of any grazing restrictions that may apply to vineyards where agrochemicals have been used. Refer to the AWRI website for further information.

Key changes to this edition

Outlined below are the key changes to this edition. For more detail, visit the AWRI website and view the June 2026 Agrochemical Update eBulletin. The most current version of this publication can be found on the AWRI website. Notifications of significant changes during the season will be issued via eBulletins as they occur.

New active constituent

- folpet (Folpan) fungicide for powdery mildew, downy mildew, botrytis, phomopsis and black rot.

Export harvest interval changes

- mefentrifluconazole (Belanty) fungicide has changed from 35 days before harvest back to E-L 25.
- fenpropidin + difenoconazole (Seeker Duo) fungicide has changed from E-L 18 out to E-L 25.
- pydiflumetofen (Miravis) fungicide has changed from E-L 25 out to E-L 27.
- orange oil (Prev-Am) fungicide has changed from 30 days before harvest out to 14 days before harvest.
- eugenol, geraniol, thymol (Novellus) fungicide has changed from 14 days before harvest out to 7 days before harvest.

Australian Pesticides and Veterinary Medicines Authority (APVMA) active constituent review

- fenitrothion has been cancelled. Last possible use date is 14 August 2026.

New guidance information

- Herbicides with registration for desuckering are indicated on pages 23-24.
- Spray application in vineyards: achieving correct dose and canopy coverage – refer to page 30. This page replaces the biosecurity tips which are now available on the AWRI website.

Updated guidance information

- Herbicide type (pre-emergent vs post-emergent) reference symbol in Table 2.
- Indication of agrochemicals prohibited by most wineries in Table 2.
- Cancelled products and last use date – refer to page 29.

Recommendations for export wine

How to use Table 1.

Table 1 on pages 4-12 presents recommended agrochemicals for use against the main fungal and insect pests in the production of grapes for export wine. Products with the same first name have been consolidated, with name variances shown in brackets. For example, Custodia and Custodia Forte are shown as Custodia (Forte).

Active constituent	Activity group	Some registered products	Export harvest interval
Grouped alphabetically within each restriction on use for every target	Australian agrochemical codes	List of some chemical products available	The recommended withholding period for export grapes

TABLE 1: Recommendations for export wine

Active constituent	Activity group	Some registered products	Export harvest interval
BLACK SPOT			
mancozeb Ω	M3	Dithane Rainshield Neo Tec, Fortuna Globe 750WG, Greenshield 750WG, Kencozeb (750DF, Endure), Mancozeb (750 DF, 750 WG, WG), Manic WG, Manzate (750 WG, DF), Manzeb, Penncozeb 750DF, Sinozeb 750 WG	Use no later than E-L 25 (80% capfall).
metiram Ω	M3	Fruitcote, Polyram DF	
thiram Ω	M3	Thiram (800 WG, DG)	
ziram Ω	M3	Ziram WG	
chlorothalonil §	M5	Barrack Betterstick, Barrow (900 WG, Stick 720SC), Bravo Weather Stik, Castor 900 WG, Cavalry Weatherguard, Cheers 720 (Holdfast, Weathershield), Cheers 900WG, Chlornil 720 SC, Chloro 900 WG, Chloronil Pro, Chlorostar 900 WG, Chlorostick 720 SC, Chlorothalonil (720, 720SC, 900 WG), Chlortan 720, Conan Sticks 720 SC, Echo (720, 900 WDG), Mueso (720, 900 WG, Stick 720), Whack (720, 900 WG)	Use no later than E-L 29, berries peppercorn size (not > 4 mm diameter).
copper oxychloride	M1	Oxydul DF	Use no later than 30 days before harvest.
dithianon	M9	Delan 700 WG, Dialon 700WG, Dinon 700 WG, Dithianon 700 WG, Dragon, Dungeon 700 WG, Wrath 700WG	
BOTRYTIS BUNCH ROT - Review resistance management strategy on page 16			
fluopyram + tebuconazole	7 + 3	Luna Experience	Use no later than E-L 17, 12 leaves separated.
fenhexamid	17	Altivo 500SC, Jigsaw 800WG, Teldor 500 SC	Use no later than E-L 25 (80% capfall).
pyrimethanil #	9	Pyper 600 SC, Pyrimethanil 600 SC, Scala 600 SC	
folpet	M4	Folpan 800 WG	Use no later than E-L 27, Setting; young berries >2mm diam., bunch at right angles to stem.
azoxystrobin	11	Accolade 250 SC, Affix 250 SC, Agristar 250SC, Amistar 250 SC, A-star 250 SC, Avior (250 SC, 800 WG), Azoxy 250, AzoxyGuard 250 SC, Azoxystrobin (250, 250 SC, 500 WG), Connect 800 WG, Spartacus (250, 250 SC, 500WG), Surefire Stellar	Use no later than E-L 29, berries peppercorn size (not > 4 mm diameter).
chlorothalonil §	M5	Barrack Betterstick, Barrow (900 WG, Stick 720SC), Bravo Weather Stik, Castor 900 WG, Cavalry Weatherguard, Cheers 720 (Holdfast, Weathershield), cheers 900WG, Chlornil 720 SC, Chloro 900 WG, Chloronil Pro, Chlorostar 900 WG, Chlorostick 720 SC, Chlorothalonil (720, 720 SC, 900WG), Chlortan 720, Conan Sticks 720SC, Echo (720, 900 WDG), Mueso (720, 900 WG, Stick 720), Whack (720, 900 WG)	
fenpyrazamine €	17	Prolectus	
ipflufenoquin ≈	52	Migiwa Kinoprol Active	
tebuconazole + azoxystrobin	3 + 11	Azlan, Custodia (Forte)	

Ω Do not apply more than three sprays per season of Group M3 fungicides including in combination with Group 4.
§ Do not apply more than three sprays per season of a product containing chlorothalonil.
# Do not apply more than 800 g active per hectare (maximum 1.33 L of 600SC formulations).
€ Do not apply more than one spray per season of a product containing fenpyrazamine.
≈ Do not apply more than one spray per season of a product containing ipflufenoquin.

Active constituent	Activity group	Some registered products	Export harvest interval
BOTRYTIS BUNCH ROT *(CONT.)* - Review resistance management strategy on page 16			
cyprodinil ¥	9	Solaris 300 EC	Use no later than E-L 29 **AND** do not use within 60 days of harvest.
cyprodinil + fludioxonil ¥	9 + 12	Crossover WG, Cyprofludox WG, Missile, Rot-nil, Snatch WG, Swap WG, Switch	
florylpicoxamid ≠	21	Verpixo	Use no later than E-L 31, berries pea-size (not > 7 mm diameter).
polyoxin D zinc salt	19	Intervene	Use no later than E-L 34 (before commencement of veraison) **AND** not within 44 days of harvest.
orange oil	NC	(suppression only) Prev-Am	Use no later than 14 days before harvest.
potassium salts of fatty acids	U1	Ecoprotector, (suppression only) Hitman	
BLAD	BM01	ProBlad, ProBlad Verde	Use no later than 7 days before harvest.
eugenol, geraniol, thimol	BM01	Novellus	
hydrogen peroxide + peroxyacetic acid	M + M	(suppression only) Peracetic Acid, PeraCrop Max, Peratec PLUS, Peroxy Treat	
Aureobasidium pullulans	BM02	Botector	May be used until harvest.
Bacillus amyloliquefaciens	BM02	Serenade Opti, Serifel	
DOWNY MILDEW - Review resistance management strategy on page 15			
ametoctradin + dimethomorph £	45 + 40	Zampro	Use no later than E-L 25 (80% capfall).
copper sulfate tribasic + mancozeb Ω	M1 + M3	Copman DF	
dimethomorph	40	Acrobat SC, MetaMorph 500SC, Sphinx	
mancozeb Ω	M3	Dithane Rainshield Neo Tec, Fortuna Globe 750WG, Greenshield 750WG, Kencozeb (750DF, Endure), Mancozeb (750 DF, 750 WG, 800 WP, WG), Manic WG, Manzate (750 WG, DF), Manzeb, Penncozeb 750DF, Sinozeb 750 WG, Unizeb 420 SC	
metalaxyl - M + mancozeb Ω	4 + M3	Ridomil Gold MZ WG	
metalaxyl + mancozeb Ω	4 + M3	Metal-Man MZ 720, Metman 720 WG, Zeemil (720WG, MZB 720 WP)	
metiram Ω	M3	Fruitcote, Polyram DF	
oxadixyl + propineb Ω	4 + M3	Rebound WP	
mandipropamid	40	Bremex 250SC, Mandipropamid 250 SC, Mandiva 250SC, Revus	Use no later than E-L 26 (capfall complete).

¥ Do not apply more than one spray per season of a product containing cyprodinil.

≠ Do not apply more than two sprays per season of a product containing florylpicoxamid.

£ If only one spray of Zampro is applied per season, it may be used up to E-L 31 as long as a product containing dimethomorph as the single active ingredient has not also been applied in the same season.

Ω Do not apply more than three sprays per season of Group M3 fungicides including in combination with Group 4.

