## **Autumn / Winter Insecticide Guide 2023**

## Registered chemicals for broadacre crops in Western Australia

The pesticides listed in the tables within this guide can be used on any crop appearing on the chemical label, if the rate used does not exceed the highest rate that is registered for use on that crop.

There are many products with different trade names that contain the same active ingredient. This list is not exhaustive and does not imply any specific recommendations of brand names.

Unless otherwise specified all insecticides listed are emulsifiable concentrate (EC). Insecticides with SC are suspension concentrate, WP is wettable powder, CS is capsule suspension, WG are wettable granules (water dispersible granules), EW is emulsion and DF or WDG is dry flowable or water dispersible granules. Ultra-low volume (ULV) insecticides are not listed.

Read the chemical label before use and check label withholding periods for grazing or hay/silage/fodder production before application. Please turn on punctuation if using a screen reader.

The information tabled is a guide only. Whilst every care has been taken in preparation of the information, some errors or omissions may have occurred.

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# **Control of canola seedling pests**

## Table 1. Registered insecticides for canola and oilseed crops.

Insecticide active ingredient names are listed. Rates are millilitres per hectare (mL/ha) unless otherwise specified; g/L refers to grams per litre and NA refers to not applicable.

	Green peach aphid ਪ੍ਰ ਪ	Bryobia mites	Balaustium mite	Redlegged earth mite Y	Lucerne flea	Vegetable weevil	Cutworm	Brown pasture looper	Rutherglen bug
Afidopyropen 100g/L	50^	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alpha-cypermethrin 100g/L ∞	N/A	N/A	400 §	50-100*	N/A	400	75	N/A	N/A
Alpha-cypermethrin 300g/L ∞	N/A	N/A	§	17 or 35	N/A	130 or 135	N/A	N/A	N/A
Bifenthrin 100g/L∞∜	N/A	200	N/A	50-100*	N/A	100-200	N/A	50-100	N/A
Bifenthrin 250g/L∞ ⊹ ⊹	N/A	80*	N/A	20-40*	N/A	40-80	N/A	20-40*	N/A
Chlorpyrifos 400g/L and Bifenthrin 20g/L	N/A	1000	1000	250-500	250-500	500-1000	875-1000	250-500	N/A
Chlorpyrifos 600g/L and Bifenthrin 30g/L	N/A	665	665	165-335	165-335	335-665	665	165-335	N/A
Chlorpyrifos 500g/L∞ > ♦	N/A	N/A	N/A	140-300*	70	800	700-900	N/A	N/A
Chlorpyrifos 300g/L and Lambda- cyhalothrin 15.4g/L	N/A	N/A	N/A	150	N/A	N/A	N/A	N/A	N/A
Cypermethrin 200g/L <sup>2</sup>	N/A	N/A	N/A	50-75	N/A	N/A	N/A	N/A	N/A
Deltamethrin 27.5g/L	N/A	N/A	N/A	N/A	N/A	N/A	200	N/A	N/A
Diafenthiuron 500 g/L	N/A	N/A	N/A	400 or 600	300	N/A	N/A	N/A	N/A
Dimethoate 400g/L	N/A	N/A	N/A	40-85	40-85	N/A	N/A	N/A	N/A
Esfenvalerate 50g/L	N/A	N/A	N/A	50-70, 100*	N/A	400-500	70	70	N/A
Gamma Cyhalothrin 150g/L	N/A	N/A	N/A	8	N/A	N/A	N/A	N/A	30
Flonicamid 500 g/kg	100g/ha^	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lambda-Cyhalothrin 250g/L	N/A	N/A	N/A	9	N/A	N/A	N/A	N/A	36
Maldison 1150g/L ¥	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	500
Omethoate 290g/L	N/A	120	N/A	100	100	N/A	N/A	N/A	N/A
Sulfoxaflor 240g/L €	100-200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A section sign (§) indicates rates of alpha-cypermethrin that are used against weevils have been effective on balaustium mite.

An asterix (\*) indicates label rates of chemicals can be applied on bare ground, post seeding and prior to seedling emergence.

