Autumn/winter insecticide guide 2022

## Registered chemicals for autumn and winter insect pests in Western Australian broadacre crops 2022

Compiled by the Department of Primary Industries and Regional Development’s (DPIRD) PestFacts WA (former PestFax) service team.
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**ALWAYS READ CHEMICAL LABEL BEFORE USE.**

**THIS INFORMATION IS A GUIDE ONLY AND DOES NOT LIST ALL REGISTERED INSECTICIDES.**

## 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. Note: g/L refers to grams per litre and “-“ refers to not applicable.

| **No data** | Afidopyropen 100g/L | Alpha-cupermethrin100g/L⯎⯎ | Alpha-cypermethrin300g/L🞟 | Bifenthrin 100g/L▪⯎ | Bifenthrin250g/L▪⯎ | Chlorpyrifos 400g/L and Bifenthrin 20g/L | Chlorpyrifos 600g/L and Bifenthrin 30g/L | Chlorpyrifos 500g/L⯎⯎ | Chlorpyrifos 300g/L andLambda-cyhalothrin 15.4g/L | Cypermethrin 200g/L⯎ | Deltamethrin 27.5g/L | Diafenthiuron 500 g/L | Dimethoate 400g/L | Esfenvalerate 50g/L | GammaCyhalothrin 150g/L | Flonicamid 500 g/kg | Lambda-Cyhalothrin 250g/L⯎ | Maldison 1150g/L° | Omethoate 290g/L | Sulfoxaflor 240g/L• |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Green peach aphid ᴪ | 50^ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 100 g/ha^ | - | - | - | 100 |
| Bryobia mites | - | - | - | 200 | 80\* | 1000 | 665 | - | - | - | - | - | - | - | - | - | - | - | 120 | - |
| Balaustium mite | - | # | # | - | - | 1000 | 665 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Redlegged earth mite  | - | 50-100\* | 17 or 35 | 50-100\* | 20-40\* | 250-500 | 165-335 | 140-300\* | 150 | 50-75 | - | 400 or 600 | 40-85 | 50-70,100\* | 8 | - | 9 | - | 100 | - |
| Lucerne flea | - | - | - | - | - | 250-500 | 165-335 | 70 | - | - | - | 300 | 40-85 | - | - | - | - | - | 100 | - |
| Vegetable weevil | - | 400 | 130 or 135 | 100-200 | 40-80 | 500-1000 | 335-665 | 800 | - | - | - | - | - | 400-500 | - | - | - | - | - | - |
| Cutworm | - | 75 | - | - | - | 875-1000 | 665 | 700-900 | - | - | 200 | - | - | 70 | - | - | - | - | - | - |
| Brown pasture looper | - | - | - | 50-100 | 20-40\* | 250-500 | 165-335 | - | - | - | - | - | - | 70 | - | - | - | - | - | - |
| False wireworm | - | - | - | - | - | - | - | 1000 or 1500 | - | - | - | - | - | - | - | - | - | - | - | - |
| Rutherglen bug | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 30 | - | 36 | 500 | - | - |

 **#** Rates of alphacypermethrin that are used against weevils have been effective on balaustium mite. Rates of bifenthrin used for bryobia mite have given poor kill of balaustium mite.

**\*** Label rates of chemicals can be used on bare ground applied post seeding and prior to seedling emergence.

ᴪ Pirimicarb registered but widespread resistance in green peach aphid reported, paraffinic oil registered.

° Maldison at 1000g/L and 1169g/L also registered for control of rutherglen bug in canola.

• Sulfoxaflor at 500g/kg also registered for control of aphids.

🞟 Alpha-cypermethrin at 400 g/L also registered for control of vegetable weevil, redlegged earth mite and blue oat mite.

^ Requires wetting agent or methylated seed oil spray adjuvant; see label for further information.

🞏 To reduce risk of insecticide resistance consider rotating mode-of-action chemical groups and adopting an integrated pest management strategy.

⯎ Additional concentrations of active available. Refer to Table 6. ‘Pesticide active ingredients and equivalent trade names and relevant label directions for application rates.