Active constituent	Activity group	Some registered products	Export harvest interval
DOWNY MILDEW *(CONT.)* - Review resistance management strategy on page 15			
folpet	M4	Folpan 800 WG	Use no later than E-L 27, Setting; young berries >2mm diam., bunch at right angles to stem.
azoxystrobin	11	Accolade 250 SC, Affix 250SC, Agristar 250SC, Amistar 250SC, A-star 250SC, Avior (250 SC, 800 WG), Azoxy 250, AzoxyGuard 250 SC, Azoxystrobin (250, 250 SC, 500 WG), Connect 800 WG, Spartacus (250, 250 SC, 500WG), Surefire Stellar	Use no later than E-L 29, berries pepper-corn size (not > 4 mm diameter).
chlorothalonil §	M5	Barrack Betterstick, Barrow (900 WG, Stick 720SC), Bravo Weather Stik, Castor 900 WG, Cavalry Weatherguard, Cheers 720 (Holdfast, Weathershield), Cheers 900WG, Chlornil 720 SC, Chloro 900WG, Chloronil Pro, Chlorostar 900 WG, Chlorostick 720 SC, Chlorothalonil (720, 720 SC, 900 WG), Chlortan 720, Conan Sticks 720SC, Echo (720, 900 WDG), Mueso (720, 900 WG, Stick 720), Whack (720, 900 WG)	
mandipropamid + oxathiapiprolin	40 + 49	Keybri Ultra	
tebuconazole + azoxystrobin	3 + 11	Azlan, Custodia (Forte)	
amisulbrom	21	Amishield	Use no later than E-L 31, berries pea-size (not > 7 mm diameter).
fluoxapiprolin	49	Xivana Prime 20 SC	
trifloxystrobin	11	(suppression only) Flint 500 WG, Invictus 500 WG	
pyraclostrobin	11	Cabretta 250EC, Cabrio, Pavo 250 EC, Pyraclostrobin 250 EC, Roadster 500 EC, Symbio 250 EC, Vipyr 250 EC	E-L 31 as above, **AND** do not use within 63 days of harvest.
copper formulations			Use no later than 30 days before harvest.
ammonium complex	M1	Copperguard	
cuprous oxide	M1	Ag Copp 750 WG, Nordox 750 WG	
hydroxide	M1	Blue Shield DF, Champ DP, Copper Hydroxide (400 WG, 500), Flowcop 500WG, Hydrocop WG, Kocide (Blue Xtra, Opti), Vitra 400 WG	
octanoate	M1	Tricop	
oxychloride	M1	Copper (Oxychloride, Oxychloride WP), Coppox (WG, WP), Cupro 375WG, EcoCopper 375WG, Isacop 500WP, Neoram 375 WG, Oxydul DF	
oxychloride + hydroxide	M1 + M1	Airone WG	
sulfate tribasic	M1	Bordeaux WG, Cuprofix Disperss, Tri-Base Blue, Tribasic (Copper Flowable, Flowable, Liquid)	
dithianon	M9	Delan 700 WG, Dialon 700WG, Dinon 700 WG, Dithianon 700 WG, Dragon, Dungeon 700 WG, Wrath 700WG	
metalaxyl-M	4	Axiom Flexi	
metalaxyl - M + copper hydroxide	4 + M1	Ridomil Gold Plus	
metalaxyl + copper oxychloride	4 + M1	Axiom Plus, Metalaxyl + Copper Oxychloride WP, Zeemil Plus	

§ Do not apply more than three sprays per season of a product containing chlorothalonil.

Active constituent	Activity group	Some registered products	Export harvest interval
DOWNY MILDEW *(CONT.)* - Review resistance management strategy on page 15			
hydrogen peroxide + peroxyacetic acid	M + M	(suppression only) PeraCrop Max, Peratec PLUS	Use no later than 7 days before harvest.
potassium bicarbonate + silicate	M2	(suppression only) ecoCarb PLUS	
EUTYPA DIEBACK			
cyproconazole + iodocarb	3 + 28	Garrison Rapid Pruning Wound Dressing	Dormancy application.
fluazinam	29	Emblem, Fluaza-Stick 500 SC, Fluazinam 500SC, Gem, Peridot 500SC, Zinam 500 SC	
tebuconazole	3	Greenseal, Sprayseal, Vistaseal	
Trichoderma harzianum	n/a	Vinevax (Bio-Implants, Wound Dressing)	
PHOMOPSIS CANE AND LEAF SPOT			
fluazinam	29	Emblem, Fluaza-Stick 500 SC, Fluazinam 500SC, Gem, Peridot 500SC, Zinam 500 SC	Dormancy spray.
mancozeb Ω	M3	Dithane Rainshield NeoTec, Fortuna Globe 750WG, Greenshield 750WG, Kencozeb (750DF, Endure), Mancozeb (750 DF, 750 WG, WG), Manic WG, Manzate (750 WG, DF), Manzeb, Penncozeb 750DF, Unizeb 420 SC	Use no later than E-L 25 (80% capfall).
metiram Ω	M3	Fruitcote, Polyram DF	
folpet	M4	Folpan 800 WG	Use no later than E-L 27, Setting; young berries >2mm diam., bunch at right angles to stem.
dithianon	M9	Delan 700 WG, Dialon 700WG, Dinon 700 WG, Dithianon 700 WG, Dragon, Wrath 700WG	Use no later than 30 days before harvest.
POWDERY MILDEW - Review resistance management strategy on page 17			
fluopyram + tebuconazole	7 + 3	Luna Experience	Use no later than E-L 17, 12 leaves separated.
fenpropidin + difenoconazole	5 + 3	Seeker Duo	Use no later than E-L 25 (80% capfall).
mefentrifluconazole	3	Belanty	
metrafenone	50 (U8)	Vivando	
spiroxamine	5	Anaconda 500 EC, Prosper 500 EC, Spire 500 EC	
folpet	M4	Folpan 800 WG	Use no later than E-L 27, Setting; young berries >2mm diam., bunch at right angles to stem.
pydiflumetofen	7	Miravis	
sulfur, elemental or crystalline sulfur	M2	Dusting Sulphur, Dusting Sulphur (900)	Use no later than 12 weeks before harvest.

Ω Do not apply more than three sprays per season of Group M3 fungicides including in combination with Group 4.

Active constituent	Activity group	Some registered products	Export harvest interval
POWDERY MILDEW *(CONT.)* - Review resistance management strategy on page 17			
azoxystrobin	11	Accolade 250 SC, Affix 250SC, Agristar 250SC, Amistar 250SC, A-star 250 SC, Avior (250SC, 800 WG), Azoxy 250, AzoxyGuard 250 SC, Azoxys 250 SC, Azoxystrobin (250, 250 SC, 500 WG), Connect 800 WG, Spartacus (250, 250 SC, 500WG), Stellar	Use no later than E-L 29, berries pepper-corn size (not > 4 mm diameter).
difenoconazole	3	Digger EW, Kingfisher	
tebuconazole	3	Orius 430 SC, Tebucon 430 SC, Tebuconazole 430 (SC), Tebugran 750 WG, Zolo 430 SC	
tebuconazole + azoxystrobin	3 + 11	Azlan, Custodia (Forte)	
cyflufenamid	U6	Flute 50 EW, Cyflamid 50EW	Use no later than E-L 31, berries pea-size (not > 7 mm diameter).
florylpicoxamid ⁎	21	Verpixo	
paraffinic oil	n/a	BioPest, CropCover, isoCLEAR HPO, Trump Spray Oil	
petroleum oil	n/a	JMS Stylet-Oil	
pyriofenone	50	Kusabi 300 SC	
trifloxystrobin	11	Flint 500 WG, Invictus 500 WG	
pyraclostrobin	11	Cabretta 250EC, Cabrio, Pavo 250 EC, Pyraclostrobin 250 EC, Roadster 500 EC, Symbio 250 EC, Vipyr 250 EC	E-L 31 as above, **AND** not within 63 days of harvest.
penconazole	3	Azotic, Delos 100EC, Pearl, Topas 100 EC	E-L 31 as above, **AND** not within 60 days of harvest.
tetraconazole	3	Domark 40ME, Mettle 40ME	
polyoxin D zinc salt	19	Intervene	Use no later than E-L 34 (before commencement of veraison) **AND** not within 44 days of harvest.
quinoxyfen	13	Legend, Quinfen 250 SC, Vitae	Use no later than E-L 34 (before commencement of veraison) **AND** not within 42 days of harvest.
triadimefon	3	Triadimefon 125	Use no later than 35 days before harvest.
triadimenol	3	Allitron, Cougar 250 EC, Tridim 250 EC	
copper ammonium complex	M1	Copperguard	Use no later than 30 days before harvest.
myclobutanil	3	Myclonil WG, Mycloss Xtra	
proquinazid	13	Talendo	
sulfur, present as elemental or crystalline sulfur	M2	Cosamil, ecosulfur 800 WG, InnoSulph 800 WG, Kumulus DF, Microsul WG Elite, Microthiol Disperss, Nimbus WG, Sulfur (800 WG), Thiopron, Thiovit Jet, Top Wettable Sulphur 800 WG, Yellowstone 800WG	
orange oil	NC	Prev-Am	Use no later than 14 days before harvest.
hydrogen peroxide + peroxyacetic acid	M + M	(suppression only) PeraCrop Max, Peratec PLUS	Use no later than 7 days before harvest.

⁎ Do not apply more than two sprays per season of a product containing florylpicoxamid.