A circumflex (^) indicates the insecticides is recommended to be applied with a wetting agent or methylated seed oil spray adjuvant; refer to label for further information.

A yen sign (¥) indicates Maldison at 1000g/L and 1169g/L is also registered for control of Rutherglen bug in canola.

A euro sign (€) indicates sulfoxaflor at 500g/kg also registered for control of aphids.

An infinity symbol (∞) indicates there are additional concentrations of active available. Refer to Table 6. 'Pesticide active ingredients and equivalent trade names'.

The Greek letter gamma (γ) indicates that these invertebrates have developed resistance to insecticides. To reduce risk of insecticide resistance, consider rotating mode-of-action chemical groups and adopting an integrated pest management strategy.

The Greek letter upisilon (v) indicates that widespread resistance in green peach aphid to pirimicarb has been reported.

Table 2. Seed dressing application (volume per kg of seed) for pest control or suppression of green peach aphids, redlegged earth mite, wireworm, cutworm and lucerne flea in canola.

Refer to labels for dilution rate.

	Fipronil 500g/L	lmidacloprid 600g/L	Thiamethoxam 210g/L and Lambda-cyhalothrin 37.5g/L	Clothianidin 360g/L and Imidacloprid 240g/L
Green peach aphid	N/A	400mL/100kg	500-1000mL/100kg #	500mL/100kg
Redlegged earth mite	400mL/100kg	400mL/100kg	1000mL/100kg <sup>φ</sup>	500mL/100kg <sup>φ</sup>
Lucerne flea	N/A	N/A	1000mL/100kg <sup>φ</sup>	500mL/100kg <sup>φ</sup>
Wireworm	N/A	N/A	1000mL/100kg	500mL/100kg
Cutworm	N/A	N/A	N/A	500mL/100kg

The Greek letter phi  $(\phi)$  indicates the label states suppression of pest. Always monitor crop after emergence as seed applied insecticides may not suppress insect pests at high pressure levels.

Number sign (#) indicates that seed dressing should be applied at the higher rate where higher pest pressure is expected, or longer period of control required.

### Blue oat mite

Generally, a minor pest in Western Australia and mostly controlled with chemical and rates used against redlegged earth mite.

### Slugs and snails

For best results broadcast baits evenly over the paddock before crop emergence. If numbers are high use the highest registered baiting rate. Baits may need to be reapplied.

Two bait types are available:

- Metaldehyde: 50g/kg active ingredient (a.i). Baiting rate 5-7.5kg/ha.
- Iron either as iron EDTA (60g/kg a.i.) or iron phosphate (9g/kg a.i.) Baiting rate 5-16kg/ha.

# Control of lupin and some grain legume seedling pests

# Table 3. Registered insecticides for lupin and some grain legume crops.

Insecticide active ingredient names are listed. Rates are given as millilitres per hectare (mL/ha) unless specified otherwise; g/L refers

to grams per litre and N/A refers to not applicable.

	Bryobia mites	Green peach aphid ʊ ɣ	Redlegged earth mite Y	Lucerne flea	Cutworm	Brown pasture looper
Alpha-cypermethrin 100g/L ∞	N/A	N/A	50-100*	N/A	75	-
Bifenthrin 100g/L ∞ +	200*	N/A	50-100*	N/A	N/A	50-100*
Bifenthrin 250g/L ∞ +	80*	N/A	20-40*	N/A	N/A	20-40*
Chlorpyrifos 400g/L and Bifenthrin 20g/L	N/A	N/A	250-500	250-500	N/A	250-500
Chlorpyrifos 600g/L and Bifenthrin 30g/L	N/A	N/A	165-335	165-335	N/A	165-335
Chlorpyrifos 500g/L ∞	N/A	N/A	140-300*	N/A	N/A	N/A
Chlorpyrifos 300g/L and L-cyhalothrin 15.4g/L	N/A	N/A	N/A	N/A	N/A	200
Cypermethrin 200g/L ∞	N/A	N/A	50-75	N/A	75	N/A
Deltamethrin 27.5g/L	N/A	N/A	N/A	N/A	200	500
Dimethoate 400g/L	N/A	N/A	90	85	N/A	N/A
Esfenvalerate 50g/L	N/A	N/A	50-70,100*	N/A	70	35
Gamma-cyhalothrin 250g/L	N/A	N/A	8	N/A	10 or 15	10
Lambda-cyhalothrin 240g/L	N/A	N/A	10	N/A	N/A	13
Lambda-cyhalothrin 250g/L	N/A	N/A	9	N/A	N/A	12
Omethoate 290g/L	N/A	N/A	100	100	N/A	N/A
Pymetrozine 250g/kg ●	N/A	400g/ha	N/A	N/A	N/A	N/A
Pymetrozine 500g/kg ●	N/A	200g/ha	N/A	N/A	N/A	N/A

