FACT SHEET

NSW Cut Flower Industry

Chemical Control of Insect Pests

Best practice in the selection and use of pesticides starts with the correct identification of the TARGET pest(s) and/or disease(s) and then the development of a specific pest management program, which may include the use of pesticides. If a pesticide is to be used it must be applied to the right PLACE at the right TIME with minimal impact on people, beneficial organisms, property, and the environment. If unsure contact your local agronomist, plant pathologist, IPDM consultant or expert for advice.

Ask yourself these questions before and during any pest management program:[1]

Figure 1. PPE being worn for indoor spraying (https://www.uvex-safety.com/blog/pesticides-ppe-plant-protection/)

1. What is the best time to apply the product?

- Timing impacts the efficacy of the pesticide due to pest lifecycle stages, weather conditions, and other activities in the area.
- Proper timing ensures optimal effectiveness and safety for workers and the environment.
- Apply chemicals during periods when beneficial insects are least active. For example, apply treatments in the early morning or late evening when predatory insects are less likely to be foraging.

2. Is the product being applied to the right place?

- Targeting the correct location maximises the efficacy of the pesticide while preventing harm to non-target areas and organisms.
- Clear identification and record-keeping of treated zones are essential.
- If the infestation is localised, use spot treatments rather than blanket applications. This reduces the exposure of beneficial insects to the chemical.

3. Is the right amount of product being applied?

- Applying the correct dose of chemical ensures effective pest control, minimises waste and environmental contamination.
- Calibration of equipment and adherence to label instructions are crucial here.

4. Are pesticides from different chemical groups being applied?

- Rotate chemicals with different modes of action to prevent the development of pest resistance. This also helps in reducing the overall chemical load on beneficial insects.
- Integrate non-chemical methods to delay resistance developing.
- Monitor for resistance signs and adjust strategies accordingly.

5. Am I using 'soft' pesticides?

- Choose pesticides that are selective and have minimal impact on beneficial insects. Opt for chemicals with lower toxicity to non-target organisms and shorter residual effects. Be aware that some fungicides and herbicide have residual toxicity on beneficial insects so check what has been sprayed and the time between spray and release of the specific beneficials to minimise disruption.
- A great resource to check this is the **Bugs For Bugs** technical sheets and the **Biobest Side Effects app**.

6. Am I using the right chemical in the right way?

- Carefully read and follow the pesticide label instructions. Ensure that the chemical is registered for use on cut flowers and specifically for the pest or disease being targeted.

7. Am I staying safe?

- Using the required Personal Protective Equipment (PPE) ensures the safety of operators from exposure to harmful chemicals. This protects workers' health and complies with legal requirements.
- Whether spraying indoor or outdoor ensure the right PPE and safety procedures are being adhered if staff are spraying.
- All this information can be found on the Chemical Label and Safety Data Sheet (SDS).

[1] https://greenlifeindustryqld.org.au/wp-content/uploads/securepdfs/Best-Practice-Manual-for-Pesticide-Application.pdf

Asking yourself these questions can help to minimise the impact of pesticides on the environment due to spray drift, soil and water contamination. Proper pesticide application is legally required to avoid contamination. Key sources of pollution include the movement of chemicals in:

- The air beyond the target area during or after application (known as spray drift). This can be influenced by factors such as droplet size, weather conditions, and equipment settings.
- Ground and surface-water, harming aquatic life and potentially contaminating groundwater. To prevent contamination, capture and treat runoff, especially the first flush, and monitor nutrient content. Strategies include building dams, using grassed drains, and planting moisture-loving plants to absorb runoff.
- The soil profile, affecting soil organisms and future crops. To reduce soil contamination, follow label instructions, consider soil pH, avoid over-irrigation, and use practices like stubble retention and surface grading to minimise runoff.