Active constituent	Activity group	Some registered products	Export harvest interval
POWDERY MILDEW *(CONT.)* - Review resistance management strategy on page 17			
potassium bicarbonate	M2	ecocarb	Use no later than 7 days before harvest.
potassium bicarbonate + silicate	M2	ecocarb PLUS	
AUSTRALIAN PLAGUE LOCUST			
Metarhizium anisopliae var. *acridum*	n/a	Green Guard SC Premium	Use no later than 7 days before harvest.
GARDEN WEEVIL			
abamectin + chlorantraniliprole	6 + 28	(suppression only) Voliam Targo	Use no later than E-L 29, berries pepper-corn size (not > 4 mm diameter).
indoxacarb	22A	Avatar eVo, Incarnate 300 WG, Indostar 300 WG, Indoxacarb 300 WG, Lepta 300 WG, Spymaster 300 WG	Use no later than E-L 31, berries pea-size (not > 7 mm diameter) **AND** not within 56 days of harvest.
GRAPEVINE MOTH			
chlorantraniliprole	28	Altacor (Hort, X-Force), Shenzi, Solace Hort 700WG, Surefire Prynova 350 WG	Use no later than E-L 25 (80% capfall).
abamectin + chlorantraniliprole	6 + 28	Voliam Targo	Use no later than E-L 29, berries pepper-corn size (not > 4 mm diameter).
spinetoram	5	Delegate	Use no later than E-L 31, berries pea-size (not > 7 mm diameter).
spinosad	5	Entrust Organic, Kobus 480SC, Preserve 120 SC, SpinoSec 240 SC	
emamectin	6	Chicane, Clama 50SC, Exclaim 44 SG, Oracle EC, Proclaim Opti, Warlock	E-L 31 as above, **AND** not within 56 days of harvest.
indoxacarb	22A	Avatar eVo, Indostar 300 WG, Indoxacarb 300 WG, Lepta 300 WG, Spymaster 300 WG	
Bacillus thuringiensis subspecies *aizawai*	11	Bacchus WG	May be used until harvest.
Bacillus thuringiensis subspecies *kurstaki*	11	Delfin WG, DiPel DF	
Trichogrammanza carverae	n/a	Trichogramma parasitic wasp	
GRAPEVINE SCALE †			
paraffinic oil	n/a	BioPest, CropCover, D-C-Maxx nC24, isoCLEAR HPO, Trump Spray Oil	Dormancy spray.
petroleum oil	n/a	All Seasons White Oil, Summer Spray Oil, Stifle, Vicol (Summer Oil, Winter Oil)	
spirotetramat	23	suppression only) Engaze 240 SC, Kersel 850 VeripHy WG, Movento 240 SC, SpiroSec 240 SC, Spirosure 240SC, Spirotetramat 240 SC, Viento 240 SC	Use no later than E-L 18, 14 leaves separated.

† Some group 1B insecticides are registered for grapevine scale. Contact your winery or grape purchaser prior to any 1B insecticide application.

Active constituent	Activity group	Some registered products	Export harvest interval
GRAPEVINE SCALE *(CONT.)* †			
acetamiprid + pyriproxyfen ◊	4A + 7C	Fulcrum Veriphy DC, Kimura, Trivor	Use no later than E-L 19, beginning of flowering when caps start loosening.
buprofezin	16	(suppression only) Uptown	Use no later than E-L 25 (80% capfall).
orange oil	NC	(suppression only) Prev-Am	Use no later than 14 days before harvest.
LIGHT BROWN APPLE MOTH			
acetamiprid + pyriproxyfen ◊	4A + 7C	Fulcrum Veriphy DC, Kimura, Trivor	Use no later than E-L 19, beginning of flowering when caps start loosening.
chlorantraniliprole	28	Altacor (Hort, X-Force), Shenzi, Solace Hort 700WG, Surefire Prynova 350 WG	Use no later than E-L 25 (80% capfall).
methoxyfenozide	18	Caribou, Enigma 240 SC, Peregrine, Prodigy, Slate 240, Venturi Max	
tebufenozide	18	Ecdypro 700 WP	
abamectin + chlorantraniliprole	6 + 28	Voliam Targo	Use no later than E-L 29, berries pepper-corn size (not > 4 mm diameter).
spinetoram	5	Delegate	Use no later than E-L 31, berries pea-size (not > 7 mm diameter).
spinosad	5	Entrust Organic, Kobus 480SC, Preserve 120 SC, SpinoSec 240 SC	
emamectin	6	Chicane, Clama 50SC, Exclaim 44 SG, Oracle EC, Proclaim Opti, Warlock	E-L 31 as above, **AND** not within 56 days of harvest.
indoxacarb	22A	Avatar eVo, Indostar 300 WG, Indoxacarb 300 WG, Lepta 300 WG, Spymaster 300 WG	
Bacillus thuringiensis subspecies *aizawai*	11	Bacchus WG	May be used until harvest.
Bacillus thuringiensis subspecies *kurstaki*	11	Delfin, DiPel DF	
Trichogrammanza carverae	n/a	Trichogramma parasitic wasp	
MEALYBUG ‡			
paraffinic oil	n/a	BioPest, CropCover, isoCLEAR HPO, Trump Spray Oil	Dormancy spray.
spirotetramat	23	Engaze 240 SC, Movento 240 SC, SpiroSec 240 SC, Spirosure 240SC, Spirotetramat 240 SC, Viento 240 SC	Use no later than E-L 18, 14 leaves separated.
acetamiprid + pyriproxyfen ◊	4A + 7C	Fulcrum Veriphy DC, Kimura, Trivor	Use no later than E-L 19, beginning of flowering when caps start loosening.

† Some group 1B insecticides are registered for grapevine scale. Contact your winery or grape purchaser prior to any 1B insecticide application.

◊ Do not apply more than one spray per season of a product containing acetamiprid + pyriproxyfen.

‡ Consult product label, registration may apply to specific mealybug species.

Active constituent	Activity group	Some registered products	Export harvest interval
MEALYBUG *(CONT.)* ‡			
buprofezin	16	Applaud, Buprofezin 440, Scale & Bug, Uptown	Use no later than E-L 25 (80% capfall).
afidopyropen ~	9D	(suppression only) Versys	Use no later than E-L 31, berries pea-size (not > 7 mm diameter).
orange oil	NC	(suppression only) Prev-Am	Use no later than 14 days before harvest.
MITES			
sulfur: as polysulfide	M2	Lime Sulphur	Apply as near as possible to budburst.
sulfur: as elemental or crystalline sulfur	M2	Cosamil, ecosulfur 800WG, InnoSulph 800 WG, Microsul WG Elite, Nimbus WG, Sulfur 800 WG, Thiovit Jet, Top Wettable Sulphur 800 WG	Use no later than 30 days before harvest.
- BUD MITE (as for MITES and the following)			
sulfur: as elemental or crystalline sulfur	M2	Kumulus DF, Microthiol Disperss, Yellowstone 800 WG	Use no later than 30 days before harvest.
orange oil	NC	Prev-Am	Use no later than 14 days before harvest.
- BUNCH MITE (as for MITES and the following)			
sulfur: as elemental or crystalline sulfur	M2	Yellowstone 800 WG	Use no later than 30 days before harvest.
- GRAPE LEAF BLISTER MITE (as for MITES and the following)			
petroleum oil	n/a	Stifle, Vicol Winter Oil	Dormancy spray.
sulfur: as elemental or crystalline sulfur	M2	Kumulus DF, Microthiol Disperss, Sulfur, Thiovit Jet, Yellowstone 800WG	Use no later than 30 days before harvest.
- GRAPE LEAF RUST MITE (as for MITES and the following)			
abamectin + chlorantraniliprole	6 + 28	Voliam Targo	Use no later than E-L 29, berries pepper-corn size (not > 4 mm diameter).
sulfur: as elemental or crystalline sulfur	M2	Kumulus DF, Microthiol Disperss, Sulfur, Yellowstone 800WG	Use no later than 30 days before harvest.
- TWO SPOTTED MITE (as for MITES and the following)			
petroleum oil	n/a	Stifle, Vicol Winter Oil	Dormancy spray.
abamectin + chlorantraniliprole	6 + 28	Voliam Targo	Use no later than E-L 29, berries pepper-corn size (not > 4 mm diameter).
etoxazole	10B	ParaMite	Use no later than 21 days before harvest.
SNAILS			
copper complex	n/a	Escar-go, Socusil	Dormancy spray.

‡ Consult product label, registration may apply to specific mealybug species.

~ Do not apply more than three sprays per season of a product containing afidopyropen.