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.

| **No data** | Fipronil 500g/L | Imidacloprid 600g/L | Thiamethoxam 210g/L and Lambda-cyhalothrin 37.5g/L | Clothianidin 360g/L and Imidacloprid 240g/L |
| --- | --- | --- | --- | --- |
| Green peach aphid | - | 400mL/100kg | 500-1000mL/100kg | 500mL/100kg |
| Redlegged earth mite | 400mL/100kg | 400mL/100kg | 1000mL/100kg^ | 500mL/100kg^ |
| Lucerne flea | - | - | 1000mL/100kg^ | 500mL/100kg^ |
| Wireworm | - | - | 1000mL/100kg | 500mL/100kg |
| Cutworm | - | - | - | 500mL/100kg |

**^**Label states suppression of pest. Always monitor crop after emergence as seed applied insecticides may not suppress insect pests at high pressure levels.

### 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. A better kill rate is achieved when there is little green plant material to compete with the baits to attract slugs/snails. Trials have shown that a baiting rate of 5kg/ha is sufficient in most cases. However, if numbers are high use the highest registered baiting rate. Baits may need to be reapplied. Rainfast baits will persist longer in the paddock, check label for efficacy two weeks after rain.

Three bait types are available:

1. Metaldehyde: 50g/kg active ingredient (a.i). Baiting rate 5-7.5kg/ha.
2. Methiocarb: 20g/kg a.i. Baiting rate 5.5-22kg/ha.
3. Iron EDTA: 60g/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. Note: g/L refers to grams per litre and “-“ refers to not applicable.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Alpha-cypermethrin 100g/L⯎ | Bifenthrin 100g/L ▪⯎ | Bifenthrin 250g/L ▪⯎ | Chlorpyrifos 400g/L and Bifenthrin 20g/L | Chlorpyrifos 600g/L and Bifenthrin 30g/L | Chlorpyrifos 500g/L⯎ | Chlorpyrifos 300g/L and L-cyhalothrin 15.4g/L | Cypermethrin 200g/L⯎ | Delta-methrin 27.5g/L | Dimethoate 400g/L | Esfen-valerate 50g/L | Gamma-cyhalothrin 250g/L | Lambda-cyhalothrin 240g/L | Lambda-cyhalothrin 250g/L | Omethoate 290g/L | Pymetrozine 250g/kg● | Pymetrozine 500g/kg● |
| Bryobia mites | - | 200\* | 80\* | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Green peach aphid ᴪ  | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 400 g/ha | 200 g/ha |
| Redlegged earth mite  | 50-100\* | 50-100\* | 20-40\* | 250-500 | 165-335 | 140-300\* | - | 50-75 | - | 90 | 50-70,100\* | 8 | 10 | 9 | 100 | - | - |
| Lucerne flea | - | - | - | 250-500 | 165-335 | - | - | - | - | 85 | - | - | - | - | 100 | - | - |
| Cutworm | 75 | - | - | - | - | - | - | 75 | 200 | - | 70 | 10 or 15 | - | - | - | - | - |
| Brown pasture looper | - | 50-100\* | 20-40\* | 250-500 | 165-335 | - | 200 | - | 500 | - | 35 | 10 | 13 | 12 | - | - | - |

**\*** Label rates of chemicals can be used on bare ground applied post seeding and prior to seedling emergence.

● Can be used for aphids on pulses as per Australian Pesticides and Veterinary Medicines Authority Permit 85365.

🞏 To reduce risk of insecticide resistance consider rotating mode-of-action chemical groups and adopting an integrated pest management strategy.

▪ Bifenthrin at 180g/L, 240g/L and 300g/L also registered for control of redlegged earth mite, brown pasture looper, bryobia mites and blue oat mites. ⯎ Additional concentrations of active available, refer to Table 6. ‘Pesticide active ingredients and equivalent trade names and relevant label directions for application rates. ᴪ Pirimicarb registered but widespread resistance in green peach aphid reported. Paraffinic oil registered.

### 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. Note: g/L refers to grams per litre and “-“ refers to not applicable.