Table 1. Chemical groups of insecticides approved for use on ornamentals

MAIN MODE OF ACTION GROUP	SUB-GROUP	ACTIVE(S)
1A	Carbamates (AChE inhibitors)	Carbaryl, Methiocarb, Pirimicarb
1B	Organophosphates (AChE inhibitors)	Acephate, Chlorpyrifos, Dimethoate, Malathion, Phorate
3A	Pyrethroids / Pyrethrins (Sodium channel modulators)	α-Cypermethrin, Betacyfluthrin, Permethrin + Potassium chlorate, Pyrethrins + PBO, Tau-fluvalinate
4A	Neonicotinoids (nAChR agonists)	Acetamiprid, Dinotefuran, Imidacloprid, Thiamethoxam (premix), Chlorantraniliprole + Thiamethoxam, Cyantraniliprole + Thiamethoxam
5	Spinosyns (Allosteric nicotinic modulators)	Spinetoram, Spinosad
6	Avermectins / Milbemycins (Chloride channel activators)	Abamectin, Emamectin, Emamectin benzoate, Milmectin
7B	Juvenile Hormone Mimic (Carbamate ester type)	Fenoxycarb
7C	Juvenile Hormone Mimic (Pyriproxyfen type)	Pyriproxyfen, Pyroxyfen
9D	Chordotonal Organ Modulator (TRPV channel)	Dimpropyridaz (Dimporopyridaz)
10A	Mite Growth Inhibitor (Thiazolidinone)	Hexythiazox
11A	Microbial disruptors of midgut membranes (Cry toxins)	Bacillus thuringiensis (var. kurstaki, aizawai), Bacillus thuringiensis israelensis
12A	Oxidative phosphorylation inhibitor (Thiourea)	Diafenthiuron
12B	Oxidative phosphorylation inhibitor (Organotin)	Fenbutatin oxide
12C	Oxidative phosphorylation inhibitor (Sulfite ester)	Propargite
13	Microbial insecticide (Fungal contact pathogen)	Beauveria bassiana
15	Chitin synthesis inhibitor (Benzoylurea)	Diflubenzuron, Novaluron (premix)
16	Chitin biosynthesis inhibitor (Homopteran specific)	Bufoprezin
17	Moulting disruptor (Triazine derivative)	Cyromazine
20B	METI (Complex III – Quinoline derivative)	Acequinocyl
20D	METI (Complex III – Hydrazine derivative)	Bifenazate
21A	METI (Complex I inhibitor)	Rotenone, Tebufenpyrad
23	Lipid biosynthesis inhibitor (Tetramic acid derivative)	Spirotetramat
25	METI (Complex II inhibitor – β-Ketonitrile)	Cyflumetofen
26	Molluscicide (Iron phosphate type)	Iron III phosphate dihydrate
28	Ryanodine receptor modulator (Diamide)	Chlorantraniliprole, Cyantraniliprole, Chlorantraniliprole + Thiamethoxam, Cyantraniliprole + Thiamethoxam, Cyantraniliprole + Diafenthiuron
29	Feeding blocker (TRPV modulator)	Flonicamid
30	Ryanodine receptor modulator (non-diamide)	Isocycloseram
31	Viral insecticide (Nucleopolyhedrovirus)	Helicoverpa armigera NPV, Spodoptera frugiperda NPV
M2	Inorganic contact materials (Sulphur compounds)	Wettable sulphur
UN/NC	Non-classified or physical/mechanical action	Paraffinic oil, Petroleum oil, Botanical oil, Azadirachtin, Clitoria ternatea extract, Potassium salts of fatty acids, Iron EDTA, Iron powder, Permethrin + Potassium chlorate

Rotating to avoid resistance

To avoid pests building resistance it is recommended that chemical products are rotated so that products that belong to the same chemical group are not used repeatedly.

Chemical groups are categories of insecticides, fungicides and herbicides that share similar chemical structures and often have similar modes of action. These groups are identified to help manage resistance and ensure effective pest control.

For acaricides, fungicides and insecticides, the mode of action describes how a chemical affects a pest at the cellular or biochemical level. Understanding this helps in selecting pesticides that can prevent or manage resistance. The Insecticide Resistance Action Committee (IRAC) classifies modes of action and assigns them group numbers, which are used globally, including in Australia.

The chemical groups of the actives approved for managing insect pests in ornamentals are identified in **Table 1** on the previous page.

