

Artichoke

Strategic Agrichemical Review Process (SARP)

November 2026

Hort Innovation
Project – MT25005

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Purpose of the report:
This report was funded by Hort Innovation to investigate the pest problem, agrichemical usage and pest management alternatives for the artichoke industry across Australia. The information in this report will assist the industry with its agrichemical selection and usage into the future.

Date of report:
November 2026

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1. Summary

The strategic levy investment project Vegetable Industry SARP Report Updates (MT25005) is part of the Hort Innovation Vegetable Fund. A Strategic Agrichemical Review Process (SARP), through the process of a desktop audit and industry liaison;

(i) Assesses the importance of the diseases, insects and weeds (plant pests) that can affect a horticultural industry;

(ii) Evaluates the availability and effectiveness of fungicides, insecticides and herbicides (pesticides) to control the plant pests;

(iii) Determines any gaps in the pest control strategy and

(iv) Identifies suitable new or alternatives pesticides to address the gaps.

Alternative pesticides should ideally be selected for benefits of:

- Integrated Pest Management (IPM) compatibility
- Improved scope for resistance management
- Sound biological profile
- Residue and trade acceptance domestically and for export

The results of this process will provide the artichoke industry with sound pesticide usage for the future that the industry can pursue for registration with the manufacturer, or minor-use permits with the Australian Pesticide and Veterinary Medicines Authority (APVMA).

1.1 Diseases

There are no high priority diseases, but the following are moderate priority:

Common name	Scientific name
Powdery Mildew	*Leveillula taurica*

1.2 Insects

The high priority insects and mites are:

Common name	Scientific name
Green Peach Aphid	*Myzus persicae*
Vegetable Leafminer	*Liriomyza sativae*
Pea Leafminer / Serpentine Leafminer	*Liriomyza huidobrensis*
American Serpentine Leafminer	*Liriomyza trifolii*

1.3 Weeds

There are no high priority weeds, but the following are moderate priority:

Common Name	Scientific Name
Amaranthus	*Amaranthus* spp.
Blackberry Nightshade	*Solanum nigrum*
Fat Hen	*Chenopodium album*
Nutgrass	*Cyperus rotundus*
Pigweed	*Portulaca oleracea*
Wild Turnip	*Raphanus raphanistrum*

2. The Australian Artichoke Industry

The Australian Artichoke industry is a minor horticultural industry.

The majority of artichoke production comes from Victoria, with smaller volumes grown in Western Australia, New South Wales and South Australia. Peak production season occurs during winter with most artichoke destined for the fresh local market. There is no processing market for artichoke in Australia.

Production for the year ending June 2025[1] was 453 tonnes with a value of $1.7m. A total of 445 tonnes (98%) went to the fresh domestic market, with 9 tonnes (2%) to fresh export. Production volume was stable for the period 2021-2025.

Fresh Artichoke Seasonality by State

State	24/25 Tonnes	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Victoria	356												
Western Australia	75												
New South Wales	14												
South Australia	9												
Availability Legend			High			Medium			Low			None	

Australia is a net exporter of artichoke. For the year ending June 2025, Australia exported 9 tonnes of fresh artichoke. Of this export volume, 32.6% was destined for Vietnam, followed by Thailand (27.8%), Singapore (10.9%), New Caledonia (9.7%) and Indonesia (9.5%).

[1] Hort Innovation (2026). Australian Horticulture Statistics Handbook 2024/25. [online] Available at: https://www.horticulture.com.au/growers/help-your-business-grow/research-reports-publications-fact-sheets-and-more/australian-horticulture-statistics-handbook/

3. Introduction

3.1 Background

Growers of some horticultural crops suffer from a lack of legal access to crop protection products (pesticides). The problem may be that whilst a relatively small crop area is valuable in an agricultural sense, it may not be of sufficient size for agrichemical companies to justify the expense of registering a product use on that crop. Alternately, the disease, pest, or weed problem may be regional or spasmodic, making agrichemical companies unwilling to bear the initial high cost of registering suitable pesticides.

Growers may face severe losses from diseases, pests and weeds due to a lack of registered or approved (via a permit) chemical control tools. Environmental concerns, consumer demands, and public opinion are also significant influences in the marketplace related to pest management practices. Industry IPM practitioners must strive to implement best management practices and tools to incorporate a pest management regime where strategies work in harmony with each other to achieve the desired effects while posing the least risks.

In combination with cultural practices, pesticides are important tools in artichoke production and respective IPM programs. They control the various diseases, insects and weeds that affect the crop and can cause severe economic loss in modern high intensity growing operations. Pesticides are utilised during establishment and development, and to maximise quality and customer appeal.

As a consequence of the issues facing the artichoke industry regarding pesticide access, Hort Innovation undertook a review of the pesticide requirements via a Strategic Agrichemical Review Process (SARP) in 2021. The current project is to update the SARP with the latest information and progress.

The SARP identifies diseases, insect pests and weeds of major concern to the artichoke industry. Against these threats, available registered or permitted pesticides are evaluated for overall suitability in terms of IPM, resistance, efficacy, trade, human safety and environmental issues. Where tools are unavailable or unsuitable the process aims to identify potential future solutions. Potential new risks to the industry are also identified.