| **No data** | Afidopyropen 100g/L🞟 | Alpha- cypermethrin100g/L⯎ | Bifenthrin 100g/L | Bifenthrin 250g/L | Chlorpyrifos 400g/L and Bifenthrin 20g/L | Chlorpyrifos 600g/L and Bifenthrin 30g/L | Chlorpyrifos 500g/L | Chlorpyrifos 300g/L andL-cyhalothrin 15.4g/L | Cypermethrin 200g/L | Deltamethrin 27.5g/L | Dimethoate 400g/L | Esfenvalerate 50g/L | Gamma-Cyhalothrin 150g/L | Lambda-cyhalothrin 250g/L⯎🞟 | Maldison 1150g/L | Omethoate 290g/L | Pirimicarb 800g/kg⯎ | Sulfoxaflor 240 g/L 🞟⯎ |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Aphids°  | 50^ | 125▪ | - | - | - | - | - | 200 or 300 | - | - | 500 | 100-300 | 10 or 15▪ | 12 or 18▪ | - | - | 160-190 g/ha | 50-100 |
| Russian wheat aphid | 50^ | - | - | - | - | - | - | - | - | - | - | - | - | 40 | - | - | 190 g/ha | 100 |
| Cutworm | - | 75 | - | - | - | - | 700-900 | 200 or 300 | 75-150 | 200 | - | 70 | 10 or 15 | 12 or 18 | - | - | - | - |
| Lucerne flea | - | - | - | - | 250-500 | 165-335 | 70 | 120 | - | - | 55-85 | - | - | - | 60- 130 | 100 | - | - |
| Redlegged earth mite  | - | 50-100\* | 50-100\* | 20-40\* | 250-500 | 165-335 | 140 | 150 | 50-75 | - | 55-85 | 50-70100\* | 8 | 9 | - | 100 | - | - |
| Webworm | - | 75 | 100 | 40 | 500 | 335 | 300 | 200 | 75 | 200 | - | 70 | 10 | 12 | - | - | - | - |

**\*** Label rates of chemicals recommended to be used on bare ground applied post seeding and prior to seedling emergence.

🞟 Sulfoxaflor at 500g/kg, afidopyropen at 100g/L and lambda-cyhalothrin at 240g/kg also registered for control of aphids, including Russian wheat aphid.

▪ Also acts as anti-feed, reducing effects of aphid feeding damage.

🞏 To reduce risk of insecticide resistance consider rotating mode-of-action chemical groups and adopting an integrated pest management strategy.

° Includes Barley Yellow Dwarf Virus (BYDV) control.

^ Requires addition of a spray adjuvant, see label for further details. Registered on barley and wheat and does not specify BYDV control.

⯎ Additional concentrations of active available refer to Table 6. ‘Pesticide active ingredients and equivalent trade names. Refer to relevant label directions for uses and application rates.

Table 5. Seed dressing application for significant pests in cereals. Refer to labels for dilution rate.

It is recommended that a synthetic pyrethroid top-up spray is applied 7-8 weeks after sowing imidacloprid treated seed for control of aphids vectoring barley yellow dwarf virus (BYDV).

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

^ Label states suppression. Always monitor crop after emergence as seed applied insecticides may not suppress insect pests at high pressure levels.

# Higher rate can be used in areas where higher pest pressure is expected, or longer period of control required.

• There is a variety of seed dressings available that include imidacloprid at 180 g/L or 360 g/L in addition to a fungicide such as tebuconazole, metalaxyl-m and flutriafol.

🞏 To reduce risk of insecticide resistance growers should consider adopting an integrated pest management strategy and rotating mode-of-action chemical groups.

### Balaustium mite

Rates of alphacypermethrin registered for weevils have been effective on balaustium mite. Rates of bifenthrin used for bryobia mites have given poor kill of balaustium mite. The 1L/ha rate of Pyrinex Super® registered for balaustium in canola can be used in wheat and barley as it is registered for bryobia mites in these crops.

### Blue oat mite

Generally, a minor pest in Western Australia and mostly controlled with rates of insecticides used against redlegged earth mite. Mite samples can be sent to Entomology, Department of Primary Industries and Regional Development, 3 Baron-Hay Court, South Perth, WA for free identification.