An asterix (\*) indicates label rates of chemicals can be applied on bare ground, post seeding and prior to seedling emergence.

A bullet (•) indicates the insecticide can only be applied as per Australian Pesticides and Veterinary Medicines Authority Permit 85365.

The Greek letter gamma (γ) indicates that these invertebrates have developed resistance to insecticides. To reduce risk of insecticide resistance, consider rotating mode-of-action chemical groups and adopting an integrated pest management strategy.

The Greek letter upisilon (v) indicates that widespread resistance in green peach aphid has been reported to pirimicarb.

A plus sign (+) indicates bifenthrin at 180g/L, 240g/L and 300g/L is also registered for control of redlegged earth mite, brown pasture looper, bryobia mites and blue oat mites.

An infinity symbol (∞) indicates there are additional concentrations of active available. Refer to Table 6 'Pesticide active ingredients and equivalent trade names'.

### **Lupin seed dressings**

Products with imidacloprid at 600g/L registered as a seed dressing for control of redlegged earth mite and lucerne flea in lupins.

# **Control of cereal seedling pests**

## Table 4. Registered insecticides for cereal crops.

Insecticide active ingredient names are listed. Rates are given as millilitres per hectare (mL/ha) unless specified otherwise; g/L refers to grams per litre and N/A refers to not applicable.

No data	Aphids p	Russian wheat aphid	Cutworm	Lucerne flea	Redlegged earth mite <b>γ</b>	Webworm
Afidopyropen 100g/L ∞	50^	50^	N/A	N/A	N/A	N/A
Alpha- cypermethrin	125■	N/A	75	N/A	50-100*	75
Bifenthrin 100g/L	N/A	N/A	N/A	N/A	50-100*	100
Bifenthrin 250g/L	N/A	N/A	N/A	N/A	20-40*	40
Chlorpyrifos 400g/L and Bifenthrin 20g/L	N/A	N/A	N/A	250-500	250-500	500
Chlorpyrifos 600g/L and Bifenthrin 30g/L	N/A	N/A	N/A	165-335	165-335	335
Chlorpyrifos 500g/L	N/A	N/A	700-900	70	140	300
Chlorpyrifos 300g/L and Lambda-cyhalothrin 15.4g/L	200 or 300	N/A	200 or 300	120	150	200
Cypermethrin 200g/L	N/A	N/A	75-150	N/A	50-75	75
Deltamethrin 27.5g/L	N/A	N/A	200	N/A	N/A	200
Dimethoate 400g/L	500	N/A	N/A	55-85	55-85	N/A
Esfenvalerate 50g/L	100-300	N/A	70	N/A	50-70, 100*	70
Gamma- Cyhalothrin 150g/L	10 or 15■	N/A	10 or 15	N/A	8	10
Lambda-cyhalothrin 250g/L ∞	12 or 18■	40	12 or 18	N/A	9	12
Maldison 1150g/L	N/A	N/A	N/A	60- 130	N/A	N/A
Omethoate 290g/L	N/A	N/A	N/A	100	100	N/A
Pirimicarb 800g/kg²	160-190g/ha	190g/ha	N/A	N/A	N/A	N/A
Sulfoxaflor 240 g/L #	50-100	100	N/A	N/A	N/A	N/A

An asterix (\*) indicates label rates of chemicals can be applied on bare ground, post seeding and prior to seedling emergence.