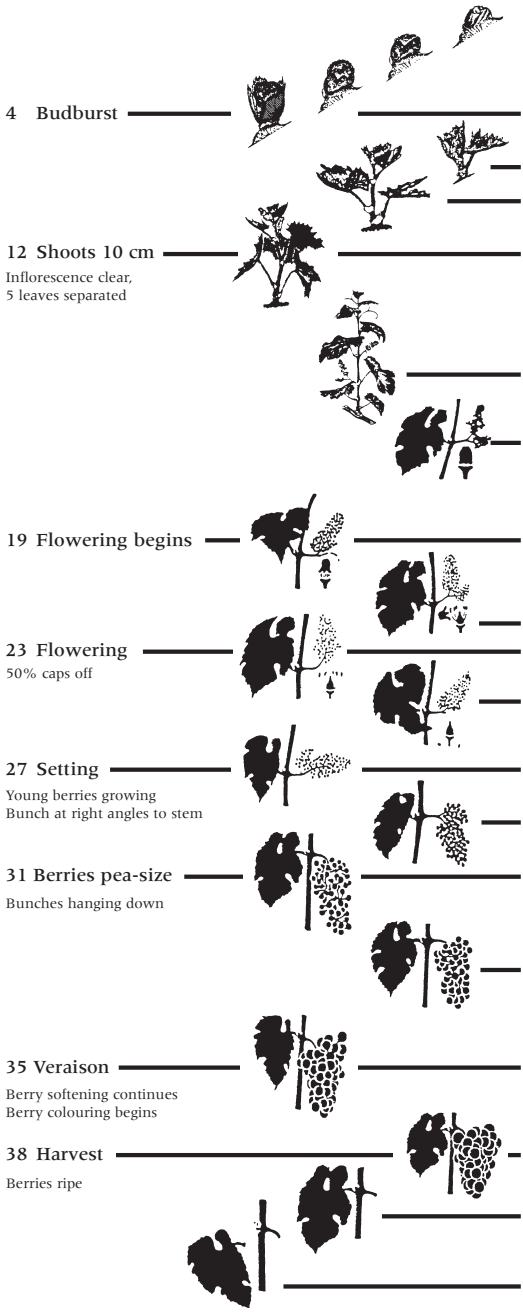
Active constituent	Activity group	Some registered products	Export harvest interval
SNAILS *(CONT.)*			
metaldehyde	n/a	Axcela Slug and Snail, Metakill, Metaldehyde Snail and Slug, Metarex Inov Snail and Slug, Pestmaster Snail and Slug, Slug Out, Snailex, Snail Trail	Ground application. Use no later than 7 days before harvest.
iron EDTA complex	n/a	Eradicate Snail and Slug Killer, Iron Chelate, Multiguard Snail and Slug Killer	Ground application. May be used until harvest.
iron phosphate anhydrous	n/a	Ironmax Pro	
iron powder	n/a	Eradicate Eco Snail and Slug Bait, eco-shield	
WINGLESS GRASSHOPPER			
indoxacarb	22A	Avatar eVo, Indoxacarb 300 WG, Lepta 300 WG, Persona 300WG, Spymaster 300 WG	Use no later than E-L 31, berries pea-size (not > 7 mm diameter) **AND** not within 56 days of harvest.
Metarhizium anisopliae var. *acridum*	n/a	Green Guard SC Premium	Use no later than 7 days before harvest.
MEDITERRANEAN FRUIT FLY AND QUEENSLAND FRUIT FLY			
A baiting program that does not target fruit or foliage is recommended. Control options are generally subject to APVMA permits. Refer to the AWRI website for a list of off-label permits for viticulture. Contact your winery prior to use of any 1A, 1B, 2B or 3A insecticide.			
WEEDS			
Refer to pages 23-24 of Table 2 for herbicides registered for use on vineyards. • Herbicides with registration for desuckering are indicated. • Some products listed are shaded or underlined indicating that not all wineries permit the use of these products — this includes the use of glyphosate products in the growing season that contain greater than 360g of active per L. • Contact your winery/grape purchaser prior to the use of shaded or underlined products and prior to applying any herbicide within 30 days of harvest. • Some herbicides have label restraints that detail situations where the chemical MUST NOT be used. Read all labels carefully and pay attention to all statements starting with DO NOT — these conditions must be adhered to. Refer to page 28 for information on herbicides and managing resistance. Refer to the AWRI website for information on herbicide impacts on young vines.			

Growth stage description

GROWTH STAGE ASSESSMENT IS **NOT** AN AVERAGE ACROSS THE VINEYARD.
BASE GROWTH STAGE ASSESSMENTS ON THE **MOST ADVANCED VINES** IN THE BLOCK.

E-L 4; (Budburst) first green tips are visible.
E-L 17: 12 leaves separated; inflorescence well developed, single flowers separated.
E-L 18: 14 leaves separated; flower caps still in place, but cap colour fading from green.
E-L 19: About 16 leaves separated; beginning of flowering (first flower caps loosening).
E-L 25; 80% of caps have just lifted, largest berries not >2 mm diameter.
E-L 26: Cap-fall complete.
E-L 27: (Setting) young berries enlarging >2 mm diameter; bunch at right angles to stem.
E-L 29: Just after berry set, berries pepper-corn size (not >4 mm diameter); bunches tending downwards.
E-L 31: (Pre-bunch closure) berries pea-size (not >7 mm diameter); bunches hanging down.
E-L 34: Berries begin to soften and enlarge, and sugar starts increasing.
E-L 35: (Veraison) when 50% of berries begin to soften and sugar starts increasing.

Grapevine growth stage table



Viticulture 1 - Resources. 2nd edition 2004. Dry, P. R., Coombe, B.G. (eds) Adelaide: Winetitles: p.153

Chemical resistance management strategies

What is 'chemical resistance'?

Chemical resistance is the inherited ability of an organism, be it a disease, weed or insect, to survive doses of an agrochemical that would normally control it. Resistance may develop after frequent use of one chemical or chemicals from the same activity group. Incorrect chemical use, such as under- or over-dosing or application at the wrong time in the life cycle of the target, can also promote resistance.

How does resistance develop?

Any population might contain a very small number of individuals that are naturally able to survive the application of a particular chemical. If the same chemical or chemicals from the same activity group are used repeatedly and exclusively, the susceptible individuals continue to be removed, and those with natural resistance survive and multiply to essentially dominate the population. The chemistry then 'fails' in the field.
It has been observed in vineyards that despite several herbicides being used over a season, they are often applied at the same time each season. As such, the weed species present at the time are treated with the same herbicide each year, therefore promoting resistance.

Resistance countering measures

Manage unwanted pathogens, weeds and insects using non-chemical means when possible.
When using chemicals, get the most out of them by:

- timing them to when the target is most susceptible
- using the correct dose
- adding suitable adjuvants
- applying when the conditions are right.

Minimise chemical selection pressure by not overusing chemicals from the same activity group. CropLife Australia maintains resistance management strategies for fungicides, insecticides and herbicides.

Fungicide resistance status

Resistance to fungicides is a serious problem worldwide and Australia has not been spared. Resistance to many of the commonly used fungicides now exists.
CropLife Australia incorporates two initiatives in fungicide resistance management which ensure the best control with least risk of developing resistance. These are:
1. All fungicides have been classified by activity group, which appears as a number or letter and number code on the fungicide product label.
2. Strategies have been developed for the use of fungicides in crops where resistance by a particular organism is already evident or considered a risk.

Downy mildew resistance management strategy

Resistance management strategy for:

Group 4	Phenylamides (PA)	**Group 45+40**	Quinone outside inhibitor, stigmatellin
Group 11	Quinone outside inhibitor (QoI)		binding type (QoSI) + CAA
Group 11+3	QoI + Demethylation inhibitors (DMI)	**Group 40+49**	CAA + Oxysterol binding protein
Group 21	Quinone inside inhibitor (QiI)		homologue inhibitors (OSBPI)
Group 40	Carboxylic acid amide (CAA)	**Group 49**	OSBPI

1. Start preventative disease control sprays using **non-Group 4** protectant fungicides, typically when shoots are 10-20cm long. Continue spraying at intervals of 7-21 days depending on disease pressure, label directions and rate of vine growth.
2. **Group 4** fungicides should be applied as soon as possible after an infection period, and before the first sign of oil spots. Limit the use of **Group 4** fungicides to periods when conditions favour disease development. Always apply **Group 4** fungicides in mixtures.
3. **Group 49** fungicides should be applied prior to infection and only in mixtures with effective fungicides applied at an effective rate from a different cross resistance group. The mixing partner should give effective control of downy mildew at the rate and interval selected. Only apply a spray containing **Group 40+49** as a maximum of 33% of the total number of downy mildew sprays. A **Group 49, or 40+49** application must be followed by at least two applications of a different group(s) before being reapplied.
4. Fungicide mixtures are defined as co-formulations or tank mixes at label rate of an alternative mode of action.
5. Apply a maximum of two consecutive applications of **Group 4, 21, 40, or 45+40** containing fungicides.
6. **Do not** apply **Group 11** (including mixture formulations) consecutively.
7. Apply a maximum of two sprays per season of **Group 11** (including mixtures), **45+40, 40+49** and **49.**
8. **Do not** apply a spray containing **Group 40,** or **40+49** as the last spray of the season. Only apply a spray containing **Group 40** a maximum of 50% of the total number of downy mildew sprays.
9. Apply a maximum of three **Group 21** containing sprays per season.

	Group						
	4	**11 (incl. 11+3)**	**21**	**40**	**45 + 40**	**40 + 49**	**49**
Max. number of consecutive sprays	2	none	2	2	2	none	none
Max. number of solo sprays	none	2	3	2 (50%)	none	2	none
Max. number of sprays per season	4-mix	2	3	4-mix (50%*)	2	2 (33%**)	2-mix
Areas of higher agronomic risk	mix	mix	n/a	mix	n/a	n/a	mix

** Refer to point 8* *** Refer to point 3* *Note: Consecutive sprays include mixture formulations*

CropLife disclaimer

These strategies are valid as at 1 June 2026. Current versions are available from the CropLife Australia website. The information given in these strategies is provided in good faith and without any liability for loss or damage suffered as a result of their application and use. While all effort has been taken with the information supplied, no responsibility, actual or implied, is taken for the day to day accuracy of activity group specific information. These strategies are a guide only and do not endorse particular activity groups. Always follow the product label for specific use instructions. Check with the APVMA product database for current information on products and actives.

Grey mould (*Botrytis* bunch rot) resistance management strategy

Resistance management strategy for:

Group 2	Dicarboximides
Group 7	Succinate dehydrogenase inhibitors (SDHI)
Group 7+3	SDHI + Demethylation inhibitors (DMI)
Group 7+12	SDHI + phenylpyrroles (PP)
Group 9	Anilinopyrimidine (AP)
Group 9+12	AP + PP
Group 11	Quinone outside inhibitor (QoI)
Group 11+3	QoI + DMI
Group 12	PP
Group 17	Keto reductase inhibitors (KRI)
Group 19	Chitin synthase inhibitor
Group 21	Quinone inside inhibitor (QiI)
Group 52	DHODHI-fungicides (dihydroorotate dehydrogenase inhibitor)

1. Always use an integrated disease management (IDM) approach to grey mould management in vines. Manipulate the bunch zone microclimate to reduce humidity and enable rapid drying of wet bunches. Always aim to reduce spore load, flower and fruit infection and limit regrowth of latent infections and disease spread by timely fungicide application in an IDM approach. Use fungicides registered to control *Botrytis* at label rates from as many different mode of action groups as possible when needed.
2. Apply all these fungicides as protectants before the first sign of disease.
3. Consecutive applications include from the end of one season to the start of the next, for products applied either standalone or in mixtures.
4. Varying the number of fungicides applied targeting *Botrytis* changes the relative resistance risk to any one fungicide group. When three or fewer sprays are applied, it is recommended that three different groups of fungicides are used (see table below). When four sprays are applied, try to use three or four different groups of fungicide.