## 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 (list may not be complete - check with your retailer)  |
| --- | --- | --- |
| 1A Carbamates | pirimicarb 500g/L & 800g/L | Aphidex 800, Aphidex 500 WG, Piricarb WG, Piri-Ken 500 WG, Pirimicarb 500 WG, Pirimidex WG, Pirimor WG, Titan Atlas 500 WG |
| 1B Organophosphates | chlorpyrifos 300g/L | Cobalt Advanced (Also contains group 3A lambda-cyhalothrin 15.4g/L) |
| 1B Organophosphates | chlorpyrifos 400g/L | Pyrinex Super (Also contains group 3A bifenthrin 20g/L) |
| 1B Organophosphates  | chlorpyrifos 500g/L | Accensi Chlorpyrifos 500, AgMerch Chlorpyrifos 500, Agprotect Chlorpyrifos 500, Agro-essence Chlorpyrifos 500, Agvantage Chlorpyrifos 500, APS Chlorpyrifos 500, Arysta LifeScience Chlorpyrifos 500, Chlorpyrifos, Chemicide 500, Chlorban, Chlorpos, Chop 500, Cobalt (Also contains group 3A Lamda-cyahlothrin15.4g/L), Clip, CropSure Sureban, Cutter, Cuft, Cyren 500, Echem Chlorpyrifos 500, Foison Chlorpyrifos 500, Ezycrop Chlorpyrifos 500, Foison Chlorpyrifos 500, Fortune 500, Genfarm Chlorpyrifos 500, Generifos 500, Guangxin Chlorpyrifos 500, Macphersons Chlorpyrifos 500, Mission Chlorpyrifos 500, Ozcrop Chlorpyrifos 500, Pest Controller, Lorsban 500, Profeng Chlorpyrifos 500, Pyrinex, Raystar Chlorpyrifos 500, Reylon Chlorpyrifos 500, Sabakem Chlorpyrifos 500, Sharda Chlorpyrifos 500, Spalding Chlorpyrifos 500, Sinon Chlorpyrifos 500, Smart Chlorpyrifos 500, Submarino Chlorpyrifos 500, Task 500 |
| 1B Organophosphates | chlorpyrifos 600g/L  | OutPerform 630EC (Also contains group 3A bifenthrin 30g/L) |
| 1B Organophosphates  | dimethoate 400g/L  | Choice Di Met 400, Decimator 400, Danadim, Dimetholinx, Dimethoate, Dimethoate 400, Dimethoate Insecticide, Imtrade Dimethoate 400, Reylon Dimethoate 400, Rover, Saboteur, Stalk |
| 1B Organophosphates  | maldison 1150g/L | Hy-Mal |
| 1B Organophosphates  | omethoate 290g/L\* | Le-Mat 290 SL |
| 1B Organophosphates  | phosmet 150g/L | Imidan |
| 2B Phenylpryazoles (Fiproles)  | fipronil 500g/L  | Cosmos seed dressing, Fipronil 500, Legion Insecticidal Seed Treatment |
| 3A Pyrethroids Pyrethrins | alphacypermethrin 100g/L | Ace 100 Insecticide, Alf, Alfa 100, Alpha 100, Alpha C 100, Alpha Cyper, Alpha-Cypermethrin Duo 100, Alpha Duo, Alpha Duo 100, Alpha Duop 100, Alphacy 100, Alphacyp 100, Alpha-Cyp 100 Duo, Alphacyper, Alpha-Cyper, Alpha-cypermethrin 100, Alpha-cypermethrin 100 Duo, Alphaguard 100, Alphanex, Alpha-Scud Elite, Alphasip Duo, Annihilate 100 Duo, Antares 100, Alphacyper 100, Astound Duo, Buzzard, Centaur 100, Chieftain Duo 100, Ciperkey 100, Dictate Duo 100, Dominex Duo, Fastac Duo, Ferocity 100 Insecticide, F. S. A. AlphaCy 100, Gharda Alphaguard 100, Indogulf Alphacypermethrin 100, Ken-Tac 100, Mascot Duo, Maya Alfa, Pacific Alpha-Cypermethrin 100, Trump 100, Unichoice 100 |
| 3A Pyrethroids Pyrethrins | alphacypermethrin 250g/L | Alpha cypermethrin 250, Alpha-Cyp 250SC I, Alpha Forte 250, Alpha-Duo 250, Alphanex 250, Genfarm Alpha Cypermethrin 250, Reylon Alpha Cypermethrin 250 |
| 3A Pyrethroids Pyrethrins | alphacypermethrin 300g/L & 400 g/L | Alpha-Scud 300, Apparent Alpha Omega 300, Imtrade Ellias 300, IA Ellias 300, Imtrade Ellias Plus 400, Titan Alpha-Cypermethrin 300 |