An infinity symbol (∞) indicates there are additional concentrations of active available. Sulfoxaflor at 500g/kg, afidopyropen at 100g/L and lambda-cyhalothrin at 240g/kg are also registered for control of aphids, including Russian wheat aphid.

Black small square (•) indicates listed insecticides also act as anti-feed, reducing effects of aphid feeding damage.

The Greek letter gamma (γ) indicates that these invertebrates have developed resistance to insecticides. To reduce risk of insecticide resistance, consider rotating mode-of-action chemical groups and adopting an integrated pest management strategy.

Latin letter wynn (p) indicates insecticides listed also registered for Barley Yellow Dwarf Virus (BYDV) control.

A circumflex (^) indicates the insecticides is recommended to be applied with a spray adjuvant, see label for further details. Also registered on barley and wheat and does not specify BYDV control.

#### **Balaustium** mite

The 1L/ha rate of Pyrinex Super® is registered for use in wheat and barley for Bryobia mite. This rate is effective on Balaustium mite. Gamma-cyhalothrin is registered at 16 or 24 mL/ha in wheat and barley.

#### Blue oat mite

Generally, a minor pest in Western Australia and mostly controlled with rates of insecticides used against redlegged earth mite.

### Table 5. Seed dressing application for significant pests in cereals.

All rates are per 100kg of seed. Refer to label for dilution rate

No data	Aphids (including BYDV control)	Aphids for feeding damage	Russian wheat aphid	Redlegged earth mite	Lucerne flea	Desiantha weevil larvae
Imidacloprid 600g/L ∞	120 or 240mL #	120 or 240mL #	120mL	N/A	N/A	N/A
Thiamethoxam 350 g/L	100 - 200mL #	100 - 200mL #	100-200mL #	N/A	N/A	N/A
Thiamethoxam 210g/L and Lambda- cyhalothrin 37.5g/L	N/A	165-330mL#	N/A	330mL φ	330mL φ	N/A
Chlorpyrifos 500g/L	N/A	N/A	N/A	N/A	N/A	120mL

### **Symbols for Table 5**

The Greek letter phi  $(\phi)$  indicates the label states suppression of pest. Always monitor crop after emergence as seed applied insecticides may not suppress insect pests at high pressure levels.

Number sign (#) indicates that seed dressing should be applied at the higher rate where higher pest pressure is expected, or longer period of control required.

An infinity symbol (∞) indicates there are additional concentrations of active available. Refer to Table 6. 'Pesticide active ingredients and equivalent trade names'. These include imidacloprid at 180 g/L or 360 g/L in addition to a fungicide such as tebuconazole, metalaxyl-m and flutriafol.

# Pesticide active ingredients and equivalent trade names

# Table 6. Pesticide trade names listed by active ingredient group.

List may not be complete, check with your retailer. Read chemical label before use.