Chemical labels, selecting chemicals and their use

Chemical labels

The pesticide label is a **legally binding document**, approved by the Australian Pesticides and Veterinary Medicines Authority (APVMA). This label provides essential information to ensure the safe and efficient use of pesticides when the directions are followed. The layout of the label is regulated and will vary depending on the size of the packaging and the required information. Typically, the label will consist of a main panel along with one or two ancillary panels. In cases where more information is needed, additional details may be provided in a leaflet attached to the container, which is also considered a part of the label.[2]

Further information on understanding pesticide labels is available from **https://www.apvma.gov.au/sites/default/files/publication/67431-understanding_labels_booklet_2020.pdf**

Safety data sheet (SDS)

All pesticides and their active ingredients come with a Safety Data Sheet (SDS). These documents provide detailed information about the product's properties and safety management, especially in case of an emergency.

Key Information in a SDS:

- **Identification Details:** Product name and physical description/properties
- **Health Hazards:** Potential health effects and first aid measures
- **Precautions for Use:** Recommendations for personal protection and information on flammability
- **Safe Handling Information:** Guidelines on proper storage and transport
- **Toxicity Information:** Details on the product's toxicity levels
- **Ecological Effects:** Information on the environmental impact of the product
- **Other Relevant Information:** Additional details necessary for safe and effective product use.

Safety Data Sheets (SDS) are readily available upon request at points of sale. It is essential to ensure a current SDS is provided for each pesticide product being used. A SDS for each product being stored or used should be readily available for staff to read, with copies kept in or adjacent to the pesticide storage area for quick reference. By adhering to these guidelines, operators in the cut flower industry can ensure they are well-prepared to manage any emergencies effectively while maintaining a safe working environment.

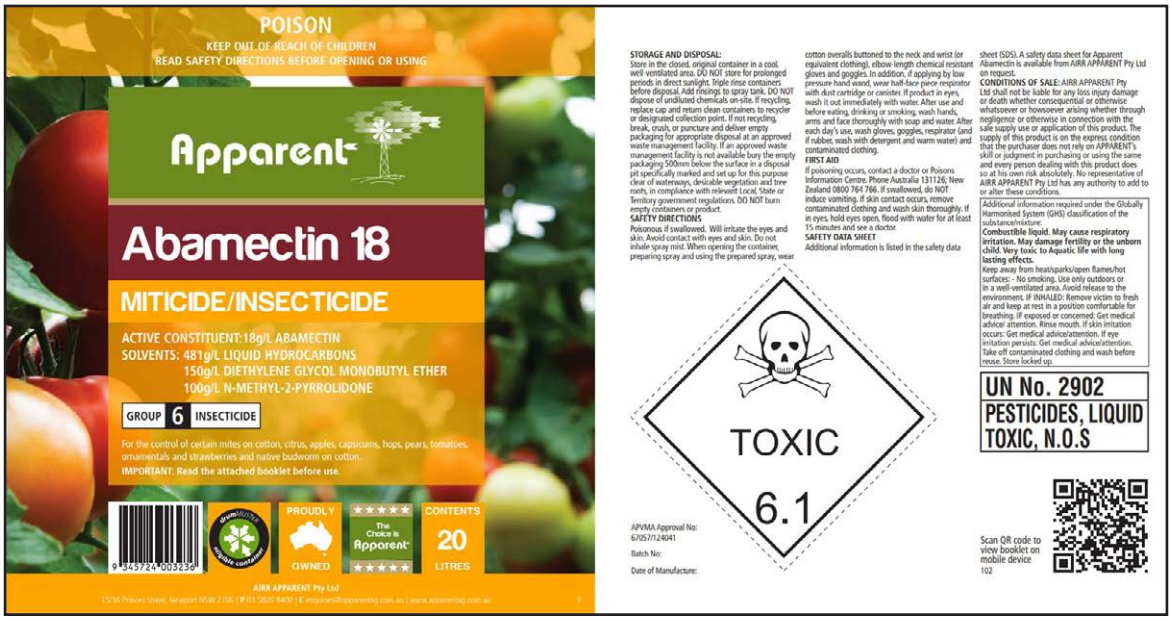

Figure 2. Chemical Label for Abamectin

(https://apparentag.com.au/product/abamectin-18/)

[2] https://www.ngiq.asn.au/wp-content/uploads/securepdfs/Best-Practice-Manual-for-Pesticide-Application.pdf

Key pests and approved chemicals

Below in **Table 2** are the current approved (either registered or permitted) actives for the management of insect and mite pests in ornamentals. Use the **PubCris resource** to confirm registered chemicals and the **APVMA Permit Portal** to confirm permitted chemicals. Always follow the instructions listed on the chemical label.