		Maximum recommended number of sprays which can contain Group:									
		2	**7 (incl. 7+3)**	**7 + 12**	**9**	**11 (incl. 11+3)**	**12 (incl. 9+12)**	**17**	**19**	**21**	**52**
Total number of Botrytis targeting sprays	1	1	1	1	1	1	1	1	1	1	1
	2	1	1	1	1	1	2	1	1	1	1
	3	1	1	1	1	1	2	1	1	1	1
	4	2	1	1	2	2	2	2	2	1	2
	5	2	1	1	2	2	2	2	3	1	2
	6+	2	2	1	2	2	2	2	3	2-3	2

5. If a **Group 11** or **7** fungicide is used solo, it should only be used in strict alternation with fungicides from a different mode of action group.
6. **Do not** apply more than two consecutive sprays from the same fungicide group, for any **Group 2, 7, 9** (including combinations with **Group 12**), **11+3**, **17, 19** or **21** fungicide, including from the end of one season to the start of the following season.
7. If two consecutive applications of **Group 11+3** fungicides are used, then they must be followed by at least the same number of applications of fungicide(s) from a different group(s) before a **Group 11** (including combinations with **Group 3**) fungicide is used again, either in the current or following season.
8. **Do not** apply more than three **Group 21** containing products per crop, or a maximum of 33% of total applications (whichever is lower). Continue alternation of fungicides between successive seasons.
9. **Do not** apply **Group 52** as consecutive applications, or more than 2 times per season.
10. If resistance to a fungicide group has been detected within a region, only use that fungicide group in mixtures or in strict alternation with fungicides from a different cross-resistance group. A fungicide group that has been applied as the final application of the season should not be the first fungicide in the following season.

Powdery mildew resistance management strategy

Resistance management strategy for:

Group 3	Demethylation inhibitors (DMI)	**Group 11**	Quinone outside inhibitors (QoI)
Group 5	Amines (morpholines)	**Group 11+3**	QoI + DMI
Group 5+3	Amines + DMI	**Group 13**	Aza-naphthalenes
Group 7	Succinate dehydrogenase inhibitors (SDHI)	**Group 19**	Chitin synthase inhibitor
		Group 21	Quinone inside inhibitor (QiI)
Group 7+3	SDHI + DMI	**Group 50 (U8)**	Actin disruptors (aryl-phenyl-ketone)
Group 7+12	SDHI + phenylpyrroles (PP)	**Group U6**	Phenyl-acetamide

1. Apply all these fungicides preventatively.
2. Consecutive applications include from the end of one season to the start of the next. Medium to high risk fungicides (**Group 7** and **11**) if used consecutively should be applied in a mixture or co-formulation with a registered, alternative mode of action for which resistance is not known — where these fungicides have been routinely used for many seasons, field research indicates there is an increased risk of powdery mildew resistance. To ensure effective powdery mildew control in these circumstances, either use alternative modes of action or apply in mixtures.
3. Do not apply more than one application of a **Group 5+3, or 7+12** containing product per crop.
4. **Do not** apply more than two consecutive sprays of **Group 3, 5, 13, 19, 21, 50 (U8)** and **U6** (including mixture formulations).
5. **Do not** apply more than three **Group 21** containing products per crop, or a maximum of 33% of total applications (whichever is lower). Continue alternation of fungicides between successive seasons.

		Maximum recommended number of sprays which can contain Group:									
		3	**5**	**5+3, 7+12**	**7 (incl. 7+3)**	**11 (incl. 11+3)**	**13**	**19**	**21**	**50 (U8)**	**U6**
Total number of powdery mildew targeting sprays	1	1	1	1	1	1	1	1	1	1	1
	2	2	1	1	1	1	2	2	1	1	1
	3	2	2	1	1	2	2	2	1	1	1
	4	2	2	1	1	2	2	2	1	2	2
	5	2	2	1	1	2	2	2	1	2	2
	6	3	3	1	2	2	3	3	2	2	2
	7	3	3	1	2	2	3	3	2	2	2
	8	3	3	1	2	2	3	3	2	2	2
	9+	3	3	1	2	2	3	3	3	2	2

Note: Consecutive sprays include mixture formulations

National fungicide resistance testing

Resistance to powdery mildew, downy mildew and botrytis fungicides is occurring in winegrapes in Australia.

Sampling from vineyards with disease control issues has determined the following resistance status across a range of active ingredients:

Target disease	Active ingredient	Activity group	Resistance status
Powdery mildew	difenoconazole, tetraconazole	3	Not detected
	penconazole	3	Detected
	spiroxamine	5	Not detected
	boscalid, pydiflumetofen	7	Not detected
	azoxystrobin, pyraclostrobin	11	Detected
	proquinazid, quinoxyfen	13	Detected
	pyriofenone	50	Not detected
Downy mildew	metalaxyl	4	Detected
	pyraclostrobin	11	Detected
	dimethomorph, mandipropamid	40	Not detected
Botrytis	pyrimethanil	9	Detected
	fludioxonil	12	Detected
	fenhexamid	17	Detected

A free national testing service to monitor powdery mildew, downy mildew and botrytis fungicide resistance in winegrapes is available until June 2027 as part of a project led by South Australian Research and Development Institute (SARDI), a research division of the Department of Primary Industries and Regions (PIRSA), in collaboration with Curtin University and the Australiab Wine Research Institute (AWRI). This work is funded by Wine Australia, the Cooperative Research Centre for Solving Antimicrobial Resistance in Agribusiness, Food, and Environments (SAAFE CRC), SARDI and Curtin University.

Samples can be submitted to the SARDI Horticulture Pathology Laboratory by contacting ismail.ismail@sa.gov.au. Biosecurity considerations apply.

The prevalence of fungicide resistance in winegrapes highlights the importance of adhering to Croplife Australia's resistance management strategies on pages 15-17.

Refer also the to AWRI's Fungicide Resistance fact sheet.

Agrochemicals registered for use in Australian viticulture

Many products registered by the APVMA for use in winegrape production in Australia are presented overleaf in Table 2 'Agrochemicals registered for use in Australian viticulture'. Always read the label on the chemical container, as some products listed might not be registered for use in your state.

Important points

- Always contact your winery/grape purchaser prior to the application of any 1A, 1B, 2B, 3A, 4A or 4C insecticides, and products or active constituents that are underlined or shaded in Table 2.
- The recommended export harvest interval (EHI) for all 1A, 1B, 2B, 4A and 4C insecticides is 'Use no later than E-L 25 (80% capfall)' where the label does not indicate an earlier withholding period. This also applies to 3A insecticides not restricted to dormant use only.
- Label permitting, avoid applying herbicides within 30 days of harvest.
- Adhere to all personal protective equipment requirements for mixing chemicals and entering a vineyard after chemical application. Refer to page 27 **Re-entry period** key.

How to use Table 2.

Active constituent(s)	Some registered products	Re-entry period range	Activity group
Grouped alphabetically for each chemical type	List of some chemical products available	Code for label mandated safe re-entry periods. Refer page 27 for details.	Australian agrochemical codes

TABLE 2: Agrochemicals registered for use in Australian viticulture

Active constituent(s)	Some registered products	Re-entry period	Activity group
FUNGICIDE			
ametoctradin + dimethomorph*	Zampro	a	45 + 40
amisulbrom	Amishield	j	21
Aureobasidium pullulans	Botector	a	BM02
azoxystrobin*	Accolade 250 SC, Affix 250 SC, Agristar 250SC, Amistar 250 SC, A-Star 250 SC, Avior 250 SC, Azoxy 250, AzoxyGuard 250 SC, Azoxystrobin (250, 250 SC, 500 WG), Spartacus (250, 250 SC, 500WG), Surefire Stellar	a	11
azoxystrobin*	Avior 800 WG, Connect 800 WG	q	11
Bacillus amyloliquefaciens	Serenade Opti, Serifel		44
BLAD*	ProBlad, ProBlad Verde	a	BM01
boscalid	Boscalid 500 WG, Boscolan 500WG, Certify 800 WG, Filan, Rascasse 500 WG, Rinkals	a	7
captan	Captan (800 WG, 900 WG), Lectern 800 VeripHy WG	a	M4
chlorothalonil	Barrack Betterstick, Barrow (900 WG, Stick 720SC), Bravo Weather Stik, Castor 900WG, Cavalry Weatherguard, Cheers 720 (Holdfast, Weathershield), Cheers 900WG, Chlornil 720 SC, Chloro 900 WG, Chloronil Pro, Chlorostar 900 WG, Chlorostick 720 SC, Chlorothalonil (720, 720SC, 900 WG), Surefire Chlortan 720, Clash (Dry 900 WG, Storm Guard 720 SC), Conan Sticks 720SC, Echo (720, 900 WDG), Mueso (720, 900WG, Stick 720), Whack (720, 900 WG)	a	M5
copper formulations			
ammonium complex	Copperguard	a	M1
cuprous oxide	Ag Copp 750 WG, Nordox 750 WG	a	M1
hydroxide	Blue Shield DF, Champ DP, Copper Hydroxide (400 WG, 500), Flowcop 500WG, Hydrocop WG, Kocide (Blue Xtra, Opti), Vitra 400 WG	a	M1
octanoate	Tricop	a	M1
oxychloride	Copper Oxychloride (WP), Coppox (WG, WP), Cupro 375WG, EcoCopper 375WG, Isacop 500WP, Neoram 375 WG, Oxydul DF	a	M1
oxychloride + hydroxide	Airone WG	l	M1 + M1
sulfate tribasic	Bordeaux WG, Tri-Base Blue, Tribasic (Copper Flowable, Flowable, Liquid)	a	M1
copper sulfate tribasic + mancozeb	Copman DF	c	M1 + M3
cyflufenamid	Flute 50 EW, Cyflamid 50EW	a	U6
cyproconazole + iodocarb	Garrison Rapid Pruning Wound Dressing	a	3 + 28
cyprodinil	Solaris 300 EC	a	9
cyprodinil + fludioxonil	Cyprofludox WG, Missile, Rot-nil, Snatch WG, Surefire Crossover WG, Swap WG, Switch	a	9 + 12

* Restricted for use by some wineries. Contact your winery or grape purchaser prior to use.