| 3A Pyrethroids Pyrethrins | bifenthrin 100g/L | Agfen 100, Arrow 100, Bent 100, Bifendoff 100, Bifenthrin, Bifenthrin 100, Bifenthrin 100 EC, Bifenthrin Duo, Bifenthrin 100, Binder, Bisect Duo 100, Bi-Thrin 100, Compel, Disect 100, Fenstar 100, Fenthrin, Fortifen, Starlet 100, Talstar, Tal-Ken, Venom 100EC, Zeus, 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 | Astral 250, Bifenthrin 250, Reylon Bifenthrin 250, Bifenthrin Ultra 300, Starlet 250, Stockade, Talstar LFR 180, Talstar 250, Titan Bifenthrin 250, 4Farmers Bifenthrin 300, Venom 240 |
| 3A Pyrethroids Pyrethrins | cypermethrin 200g/L  | Boom 200, Cypermethrin 200, Cypershield 200, Cyrux 200 |
| 3A Pyrethroids Pyrethrins | cypermethrin 250g/L & 260g/L | AW Cypermethrin 260g/L, Cyper Plus 250, Cypermethrin 250, Cyrux 250, Hemthrin Plus 250EC |
| 3A Pyrethroids Pyrethrins | deltamethrin 27.5g/L | Ballistic-Elite, D-Sect, Decis Options, Deltamethrin Duo, Deltashield, Dicast  |
| 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 240EG |
| 3A Pyrethroids Pyrethrins | lambda-cyhalothrin 250g/L  | AgriVentures Lambdacyhalothrin 250, Agro-Essence Lambda-Cyhalothrin 250, Arysta LifeScience Lambda-cyhalothrin 250, Cyhella, Fizzle, Flipper 250, Lambda-Cyhalothrin 250, Karate Zeon, Kick 250, Kung Fu 250, Lambda 250CS, Lambda Cyhalothrin 250, Longbow 250, Matador with Zeon Technology, Miyagi 250, Taekwando 250, Unocaps Lambda Cyhalothrin 250 |
| 3A Pyrethroids Pyrethrins | lambda-cyhalothrin 37.5g/L | Kenzar flowable seed dressing and Cruiser Opti seed dressing both contain Lambda-cyhalothrin 37.5g/L and contain Group 4A thiamethoxam. Cobalt Advanced Insecticide contains 15.4g/L lamda-cyhalothrin and 1B 300g/L chlorpyrifos  |
| 3A Pyrethroids Pyrethrins | permethrin 40:60, 500g/L | Ambush, Axe, Permekil, Permerid 500, Pounce, Stakeout |
| 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 | Foliarflo Plus, Imid-Triadimenol, Pontiac Seed Treatment, ProGuard Plus, ProLeaf Plus. All are seed dressings and contain additional fungicide active such as Triadimenol. |
| 4A Neonicotinoids | imidacloprid 360g/L | Hombre Ultra, Imidacloprid 369g/L + Tebuconazole, Imidacloprid Tebuconazole flowable seed dressing, Imidi T 360, Lad Ultra seed dressing, Proguard Ultra |
| 4A Neonicotinoids | imidacloprid 600g/L | Agricloprid 600FS, Emerge, Expunge 600, F. S. A. Imidacloprid 600, Gaucho, Genero, Guardian, Guardian Red, Imi 600, Imida 600, Imidacloprid 600, Immi 600, Immix 600, Impressor 600, Inflict 600, Lookout 600, Mayaimida 600, Radicle 600, RedQueen 600, Picus, Protectaflo, Savage 600, Senator 600, Sindor 600, Sombrero 600, Trio Imidacloprid 600 (seed dressings)  |
| 4A Neonicotinoids | thiamethoxam 210g/L (& Group 3A lambda-cyhalothrin 37.5g/L) | Colam insecticide seed Treatment, Cruiser Opti seed dressing and Kenzar flowable seed dressing. All also contain thiamethoxam 210g/L and Group 3A lambda-cyhalothrin 37.5g/L. |
| 4A Neonicotinoids | thiamethoxam 350g/L  | Cruiser 350 flowable seed dressing |
| 4C Sulfoxaflor  | sulfoxaflor 240 g/L & 500 g/kg | Transform Isoclast (240 g/L), Transform (500g/kg), Expedite (500 g/kg) |
| 9B Pyridine azomethine derivatives | pymetrozine 250g/L & 500g/L  | Metro 250 WP (250 g/kg), Chess (500 g/kg) |
| 9D Pyropenes | afidopyropen 100g/L | Versys |
| 11C *Bacillus thuringiensis* (insecticidal proteins)  | *Bacillus thuringiensis* subspecies *kurstaki* (Btk)  | Bacchus WG, Delfin, Delfin WG, Dipel SC, Dipel DF  |
| 12A Diafenthiuron | diafenthiuron 500g/L | Pegasus, Receptor |
| 29 Pyridincarboxamide | flonicamid 500g/kg | Mainman |

\* Additional 290g/L omethoate products are registered as barrier sprays only.

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