Table 2. Approved actives for use on insect pests in ornamentals

PEST	CHEMICAL (ACTIVE)	REGISTERED OR PERMIT (expiry date)	COMMENTS (based on label or permit information)
Aphids	Paraffinic Oil	R	
	Betacyfluthrin	R	Toxic to beneficials
	Potassium salts of fatty acids	R	
	Imidacloprid	R	
	Pyrethrins + PBO	R	Toxic to beneficials, but not residual
	Tau-fluvalinate	R	
	Azadirachtin	R	
	Dimethoate	R	Toxic to beneficials
	Beauveria bassiana	R	
	Permethrin + Potassium chlorate	R	Fumigant; Toxic to beneficials
	Pirimicarb	R	
	Botanical Oil	R	
	Acetamiprid	R	
	Malathion	R	Toxic to beneficials
	Phorate	R	Granular application
	Rotenone	R	
	Dimpropyridaz	PER94253 30 Apr 27	Green peach, cotton/melon, cabbage aphids
	Cyantraniliprole + Diafenthiuron	PER92919 31 Oct 26	Green peach, cotton/melon aphid; Toxic to beneficials
	Cyantraniliprole	PER92766 28 Feb 26	Green peach, cotton/melon aphid
	Cyantraniliprole	PER91816 30 Apr 27	
	Flonicamid	PER91816 30 Apr 27	
	Petroleum oil	PER91816 30 Apr 27	
	Spirotetramet	PER91816 30 Apr 27	
	Diafenthiuron	PER91806 30 Nov 26	
	Chlorantraniliprole + Thiamethoxam	PER91805 30 Apr 26	Apply as drench
	Dinotefuran	PER91805 30 Apr 26	
	Imidacloprid	PER91805 30 Apr 26	Mixed with media
Ants	Fipronil	PER91804 30 Jun 27	Drench media
	Imidacloprid	PER91805 30 Apr 26	Mixed with media
Beetles	Spinosad	R	Leaf-eating (chrysomelid)
	Imidacloprid	R	Scarab larvae in medium (drench)
	Chlorpyrifos	R	Scarab larvae in medium (drench); Toxic to beneficials
	Betacyfluthrin	R	Garden weevil; Toxic to beneficials
	Carbaryl	R	
	Abamectin and Chlorantraniliprole	PER91944 30 Sep 30	Beetles, weevils; Toxic to beneficials
	Azadirachtin	PER91944 30 Sep 30	Stem borers
	Chlorantraniliprole	PER92942 30 Apr 26	Larvae of African black beetle, scarabs, stem weevil; Apply as drench to medium/pots
	Cyantraniliprole + Thiamethoxam	PER91805 30 Apr 26	Larvae of black beetle, scarabs, chafers, stem weevil; Apply as drench