Prohibited by most wineries. Contact your winery or grape purchaser prior to use.

Active constituent(s)	Some registered products	Re-entry period	Activity group
FUNGICIDE *(CONT.)*			
difenoconazole	Digger EW, Kingfisher	a	3
dimethomorph*	Acrobat SC, Sphinx	a	40
dimethomorph*	MetaMorph 500 SC	n	40
dithianon	Delan 700 WG, Dialon 700WG, Dinon 700 WG, Dithianon 700 WG, Dragon, Dungeon 700 WG, Wrath 700WG	a	M9
eugenol, geraniol, thymol	Novellus	a	46
fenhexamid	Altivo 500SC, Jigsaw 800 WG, Teldor 500 SC	a	17
fenpropidin + difenoconazole	Seeker Duo	a	5 + 3
fenpyrazamine	Prolectus	a	17
florylpicoxamid	Verpixo	a	21
fluazinam	Emblem, Fluaza-Stick 500 SC, Peridot 500SC	m	29
fluazinam	Gem, Surefire Zinam 500 SC	s	29
fluopyram + tebuconazole	Luna Experience	a	7 + 3
fluoxapiprolin	Xivana Prime 20 SC	a	49
folpet*	Folpan 800 WG	a	M4
hydrogen peroxide + peroxyacetic acid*	Peracetic Acid, PeraCrop Max, Peratec PLUS, Peroxy Treat	a	M + M
ipflufenoquin	Migiwa Kinoprol Active	a	52
iprodione	Aquaflow 500 SC, Chief Aquaflo, Drover Guard 500 SC, Ipral 250, Iprine (250, 500), Iprodex 250, Iprodione (250, 500, 500 SC, Aquaflow 500), Lavor 250, Rovral (Aquaflo, Liquid), Transact	a	2
mancozeb	Dithane Rainshield Neo Tec, Fortuna Globe 750WG, Greenshield 750WG, Kencozeb (750DF, Endure), Mancozeb (750 DF, 750 WG, 800 WP, WG), Manic WG, Manzate (750 WG, DF), Manzeb, Penncozeb 750DF, Sinozeb 750 WG, Unizeb 420 SC	a	M3
mandipropamid	Bremex 250SC, Mandiva 250SC, Revus	a	40
mandipropamid+ oxathiapiprolin*	Keybri Ultra	a	40 + 49
mefentrifluconazole	Belanty	a	3
metalaxyl - M	Axiom Flexi	a	4
metalaxyl - M + copper hydroxide	Ridomil Gold Plus	a	4 + M1
metalaxyl - M + mancozeb	Ridomil Gold MZ WG	a	4 + M3
metalaxyl + copper oxychloride	Axiom Plus, Metalaxyl + Copper Oxychloride WP, Zeemil Plus	a	4 + M1
metalaxyl + mancozeb	Metal-man MZ 720, Metman 720 WG, Zeemil 720 WG	a	4 + M3
metiram*	Fruitcote, Polyram DF	a	M3
metrafenone	Vivando	a	50 (U8)
myclobutanil	Myclonil WG, Mycloss Xtra	h	3
orange oil*	Prev-Am	a	unspecified

* Restricted for use by some wineries. Contact your winery or grape purchaser prior to use.

Prohibited by most wineries that export. Contact your winery or grape purchaser prior to use.

Active constituent(s)	Some registered products	Re-entry period	Activity group
FUNGICIDE *(CONT.)*			
oxadixyl + propineb	Rebound WP	a	4 + M3
paraffinic oil	BioPest, CropCover, isoCLEAR HPO, Trump Spray Oil	a	unspecified
penconazole	Azotic, Delos 100EC, Pearl, Topas 100 EC	a	3
petroleum oil	JMS Stylet-Oil	a	unspecified
phosphorous acid	Agri-Fos 600, Crop Doc 600, Dominator 600, Fungi-Fos (400, 400 pH 7.2), Ken-Fos 600, Phos Phyt 400, Phospot (400 pH 7.2, 600), Sprayphos (400, 600, 620), Throw Down	a	33
polyoxin D zinc salt	Intervene	a	19
potassium: bicarbonate bicarbonate + silicate	ecocarb, ecocarb PLUS	a	M2
potassium salts of fatty acids	Ecoprotector, Hitman	a	U1
procymidone	Kondone 500 SC, Metapris 500 SC, Nosclex 800 WG, Procymidone (500, 500SL), Proflex 500, Sporex, Sumisclex 500	p	2
proquinazid	Talendo	a	13
pydiflumetofen*	Miravis	a	7
pydiflumetofen + fludioxonil	Miravis Prime	a	7 + 12
pyraclostrobin	Cabretta 250EC, Cabrio, Pavo 250 EC, Pyraclostrobin 250 EC, Roadster 500 EC, Symbio 250 EC, Vipyr 250 EC	a	11
pyrimethanil*	Pyper 600 SC, Pyrimethanil 600 SC, Scala 600 SC	a	9
pyriofenone	Kusabi 300 SC	a	50
quinoxyfen	Legend, Quinfen 250 SC, Vitae	a	13
spiroxamine*	Prosper 500 EC	e	5
spiroxamine*	Anaconda 500 EC, Spire 500 EC	f	5
sulfur, present as elemental or crystalline sulfur	Cosamil, Dusting Sulphur (900), ecosulfur 800 WG, InnoSulph 800 WG, Kumulus DF, Microsul WG Elite, Microthiol Disperss, Nimbus WG, Sulfur (800 WG), Thiopron, Thiovit Jet, Top Wettable Sulphur 800 WG, Yellowstone 800WG	a	M2
tebuconazole	Greenseal, Orius 430 SC, Sprayseal, Tebucon 430 SC, Tebuconazole 430 SC, Vistaseal, Zolo 430 SC	a	3
tebuconazole	Tebugran 750 WG	a	3
tebuconazole + azoxystrobin*	Azlan, Custodia (Forte)	a	3 + 11
tetraconazole	Domark 40ME, Mettle 40ME	a	3
thiram	Thiram (DG, 800 WG)	a	M3
triadimefon	Triadimefon 125	a	3
triadimenol	Allitron, Cougar 250 EC, Tridim 250 EC	a	3
Trichoderma harzianum	Vinevax (Bio-Implants, Wound Dressing)	a	unspecified
trifloxystrobin	Flint 500 WG, Invictus 500 WG	a	11
ziram	Ziram WG	a	M3

* Restricted for use by some wineries. Contact your winery or grape purchaser prior to use.

Prohibited by most wineries that export. Contact your winery or grape purchaser prior to use.

Active constituent(s)	Some registered products	Re-entry period	Activity group
HERBICIDE [PRE EM = PRE-EMERGENT, POST EM = POST-EMERGENT] - Refer to page 28.			
2,2-DPA-sodium (dalapon-sodium) POST EM	Dalapon 740	a	0
amitrole + ammonium thiocyanate* POST EM	Amitat, Amitrole (250, 250 SL, 47T, T 250), Kentrole 250, Weedwarden	a	34
amitrole + paraquat* POST EM	Guerrilla	a	34+22
bromoxynil + diflufenican POST EM	Colt, Kelpie DFF + Brom MX, Jagged, Lobak, Meerkat, Ruger	a	6+12
carfentrazone-ethyl POST EM	Carfentrazone (240 EC, 400 EC), Carfentrazone-ethyl 240 EC, Elevate 400 EC, Hammer 400 EC, Knocker 240 EC, Nail 600EC, Rage 400 EC, Spike, Spotlight Plus[D], Squatter 400 EC	a	14
dichlobenil PRE EM	Sierraron 4G	a	29
diquat POST EM	Desiquat, Dia-Kill 200, Diquat (200, 200 SL), Reglone, Sanction 200	a	22
diquat + paraquat POST EM	Blowout, Brown Out 250, Combik 250, Di-Par 250, EOS, Paradat, Scorcher 250, Speedy 250, Spray Seed 250, Squadron 250	a	22+22
flazasulfuron* « PRE/POST EM	Katana 250 WG	a	2
fluazifop-P POST EM	Fluazaway 212, Fluazifop (212), Fusilade Forte, Fuzilier, Rootout 212, Surefire Cannonade 212 EC	a	1
flumioxazin PRE EM	Chateau, Spektrum 500 WG	a	14
glufosinate-ammonium POST EM	Basta, Beast 200, Biffo, Cease, Commando 200, Fascinate (280SL, Dry), Faster-TG 200, Fiestar, Fosinate 200 SL, Glufonium 200 SL, Glufos, Glufosinate (200, 400, 800 SG), Glufosinate-Ammonium 200, G-FOS 200, Muster, Surefire Gamma	a	10
glufosinate-ammonium + carfentrazone-ethyl POST EM	Hellcat	a	10+14
glufosinate-P-ammonium POST EM	Basta Ultra	t	10
glyphosate acid POST EM	Moonshine	a	9
glyphosate-ipa* POST EM	AllOut 450, Cropmaster 450, Eraze (360 Bi-aquatic, 510 Bi-aquatic), Glister 450, Gly 360, Glypho 450, Glyphosate (360, 450, 450 CT, 450 SL, 510), Kelpie Chisel 450, Ken-Up (450 CT, 500 Flexi, Aquatic 360), Knockout 450, Panzer 450, Pestmaster (Aqua-Tech 360, Glyphosate CT), Raze, Rico 450 GLY, Roundup (Biactive), SixGun (360, 510), Weedpro (540 Bio, BioAqua 360)	a	9
glyphosate-ipa + mas* POST EM	Weedmaster Duo	a	9
glyphosate-mas* POST EM	Bazooka Dry 800 SG, Glister 680 SG, Dry GLY (680, 680 WG, 700), GLY 680 Dry, Glyphosate (700, 700 SG, 875), Ken-Up Dry 680 WG, Knockout Dry 700 SG, Roundup Ready Plantshield	a	9
glyphosate-mea* POST EM	Glyphosate 450 SL	a	9

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« Do not harvest for 11 weeks (77 days) after application.
[D] Registered for desuckering.