Insecticide group	Chemical names	Trade names
1A Carbamates	pirimicarb 500g/L & 800g/L	4Farmers 500, Aphidex 800, Aphidex 500, Apparent 500, Conquest Pirimidex 500, Farmalinx Genfarm 500, Imtrade 500, Piri-Ken 500, Pirimor 500, Rainbow 500, Titan Atlas 500
1B Organophosphates	chlorpyrifos 400g/L	Pyrinex Super (Also contains group 3A bifenthrin 20g/L)
1B Organophosphates	chlorpyrifos 500g/L	4Farmers, AC Chop, Accensi, Agmerch, Agrocn, Apparent Dingo, APS, Arysta LifeScience, AW Cuft, Chemicide 500, Chlorban, Chlorpos, Clip, CropSure Sureban, David Grays, Echem, Farmalinx, Generifos 500, Genfarm, Huilong, Kelpie Chlor-P, Kenso AgCare Kensban, Nufarm, Ozcrop, Pest Controller, Rainbow, Relyon, Sabakem, Sharda, Smart, Spalding, Strike-out, SureFire Fortune, Task, Titan, Trio
1B Organophosphates	chlorpyrifos 600g/L	OutPerform 630EC (Also contains group 3A bifenthrin 30g/L)
1B Organophosphates	dimethoate 400g/L	4farmers, Accensi, Adama, Apparent Decimato, AW, Choice Di Met, Crop Pro Stalk, Danadim, Dimetholinx, Genfarm, Halley, Imtrade, Katar, Relyon, Rover, Superway, Titan
1B Organophosphates	maldison 1150g/L	Hy-Mal
1B Organophosphates	omethoate 290g/L*	Le-Mat
1B Organophosphates	phosmet 150g/L	Imidan
2B Phenylpryazoles (Fiproles)	fipronil 500g/L	Cosmos, Fipronil, Legion
3A Pyrethroids Pyrethrins	alphacypermethrin 100g/L	4Farmers, AC Ferocity, AC Fortifen, Accensi, Acp, Agroshine, Agvantage, Alphanex, Alpha Duop, Alpha-Scud Elite, Alphasip Duo, Apparent Annihilate,

Insecticide group	Chemical names	Trade names
		Astound Duo, AW Alf, Biotis, Campbell Antares, Centaur, Chemforce, Chieftain Duo, Ciperkey, Conquest, Cropro Buzzard, Dominex Duo, Echem, FSA AlphaCy, Genfarm Alpha Duo, Gharda Alphaguard, Grass Valley, Halley, Hemani, Imtrade Dictate Duo, Indogulf, Ken-Tac, Maya Alfa, Novaguard, Opal, Ozcrop Alpha C, Pacific Alpha-Cypermethrin, Rainbow, Rygel alphacyper, Relyon Alpha Duo, Sabkem, Titan, Trump, Trio, Unichoice, WSD Alpha cyper
3A Pyrethroids Pyrethrins	alphacypermethrin 250g/L	4Farmers, Conquest Alpha Forte, Genfarm Alpha Cypermethrin, Googly Alpha Duo, Reylon Alpha, Rygel Alpha Forte, Titan
3A Pyrethroids Pyrethrins	alphacypermethrin 300g/L & 400 g/L	Alpha-Scud 300, Apparent Alpha Omega 300, CropSure Alpha Cyper 300, IA Ellias 300, Imtrade Ellias 300, Imtrade Ellias Plus 400, Titan 300
3A Pyrethroids Pyrethrins	bifenthrin 100g/L	AC Fortifen, Accensi, Agvantage, Apparent, AW Agfen, Choice bifendoff, Compel, Conquest Arrow, Binder, Bisect, David Grays, Disect, Echem, Farmalinx, Fenstar, Fenthrin, FSA, Genfarm, Imtrade, KDPC Bi-thrin, Rygel, Sabakem, Starlet, Surefire bent, Talstar, Tal-Ken, Titan, Venom, Pyrinex Super (Contains bifenthrin 20g/L & also contains group 1B chlorpyrifos 500g/L), OutPerform 630EC (Contains bifenthrin 30g/L & also contains group 1B chlorpyrifos 600g/L)
3A Pyrethroids Pyrethrins	bifenthrin 180 g/L, 240g/L, 250g/L & 300g/L	4Farmers 300, Astral 250, Apparent Stockade, Enviromax 250, Imtrade Bifenthrin Ultra 300, Genfarm 250, Reylon Bifenthrin 250, Starlet 250, Talstar LFR 180, Talstar 250, Titan Bifenthrin 250, Venom 240
3A Pyrethroids Pyrethrins	cypermethrin 200g/L	Genfarm Boom, Cyrux , Genfarm Halley, Imtrade Cypershield, Titan, WSD
3A Pyrethroids Pyrethrins	cypermethrin 250g/L & 260g/L	Accensi 250, AW Cypermethrin 260, Genfarm Cyper Plus 250, Cyrux 250, Hemthrin Plus 250
3A Pyrethroids Pyrethrins	deltamethrin 27.5g/L	Apparent, Ballistic-Elite, Crop Pro D-Sect, Decis Options, Deltashield, Dicast Halley Deltamethrin Duo,