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PEST	CHEMICAL (ACTIVE)	REGISTERED OR PERMIT (expiry date)	COMMENTS (based on label or permit information)
	Diflubenzuron	PER91944 30 Sep 30	Weevils; Not compatible with IPM
	Dinotefuran	PER91805 30 Apr 26	Borers, leaf beetles, weevils; Toxic to beneficials
	Fipronil	PER91804 30 Jun 27	Scarab, weevil, wireworm larvae; Drench
	Imidacloprid	PER91805 30 Apr 26	Scarab larvae; Drench
	Methomyl	PER91944 30 Sep 30	Borers; Toxic to beneficials
Bugs (sucking)	Imidacloprid	R	
	Dimethoate	R	Toxic to beneficials
	Carbaryl	R	
	Betacyfluthrin	R	Toxic to beneficials
	Acetamiprid	R	Lace bugs, psyllids
	Cyantraniliprole	PER91816 30 Apr 27	Stink bugs, psyllids
	Malathion	R	Lace bugs; Toxic to beneficials
	Spinetoram	PER91816 30 Apr 27	Psyllids
	Imidacloprid	PER91805 30 Apr 26	Lace bugs, psylids; Mixed with media
Caterpillars	Spinosad	R	
	Betacyfluthrin	R	Toxic to beneficials
	Pyrethrins + PBO	R	Toxic to beneficials, not residual
	α-Cypermethrin	R	Banksia moth, autumn gum moth; Toxic to beneficials
	Permethrin + Potassium chlorate	R	Fumigant; Toxic to beneficials
	Carbaryl	R	
	Tau-fluvalinate	R	Heliothis
	H. armigera NPV	R	Heliothis
	Betacyfluthrin	R	Toxic to beneficials
	Bacillus thuringiensis (several subspecies)	R	Heliothis, loopers, light brown apple moth
	Spinetoram	R	
	Malathion	R	Toxic to beneficials
	Rotenone	R	
	Spodoptera frugiperda Nucleopolyhedrovirus	PER 91477 31 Mar 27	Fall armyworm only
	Isocycloseram	PER94004 28 Feb 26	Diamondback moth, cucumber moth, heliothis
	Chlorantraniliprole	PER92942 30 Apr 26	Cutworms, armyworms, webworm; Apply drench to medium/pots
	Cyantraniliprole + Diafenthiuron	PER92919 31 Oct 26	Toxic to beneficials
	Diafenthiuron	PER91806 30 Nov 26	Including fall armyworm
	Acetamiprid + Novaluron	PER91805 30 Apr 26	Including fall armyworm
	Fipronil	PER91804 30 Jun 27	Cutworm; Toxic to beneficials
	Alpha-cypermethrin	PER91928 30 Sep 30	Cutworm, fall armyworm; Toxic to beneficials
	Abamectin and Chlorantraniliprole	PER91928 30 Sep 30	Cutworm, fall armyworm; Toxic to beneficials
	Azadirachtin	PER91928 30 Sep 30	Including fall armyworm
	Acephate	PER91928 30 Sep 30	Fall armyworm; Toxic to beneficials

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PEST	CHEMICAL (ACTIVE)	REGISTERED OR PERMIT (expiry date)	COMMENTS (based on label or permit information)
	Diflubenzuron	PER91928 30 Sep 30	Armyworm including fall armyworm
	Dimilin	PER91928 30 Sep 30	Including fall armyworm
	Methomyl	PER91928 30 Sep 30	Including fall armyworm; Not to be used in protected crops; Toxic to beneficials
	Lamda cyalothrin	PER91928 30 Sep 30	Including fall armyworm; Toxic to beneficials
	Spinetoram	PER91928 30 Sep 30	Including fall armyworm
Fungus gnats, shore flies	Bacillus thuringiensis israelensis	PER91811 31 Mar 27	
	Chlorantraniliprole	PER91811 31 Mar 27	
	Diflubenzuron	PER91812 31 Mar 27	
	Fipronil	PER91804 30 Jun 27	Drench; Toxic to beneficials
	Pyriproxyfen	PER91812 31 Mar 27	
	Imidacloprid	PER91805 30 Apr 26	
Leaf-hoppers	Betacyfluthrin	R	Toxic to beneficials
	Pyrethrins + PBO	R	Toxic to beneficials, not residual
	Dimethoate	R	Toxic to beneficials
	Acetamiprid	R	
	Phorate	R	Granular application
	Bufoprezin	PER91816 30 Apr 27	
	Emamectin benzoate	PER91816 30 Apr 27	Mirids
	Flonicamid	PER91816 30 Apr 27	Mirids
	Clitoria terneata extract	PER91816 30 Apr 27	Mirids
	Petroleum oil	PER91816 30 Apr 27	
	Chlorantraniliprole + Thiamethoxam	PER91805 30 Apr 26	Apply as drench
	Dinotefuran	PER91805 30 Apr 26	Including Mirids
	Imidacloprid	PER91805 30 Apr 26	Mixed with media
Leaf miners	Dimethoate	R	Toxic to beneficials
	Carbaryl	R	
	Spinosad	PER94331 Until Apr 26	Serpentine, American Serpentine leaf miners
	Chlorantraniliprole	PER 91811 31 Mar 27	
	Cyromazine	PER91811 31 Mar 27	Toxic to beneficials
	Spinetoram	PER91811 31 Mar 27	
	Abamectin	PER91812 31 Mar 27	
	Azadirachtin	PER91812 31 Mar 27	
	Diflubenzuron	PER91812 31 Mar 27	
	Emamectin	PER91812 31 Mar 27	Suppression only
	Diafenthiuron	PER91806 30 Nov 26	
	Chlorantraniliprole + Thiamethoxam	PER91805 30 Apr 26	Apply as drench
Mealybugs	Potassium salts of fatty acids	R	
	Imidacloprid	R	
	Botanical Oil	R	
	Bufoprezin	PER91816 30 Apr 27	
	Cyantraniliprole	PER91816 30 Apr 27	
	Flonicamid	PER91816 30 Apr 27	
	Dinotefuran	PER91805 30 Apr 26	
	Imidacloprid	PER91805 30 Apr 26	Mixed with media