Active constituent(s)	Some registered products	Re-entry period	Activity group
HERBICIDE *(CONT.)* [PRE EM = PRE-EMERGENT, POST EM = POST-EMERGENT] - Refer page 28.			
glyphosate-potassium salt* POST EM	Cropmaster Ultra 540, Glyphosate (540, 540 K, 570) GLY 540 SL, Gold TX 540 GLY, Ken-Up Dry Super K, Knockout Extreme, Max Out 540, Rico HPS 540 GLY, Roundup (Ready PL, Ultra MAX, Ultramax with Plantshield), Titanium 570, Warlord 540 Hi-Load	a	9
glyphosate-potassium salt + mas* POST EM	Weedmaster DST	a	9
glyphosate-potassium salt + mea* POST EM	Glyphosate 550 Twin Salt, Max Out 600 Duo, Promix 550 GLY	a	9
glyphosate-potassium, mea + mas* POST EM	Crucial, Glyphosate 450 SL	a	9
glyphosate-potassium, mma* POST EM	Boonta	a	9
haloxyfop-P methyl ester POST EM	Hallotop 520EC, Haloxyfop 900EC	a	1
haloxyfop-R methyl ester POST EM	Dictum 520EC, Feathertop 520, Firepower 900, Halox-F 520, Haloxyfop (520, 520 EC), Haloxyken 520, Hermes 520, Jasper 520 EC, Recon 520	a	1
indaziflam* PRE EM	Alion 500 SC	a	29
isoxaben PRE EM	Gallery 750 DF	a	29
napropamide PRE EM	Devrinol-C 500WG	a	0
nonanoic acid POST EM	Basher, Beloukha[D], Brut, Neo, Slasher[D], Slayer Organic, FireHawk Bioherbicide Super Concentrate	a	0
norflurazon PRE EM	Zoliar (DF, 800 DF)	a	12
oryzalin PRE EM	Oryzalin 500, Prolan 500	a	3
oxyfluorfen PRE/POST EM	Cavalier (500SC), Encore 240, Gowel 240 EC, Ory-Ken 500 SC, Ox 240, Oxen 240EC, Oxy-F 240, Oxyfan 240 EC, Oxyfluorfen 240 EC, Point	a	14
paraquat POST EM	Explode (250, 360), Gramoxone 360 Pro, P-Quat (250 SL, 300 SL), Par-Q 250, Para-Ken (250, 334), Paradox 250, Paraquat (250, 250 SL, 300, 360, 360 SL), Parashot (250, Plus 360), Powerquat 300 SL, Shirquat 250, Sinmosa 250, Sprayquat 250, Spraytop (250SL, 330)	a	22
pendimethalin PRE EM	Charger 330 EC, Cronos 440EC, Pendimethalin (330, 330EC), Pendi-M 330	a	3
pendimethalin PRE EM	Cyclone 330 EC, Panda 435, Pendimethalin (440, 440 EC)	c	3
pine oil POST EM	BioWeed	a	0
quizalofop-P-ethyl POST	Atomic 200 Selective, Elantra Xtreme, Leopard 200, Quiz, Quizalofop 200EC, Quizalofop-P-ethyl (200, 200 EC), Sextant	a	1
quizalofop-P-ethyl POST	Tiger Gold 250	n	1
simazine PRE EM	Simanex 900 WG, Simaquest 900 WG, Simazine (500 Flowable, 900 DF, 900 WDG, 900 WG), S-Zine (600 SC, 900)	a	5
trifluralin PRE EM	Trampoline 480, Treflan (480, 480 Selective, 600), Tricon Flexi 480, Tri-F 480, TriflurX, Trifluralin (480, 480 EC, Max 480), Trifluralinx (480, 580)	a	3

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[D] Registered for desuckering.

Active constituent(s)	Some registered products	Re-entry period	Activity group
INSECTICIDE			
abamectin + chlorantraniliprole*	Voliam Targo	a	6 + 28
acetamiprid + pyriproxyfen*	Fulcrum Veriphy DC, Kimura, Trivor	a	4A + 7C
afidopyropen	Versys	a	9D
alpha-cypermethrin	AlphaCy 100, Alpha Cyper 300SC, Alpha-Cypermethrin (100 EC, 300SC), Alpha Duo 100, Alphanex 100EC, Alpha-Scud 300 SC, Chieftain Duo 100EC, Cropro Buzzard, Ellias Plus 400 EC, Ken-Tac 100	a	3A
alpha-cypermethrin	Alpha Cypermethrin 250SC, Alpha Forte 250 SC	c	3A
Bacillus thuringiensis subspecies:	*aizawai*: Bacchus WG *kurstaki*: Delfin WG, DiPel DF	a	11
bifenthrin	Arrow 100 EC, Bifenthrin (100, 100 EC, 250 EC, 300 EC, Ultra 300 EC), Bifentin 100EC, Bi-Thrin 100EC, Cropro Zeus, Tal-Ken 100, Talstar 250 EC	a	3A
bifenthrin	Venom 240 SC	o	3A
buprofezin*	Applaud, Buprofezin 440, Scale & Bug Insecticide, Uptown	a	16
carbaryl	Bugmaster Flowable, Carbaryl (500 SC, WG)	d	1A
chlorantraniliprole	Altacor X-Force, Shenzi, Solace Hort 700WG, Surefire Prynova 350 WG	a	28
clothianidin	Samurai (bare soil application only)	a	4A
copper complex	Escar-Go, Socusil	a	unspecified
cyflumetofen	Danisaraba	a	25A
emamectin	Chicane, Clama 50SC, Oracle EC, Proclaim Opti, Surefire Exclaim 44 SG, Warlock	b	6
esfenvalerate	Sumi-Alpha Flex	a	3A
etoxazole	ParaMite	a	10B
etoxazole + piperonyl butoxide*	Motto RMR	a	10B
fipronil	Albatross 200SC, Cannonball 200SC, Fipronil (200, 200 SC, 800 WG), Fiptron 200, Regal 800 WG, Region 200 SC, Seeker 200 SC, Surefire Vista 200SC	a	2B
indoxacarb*	Avatar eVo, Indostar 300WG, Indoxacarb 300 WG, Spymaster 300 WG	a	22A
iron EDTA complex	Eradicate Snail and Slug Killer, Iron Chelate, Multiguard Snail and Slug Killer	a	unspecified
iron phosphate anhydrous	Ironmax Pro	a	unspecified
iron powder	Eradicate Eco Snail and Slug Bait, eco-shield	a	unspecified
metaldehyde	Axcela Slug and Snail, Metakill, Metaldehyde Snail and Slug, Metarex Inov Snail + Slug, Snail + Slug, Pestmaster Snail + Slug, Slug Out, Snailex, Snail Trail		unspecified
metaldehyde + fipronil	Transcend		2B

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Active constituent(s)	Some registered products	Re-entry period	Activity group
INSECTICIDE *(CONT.)*			
Metarhizium anisopliae var. *acridum**	Green Guard SC Premium	d	unspecified
methiocarb	Mesurol		1A
methomyl	Activist 900 VeripHy SP, KDpc Metho, Electra 225, Landrin 225, Lannomyl 225, Lymo 225, Methomyl (225, 225 SL), Pirate, Seneca (Ultra 400SP), Sinmas 225	d	1A
methoxyfenozide	Caribou, Enigma 240 SC, Peregrine, Prodigy, Slate 240, Venturi Max	a	18
orange oil*	Prev-Am	a	unspecified
paraffinic oil	BioPest Paraffinic Oil, D-C-Maxx nC24, isoCLEAR HPO, Trump Spray Oil	a	unspecified
petroleum oil	All Seasons White Oil, JMS Stylet-Oil, Summer Insecticidal Spray Oil, Stifle Dormant Spray Oil, Vicol (Summer Oil, Winter Oil)	a	unspecified
pyrethrins	PyGanic	a	3A
pyrethrins + piperonyl butoxide	Py-Bo Natural Pyrethrum	a	3A
pyriproxyfen	Distance Plus	a	7C
spinetoram	Delegate	a	5
spinosad	Entrust Organic, Kobus 480SC, Naturalure, Preserve 120 SC	a	5
spirotetramat	Engaze 240 SC, Kersel 850 VeripHy WG, Movento 240 SC, SpiroSec 240 SC, Spirosure 240SC, Spirotetramat 240 SC, Viento 240 SC	a	23
sulfoxaflor	Transform	a	4C
sulfur, present as elemental or crystalline sulfur	Cosamil, ecosulfur 800WG, InnoSulph 800 WG, Kumulus DF, Microsul WG Elite, Microthiol Disperss, Nimbus WG, Sulfur (800 WG), Thiovit Jet, Top Wettable Sulphur, Yellowstone 800 WG	a	M2
sulfur: as polysulfide	Lime Sulphur	a	M2
tebufenozide	Ecdypro 700 WP	a	18
trichlorfon	Trepidex 500, Tyranex (500 SL, 500 VeripHy SL)	a	1B
Trichogrammanza carverae	Trichogramma parasitic wasp		unspecified
PLANT GROWTH REGULATORS			
chlormequat	CC-77	a	unspecified
cyanamide*	Cyan, Dormex, Duomax HC520, Evenbloom	a	unspecified
ethephon	Ethephon (720, 720 SL, 900), Ethon 720, K-Ethephon, Promote (Opti, Plus 900)	g	unspecified
gibberellic acid	Gibberellic Acid 100 SL, Gibberelllic Acid Growth Regulant, ProGibb SG, Windfall 800 SG	a	unspecified
methyl esters of fatty acids*	Waiken	c	unspecified

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Prohibited by most wineries that export. Contact your winery or grape purchaser prior to use.