The results will provide the artichoke industry with a clear outlook of gaps in existing pest control options. This report is not a comprehensive assessment of ALL pests and control methods used in artichoke but attempts to prioritise the major problems.

Exotic plant pests, not present in Australia, are not addressed in this document. A biosecurity plan has been developed for the vegetable industry in consultation with industry, government and scientists. The biosecurity plan for the vegetable industry[2] which covers artichoke outlines key threats to the industry, risk mitigation plans, identification and categorisation of exotic pests and contingency plans. High priority exotic pests have been assessed based on their potential to enter, establish, and spread in Australia (e.g. environmental factors, host range, vectors), the likely consequences and the cost to industry of control measures.

[2] https://ausveg.com.au/app/uploads/2018/06/Industry-Biosecurity-Plan-for-the-Vegetable-Industry.pdf

3.2 Minor use permits and registration

From a pesticide access perspective, the APVMA classifies artichoke, globe as a minor crop. The crop fits within the APVMA Group 017 (Codex group VS0078): Stalk and stem vegetables, within the subgroup 017C (Codex code VS2082): Other stalk & stem vegetables. Access to minor use permits can be achieved as long as reasonable justification is provided in accordance with the APVMA's minor use guidance[3].

Possible justification for future minor use or emergency use permit applications could be based on:

- New disease, insect or weed identified as a cropping issue
- No pesticide approved for the problem
- Insufficient options for resistance management
- Current pesticides ineffective due to resistance
- Trade risk - current pesticides unsuitable where crop commodities will be exported
- IPM, environment or OH&S issues
- Loss of pesticides due to removal from market or chemical review restrictions
- Opportunity to extrapolate a use pattern when a new, effective pesticide is registered in another crop
- Alternate pesticide has overseas registration or minor use permit
- Market failure – insufficient return on investment for registrant.

With each of these options, sound, scientific and commercial arguments are required to justify any new permit applications. Another option for the artichoke industry is for manufacturers to register new pesticides uses in the crop.

[3] https://apvma.gov.au/node/10931

3.3 Methods

The current update of the Artichoke Strategic Agrichemical Review Process (SARP), which was last updated in 2021, was conducted by desktop audit using industry information gathered through consultation with growers, agronomists and industry bodies, as well as review current information related to pesticide use in the industry. The process included gathering, collating and confirming information:

Hort Innovation Project Reference	Process of Review - Activity
MT25005 - Vegetable Strategic Agrichemical Review Process (SARP) Report Updates	Engagement and consultation with growers and other relevant stakeholders, in conjunction with AUSVEG. Including small group workshops and one on one consultation nationally. Collation of information collected by commodity on applicable pests, diseases and weeds in order of priority.
MT24008 – Regulatory Support & Response Co-ordination (pesticides) DTS Pty Ltd	**Artichoke Agrichemical Regulatory Risk Assessment Document** To assist strategic planning, with respect to future pest management options, this document was developed as part of the Hort Innovation funded project MT24008 to highlight the regulatory threats to agrichemicals currently approved for the management of the pests and diseases in Artichoke as well as current initiatives aimed at addressing identified pest management deficiencies.
MT25005 – Vegetable Strategic Agrichemical Review Process (SARP) Report Updates	**SARP updated via a desktop audit:** Review list of priorities rated as high, moderate and low for each plant pest groups (disease, insects and weeds) – provided by VG16060. Identify industries pest priority gaps in order of importance Update current pesticides available via label registrations or minor use permits. Update available pesticide use patterns, IPM ranking/compatibility, mode of action and chemical group. Identify pesticides at risk (under review and/or limited uses) via MT24008 Regulatory Support & Response Co-ordination (pesticides) – DTS Pty Ltd. Identify any appropriate solutions through the outcomes of the AgChem Forum's or similar market intelligence and their overall suitability (IPM compatibility, chemical group to manage resistance, risk profile, existing domestic MRL's or global MRL's including any potential trade barriers, efficacy, OH&S, environmental safety and sustainability). Include known pesticide solutions that are currently under development with registrants for new uses in the nominated crops or in current Hort Innovation projects. Update MRL tables to include Australian MRL's, Codex and any applicable export market MRL's

3.4 Results and discussions

3.4.1 Detail

Results and discussions are presented in the body of this document.

3.4.2 Appendices

Refer to additional information in the appendices:

Appendix 1. Products available for disease control in artichoke
Appendix 2. Products available for control of insects in artichoke
Appendix 3. Products available for weed control in artichoke
Appendix 4. Current permits for use in artichoke
Appendix 5. Artichoke Maximum Residue Limits (MRLs)
Appendix 6. Artichoke Agrichemical Regulatory Risk Assessment

4. Diseases, Pests and Weeds of Artichoke

Resistance management: To manage the risk of resistance development, integrated disease/pest/weed management (IDM/IPM/IWM) strategies should be adopted. The general principle is to integrate diverse chemical and non-chemical strategies; maximise efficacy; not rely on singular tools and rotate between different modes of action. It is always essential to follow all the label instructions. Specific resistance management strategies may apply. These can be found, along with other useful information, on the CropLife Australia website[4].