PEST	CHEMICAL (ACTIVE)	REGISTERED OR PERMIT (expiry date)	COMMENTS (based on label or permit information)
	Fipronil	PER91804 30 Jun 27	Root mealybugs Drench
Scales	Paraffinic Oil	R	Immatures/ crawlers
	Imidacloprid	R	Soft scales
	Pyroxyfen	R	
	Carbaryl	R	White wax scale
	Acetamiprid	R	Not white wax
	Malathion	R	On hardy plants; Toxic to beneficials
	Bufoprezin	PER91816 30 Apr 27	
	Cyantraniliprole	PER91816 30 Apr 27	Soft scales
	Fenoxycarb	PER91816 30 Apr 27	
	Petroleum oil	PER91816 30 Apr 27	
	Spirotetramet	PER91816 30 Apr 27	
	Dinotefuran	PER91805 30 Apr 26	
	Imidacloprid	PER91805 30 Apr 26	Mixed with media
Snails, slugs	Methiocarb	R	Spray and bait
	Iron EDTA	R	Bait
	Iron III phosphate dihydrate	R	Bait
	Iron powder	R	Bait

PEST	CHEMICAL (ACTIVE)	REGISTERED OR PERMIT (expiry date)	COMMENTS (based on label or permit information)
Thrips	Spinosad	R	Western Flower Thrips
	Betacyfluthrin	R	Toxic to beneficials
	Potassium salts of fatty acids	R	
	Imidacloprid	R	Greenhouse thrips
	Pyrethrins + PBO	R	Toxic to beneficials, not residual
	Azadirachtin	R	Western flower thrips
	Dimethoate	R	Toxic to beneficials
	Beauveria bassiana	R	Western flower thrips, Onion thrips
	Betacyfluthrin	R	Toxic to beneficials
	Acetamiprid	R	Greenhouse thrips, plague thrips
	Spinetoram	R	Western flower thrips
	Malathion	R	Toxic to beneficials
	Dimporopyridaz	PER94253 30 Apr 27	Greenhouse, Silverleaf whiteflies
	Isocycloseram	PER94004 28 Feb 26	
	Cyantraniliprole + Diafenthiuron	PER92919 31 Oct 26	Western flower thrips, Tomato thrips, Plague thrips; Toxic to beneficials
	Cyantraniliprole	PER92766 28 Feb 26	
	Imidacloprid	PER91805 30 Apr 26	Silverleaf whitefly (some strains); Mixed with media

Figure 3. Knapsack sprayer and calibration equipment (https://www.aces.edu/blog/topics/forestry-wildlife/the-1-128-calibration-method-for-backpack-sprayers/)