Re-entry period

The re-entry period is the minimum amount of time that must pass between when an agrochemical is applied and when the treated area can be entered without protective clothing and equipment.

Re-entry periods are set to protect people from exposure to agrochemicals that can occur by inhalation or skin contact if they enter an area without proper protective equipment.

The agrochemical label provides information about the re-entry period and any protective clothing or equipment that must be used if the re-entry period is not met. **Different products from the same activity group may have different re-entry requirements.** The advice provided in Table 2 lists the various re-entry periods for each active constituent.

Where the re-entry period specifies a range of days, the shorter period relates to low exposure activities and the longer period to higher exposure activities.

This advice is intended as a guide only.

Consult each product label for re-entry period details and directions.

a	Do not enter treated area until the spray has dried
b	8 hours
c	12 hours
d	1 day
e	1 to 16 days depending on vineyard activity being performed
f	1 to 34 days depending on vineyard activity being performed
g	2 days
h	4 days depending on vineyard activity being performed
i	4 to 23 days depending on vineyard activity being performed
j	5 days
k	5 to 23 days depending on vineyard activity being performed
l	6 days depending on vineyard activity being performed
m	7 days
n	8 days
o	12 days depending on vineyard activity being performed
p	9 to 24 days depending on vineyard activity being performed
q	9 to 27 days depending on vineyard activity being performed
r	15 to 33 days depending on vineyard activity being performed
s	12 to 32 days depending on the vineyard activity being performed
t	21 days

Herbicides and managing resistance

There are two primary categories of herbicides — pre-emergents, and post-emergents. Herbicides registered for use in Australian viticulture on pages 23-24 have been marked as either 'PRE EM' or 'POST EM' to assist in identifying their purpose.

- **Pre-emergent herbicides** are those applied to the soil to prevent weeds from germinating. Factors such as soil type, soil pH and soil organic matter, as well as environmental conditions at the time of application, play an important role in the availability and persistence of pre-emergent herbicides.
- **Post-emergent herbicides** are used to kill weeds that have already emerged from the soil.

Managing herbicide resistance

Herbicide resistance decribes the natural ability of some weeds to survive a herbicide treatment that would normally effectively control them. Herbicide resistance is most commonly due to repeated and often uninterrupted use of herbicides with the same mode of action (activity group). Selection of resistant strains can occur in as little as 3-4 years if no attention is paid to resistance management. Four key contributing factors to herbicide resistance include:

1. The more often a herbicide is applied, the higher the risk of resistance developing to that herbicide.
2. Failure to control weeds adequately — this will lead to increases in weed populations and put pressure on all herbicides used.
3. Weed seed production and seed bank life — weed species that produce large numbers of seed and have a short seed bank life in the soil will evolve resistance faster than weed species with long seed bank lives.
4. The frequency of resistance present in unsprayed weed populations — if this is relatively high, resistance will occur quickly.

Pay attention to the herbicide activity group and read product labels carefully. Identify the weeds you have in your vineyard and ensure you apply products with these weed species listed on the product label.

For further information on herbicides and resistance management, refer to the CropLife Australia website.

For further information on general weed management refer to the AWRI website.

Cancelled products and last use date

The below table identifies product names that have either been voluntarily cancelled, or for which use patterns for vineyards have changed as a result of recent APVMA regulatory reviews.

Take note of the status of each listed product and act accordingly. Any products not applied by the 'last use date' must be responsibly disposed of.

The ChemClear program managed by AgSafe facilitates safe disposal of unused and obsolete agricultural chemicals. To access this program, register your chemicals for disposal at a collection in your area by completing the registration form or call 02 6206 6888 for further information.

Product name (active ingredient)	Status	Last use date
Sumitomo Sumithion 1000EC (fenitrothion)	Use quickly	14 Aug 2026 of old label prior to grapes being removed
Sumitomo Sumithion ULV premium grade (fenitrothion)	Use quickly	14 Aug 2026
Kenso Agcare Copper Hydroxide 350 WG (copper hydroxide)	Use quickly	25 Aug 2026
Jasper 520 EC (haloxyfop-R methyl ester)	Use quickly	25 Aug 2026
Fyfanon 440 EW (malathion)	**DO NOT USE**	**1 May 2026**

A product cancellations list relevant to winegrapes is maintained on the AWRI website.

Spray application in vineyards: achieving correct dose and canopy coverage

Effective disease control depends on applying the correct dose per 100m of canopy and achieving adequate spray coverage within the canopy, particularly in the bunch zone. Poor coverage can significantly reduce control, even when the correct product and rate are used.

Key principles

1. Maintain the correct dose

The product dose per 100m of canopy must remain constant regardless of water volume. When water volume is reduced, product concentration must increase accordingly.

2. Coverage drives efficacy

Effective control requires spray coverage of the outer canopy, inner canopy and bunch zone. Insufficient penetration into the canopy will reduce efficacy.

3. 'Dilute spraying' is a reference

Dilute spraying refers to the volume of water required to wet the canopy to the point of run-off. This volume of water is used to calculate product rate applied.

4. Adjust sprayer setup

Sprayer configuration should be adjusted as canopy size and density change during the growing season. Key parameters include airflow, nozzle orientation, travel speed and spray volume.

Concentration factor (CF)

When spraying below dilute volume, adjust product concentration using the concentration factor:

CF = Dilute spray volume ÷ Applied spray volume

The CF should not exceed label restrictions.

Common causes of poor spray performance

- applying 'dilute rates' during concentrate spraying
- inadequate spray penetration into the canopy
- failure to adjust sprayer settings to canopy size
- excessive travel speed
- inappropriate airflow or nozzle orientation

Key message

Correct product selection, accurate dose and adequate canopy coverage are all required for effective disease control.

For more detail, scan the QR code.

Frequently asked questions

Are there any exceptions to the recommendations in Table 1 on pages 4-12?

Yes. Products may be used closer to harvest in consultation with your winery/grape purchaser. A winery may choose to ignore the recommendations if the wine made from the grapes will be sold domestically, or to an export market that permits residues of the agrochemical. In this case, the label withholding period is the minimum interval that should be observed between spraying the grapes and harvest.

Can I use a product that is not listed?

Yes. An unlisted product can be used, provided it has current registration with the APVMA (refer to page 29 for product cancellations), and is used in consultation with your winery/grape purchaser.

Are MRLs for grapes or wine?

Processed products such as wine do not normally have dedicated MRLs. For processed products, the MRL established for the raw commodity (e.g. grapes) applies to the processed product (e.g. wine). For wine, acceptable terms to describe the raw commodity include ‘grapes’, 'small fruit vine climbing', ‘berries and other small fruits’ or ‘fruit’. If a market has not established an MRL, the requirement is that no detectable residue is found in the exported product. The chemical may be used in the production of the raw commodity so long as no quantifiable residue is detected in the exported product.

Why does the AWRI recommend that the application of some active constituents (for example spiroxamine) be restricted to 'Use no later than E-L 25 (80% capfall)?

The recommendations presented in Table 1 have been developed to satisfy the lowest MRL for any of Australia’s major wine markets after considering available data on the persistence of the agrochemical, both on grapes and through winemaking. In the case of spiroxamine, it is known that if it is sprayed onto grapes after 80% capfall, residues might be detectable in the resultant wine. Some of the markets to which Australia exports wine have a very low MRL for spiroxamine, or alternatively, have not announced their position on the course of action they would take if spiroxamine was detected in wine. To ensure that Australian wine meets MRLs set by all of these markets, the 80% capfall restriction is recommended.

AWRI Agrochemical & MRL Search

Agrochemical information contained in this Agrochemicals registered for use in Australian viticulture publication (commonly known as the 'Dog book'), as well as MRL information, can be rapidly accessed in two ways:

1. Through the online 'AWRI Agrochemical & MRL Search' database.
2. Through the 'AWRI Agrochemical & MRL Search' app. This is a free app, accessible from both the Apple App store and Google Play store. Scan the QR codes below to find the app in your chosen App store.

iOS devices

Android devices

Both the database and app allow users to rapidly access information contained in this publication. These tools also allow users to search for products registered for use on targets that are not listed in Table 1.

Download the most current version of Agrochemicals registered for use in Australian viticulture (commonly known as the 'Dog book') in PDF from the AWRI website.

AWRI Australian Wine Research Institute

Need help with an agrochemical or grapegrowing issue?

Contact the AWRI helpdesk for free and confidential technical support.

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