Insecticide group	Chemical names	Trade names
3A Pyrethroids Pyrethrins	esfenvalerate 50g/L	Sumi-Alpha Flex
3A Pyrethroids Pyrethrins	gamma-cyhalothrin 150g/L	Trojan
3A Pyrethroids Pyrethrins	lambda-cyhalothrin 240g/L	Kaiso
3A Pyrethroids Pyrethrins	lambda-cyhalothrin 250g/L	4Farmers, AC Longbow, AgMerch, Agro-Essence, Apparent Miyagi, Arysta LifeScience, Conquest Lambda, Cyhella, Easyfarm Lambda, eChem Lambda, Ezycrop Lambda, Fizzle, Flipper, Hemani Lambda, Karate Zeon, Kick, Kung Fu, Lambda, Macro Protect, Matador with Zeon Technology, i, Novaguard, Profeng, Rainbow, Raystra, Subakem Lambda, Submarino Lambda, Taekwando, Unocaps
3A Pyrethroids Pyrethrins	lambda-cyhalothrin 37.5g/L	Colam, Cruiser Opti, Kenso AgCare Kenzar, seed dressings all contain Lambda-cyhalothrin 37.5g/L and contain Group 4A Thiamethoxam.
4A Neonicotinoids	clothianidin 360g/L	Clothi-I seed dressing and Poncho Plus seed dressing (Both also contain Group 4A imidacloprid 240 g/L.)
4A Neonicotinoids	imidacloprid 180g/L	4Famers Imid-Triadimenol, Foliarflo Plus, NuFarm Pontiac Seed Treatment, ProGuard Plus, ProLeaf Plus. All are seed dressings and contain additional fungicide active.
4A Neonicotinoids	imidacloprid 360g/L	Apparent Lad Ultra, Eureka!, Hombre Ultra, GenFarm Imidi T, Proguard Ultra, Titan. All are seed dressings and contain additional fungicide active.
4A Neonicotinoids	imidacloprid 600g/L	4Farmers, AC Impressor, Accensi, Agmate, Apparent Expunge, AW Inflict, AgMerch, Choice Immmi, Conquest Imida, EzyCrop, FSA, Famrlinx Imi, Gaucho, Genero, GenFarm, Global Chem's Imida, Guardian Red Seed, Guardian Seed, Hemani, Immix, Kenso AgCare Radicle, Look out, Mayaimida, NovaGuard, OzCrop, Rainbow, RedQueen, Senator, Smart, Sombrero, Sindor, Spalding, Submarino, Titan, Trio

Insecticide group	Chemical names	Trade names
4A Neonicotinoids	thiamethoxam 210g/L (& Group 3A lambda-cyhalothrin 37.5g/L)	Colam insecticide seed Treatment, Cruiser Opti seed dressing and AgCare Kenzar, flowable seed dressing. All also contain thiamethoxam 210g/L and Group 3A lambda-cyhalothrin 37.5g/L.
4A Neonicotinoids	thiamethoxam 350g/L	Cruiser
4C Sulfoxaflor	sulfoxaflor 240 g/L & 500 g/kg	Transform 240, Expedite 500
9B Pyridine azomethine derivatives	pymetrozine 250g/L & 500g/L	Chess 500, Endgame 500, Fulfill 500, Metro 250, Surefire Pymento 500, Worthide Xtra 500
9D Pyropenes	afidopyropen 100g/L	Versys
11C Bacillus thuringiensis (insecticidal proteins)	Bacillus thuringiensis subspecies kurstaki (Btk)	Bacchus WG, Costar WG, Dipel SC, Dipel DF, Sipcam Delfin WG
12A Diafenthiuron	diafenthiuron 500g/L	Pegasus, Receptor
29 Pyridincarboxamide	flonicamid 500g/kg	Mainman

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