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PEST	CHEMICAL (ACTIVE)	REGISTERED OR PERMIT (expiry date)	COMMENTS (based on label or permit information)
	Acetamiprid + Novaluron	PER91805 30 Apr 26	
	Chlorantraniliprole + Thiamethoxam	PER91805 30 Apr 26	
	Dinotefuran	PER91805 30 Apr 26	
	Chlorantraniliprole	PER91929 31 Mar 27	Thrips, including western flower thrips
	Flonicamid	PER91929 31 Mar 27	Thrips, including western flower thrips
	Petroleum Oil	PER91929 31 Mar 27	Thrips, including western flower thrips
	Pyrethrins	PER91929 31 Mar 27	Thrips, including western flower thrips
	Spinetoram	PER91929 31 Mar 27	Thrips, including western flower thrips
	Spirotetramat	PER91929 31 Mar 27	Thrips, including western flower thrips
	Abamectin and Chlorantraniliprole	PER91941 30 Sep 30	Thrips, including western flower thrips; Toxic to beneficials
	Acephate	PER91941 30 Sep 30	Thrips, including western flower thrips
	Alpha-cypermethrin	PER91941 30 Sep 30	Thrips, including western flower thrips; Toxic to beneficials
	Azadirachtin	PER91941 30 Sep 30	Thrips, including western flower thrips
	Isocycloseram	PER94004 28 Feb 26	Including western flower thrips, plague thrips, onion thrips
Two-spotted spider mite	Tau-fluvalinate	R	
	Abamectin	R	
	Paraffinic Oil	R	
	Wettable sulphur	R	
	Potassium salts of fatty acids	R	
	Fenbutatin Oxide	R	
	Hexythiazox	R	
	Azadirachtin	R	
	Cyflumetofen	R	
	Botanical Oil	R	
	Propargite	R	
	Milbemectin	R	
	Phorate	R	Granular application
	Tebufenpyrad	R	
	Isocycloseram	PER94004 28 Feb 26	
	Acequinocyl	PER93970 31 Jul 27	
	Cyantraniliprole + Diafenthiuron	PER92919 31 Oct 26	Toxic to beneficials
	Abamectin	PER91810 31 Mar 27	Mites in general
	Bifenazate	PER91810 31 Mar 27	Mites in general
	Emamectin	PER91810 31 Mar 27	Mites in general
	Petroleum oil	PER91810 31 Mar 27	Mites in general
	Diafenthiuron	PER91806 30 Nov 26	Mites in general
	Isocycloseram	PER94004 28 Feb 26	Spider mites, broad mite
Weevils	Betacyfluthrin	R	Garden weevil; Toxic to beneficials
	Diflubenzuron	PER91944 30 Sep 30	Not compatible with IPM
Whiteflies	Paraffinic Oil	R	Immatures
	Betacyfluthrin	R	Toxic to beneficials
	Azadirachtin	R	
	Dimethoate	R	Greenhouse whitefly; Toxic to beneficials
	Potassium salts of fatty acids	R	

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PEST	CHEMICAL (ACTIVE)	REGISTERED OR PERMIT (expiry date)	COMMENTS (based on label or permit information)
	Beauveria bassiana	R	
	Pyroxyfen	R	
	Botanical Oil	R	Greenhouse whitefly
	Betacyfluthrin	R	Toxic to beneficials
	Dimpropyridaz	PER94253 30 Apr 27	Silverleaf, Greenhouse whiteflies
	Cyantraniliprole	PER92766 28 Feb 26	Silverleaf whitefly
	Bufoprezin	PER91816 30 Apr 27	
	Clitoria terneata extract	PER91816 30 Apr 27	Silverleaf whitefly
	Flonicamid	PER91816 30 Apr 27	Silverleaf whitefly
	Spirotetramet	PER91816 30 Apr 27	
	Chlorantraniliprole + Thiamethoxam	PER91805 30 Apr 26	Apply as drench
	Dinotefuran	PER91805 30 Apr 26	
	Imidacloprid	PER91805 30 Apr 26	Silverleaf whitefly; Mixed with media

Disclaimer: The information contained in this fact sheet is provided for general guidance only and reflects regulatory approvals and product information current at the time of publication (November 2025). Approvals, product registrations and use conditions may change over time. The listed products are registered for use on ornamental plants and may not be approved or suitable for use on other crops or situations.

Users should verify current product registrations on the APVMA website, label directions and state and government regulations before making any pest management decisions. Independent professional or agronomic advice should be sought to confirm product suitability for specific circumstances.

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Image: AdobeStock.com/hedgehog94

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