In Chapter 4 information on regulatory risk derived from project MT24008 (Regulatory support and response coordination) has been incorporated.

Some of the suggested options have no overseas MRLs (see Appendix 5). Some importing countries may defer to MRLS established by the Codex Alimentarius Commission (Codex MRLs) but this cannot be automatically assumed.

While care has been taken to ensure the accuracy of the information provided in this document the APVMA registered label or the APVMA approved permit must always be followed.

[4] https://www.croplife.org.au/resources/programs/resistance-management/

4.1 Diseases of artichoke

4.1.1 Disease priorities

Common name	Scientific name
Moderate	
Powdery Mildew	*Leveillula taurica*
Low	
Crown Rot	*Rhizoctonia* spp., *Phytophthora* spp.
Downy Mildew	*Pseudoperonospora* spp.
Grey Mould	*Botrytis cinerea*

There are no high priority diseases in artichoke, but Powdery Mildew is rated as a moderate priority. Available and potential products for controlling diseases of artichoke are listed in Section 4.1.2.

Foliar diseases should be managed using a planned disease management strategy incorporating cultural measures as well as strategic use of fungicides.

Resistance Management

CropLife Australia has resistance management strategies[5] related to the control of diseases in various crops, and users should refer to those strategies before using any product.

[5] https://www.croplife.org.au/resources/programs/resistance-management/

4.1.2 Available and potential products for priority diseases

TABLE KEY: Note that blank fields in the table indicate no information has been provided.

Availability		Regulatory risk (refer to Appendix 6)	
A	Available via either registration or permit approval	R1	Short-term risk: Critical concern over retaining access < 1 year
P	Potential - a possible candidate to pursue for registration or permit	R2	Medium-term risk: Maintaining access of significant concern <2-5 years
P-A	Potential, already approved in the crop for another use	R3	Long-term: Potential issues associated with use - Monitoring required < 5 years
		R4	No current risk / concerns

Withholding Period (WHP) – Number of days from last treatment to harvest (H) or Grazing (G)			
Harvest	H	Not Required when used as directed	NR
Grazing	G	No Grazing Permitted	NG

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
Powdery Mildew (*Leveillula taurica*) **Priority: Moderate**							
Powdery Mildew is rated as a moderate priority. Foliar disease that is favoured by warm, dry weather with high humidity. Management options include farm hygiene, canopy management, irrigation management and strategic use of fungicides when conditions favour infection.							
Sulphur	M2	Protectant	NR	A	ALL	Registered in vegetables for control of **Powdery Mildew** and Rust. Apply as a foliar spray when disease is first seen. Use a retreatment interval of 14-21 days. Maximum number of applications per crop not specified.	R4
Acibenzolar-S-Methyl (Actigard Plant Activator) Syngenta	P01	Protectant		P		Registered in tomatoes for the suppression of Bacterial Speck, Bacterial Spot, Bacterial Canker and Powdery Mildew. US registration for control of **Powdery Mildew** in cucurbits.	R4
Bacillius amyloliquefaciens (Serifel) BASF	BM02	Biological	NR	P		Registered in strawberries and berries (including blackberries, blueberries and raspberries) for control of Grey Mould (*Botrytis cinerea*). US registration for control of **Powdery Mildew** in artichoke, berries, brassica leafy vegetables, bulb vegetables, cucurbits, fruiting vegetables, grapes, hops, leafy vegetables, legume vegetables, pome fruit, stone fruit, sugar beet and tobacco.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
Bacillus amyloliquefaciens Strain QST 713 (Serenade Opti) Bayer	BM02	Biological	NR	P		Registered in strawberries for control of Botrytis (*Botrytis cinerea*). Permitted for control of **Powdery Mildew** in eggplant. US registration for control of **Powdery Mildew** in cucurbits, grapes, pome fruit, stone fruit and strawberries.	-
BLAD (ProBlad Plus)	BM 01	Biological	NR	P		Registered for control of Brown Rot and Blossom Blight in stone fruit. US registration for control of **Powdery Mildew** in cucurbits, fruiting vegetables, grapes, hops, pome fruit and strawberries.	R4
Boscalid + Kresoxim-Methyl (Colliss) BASF	7+11	Protectant & Curative		P		Registered for control of **Powdery Mildew** in cucurbits.	R4
Bupirimate (Nimrod) Adama	8	Protectant & Curative		P		Registered for control of **Powdery Mildew** in apples, cucurbits, cut flower, eggplant, melons, nursery stock, ornamentals, peppers and strawberries.	R4
Cyflufenamid (Flute) AgNova	U6	Protectant & Curative		P		Registered for control of **Powdery Mildew** in cucurbits, grapevines and strawberries.	R4
Florylpicoxamid (Verpixo Adavelt) Corteva	21	Protectant & Curative		P		Registered for control of **Powdery Mildew** in cucurbits, capsicum, chilli, eggplant, okra, tomato, strawberries and grapevines.	R4
Fluopyram + Tebuconazole (Luna Experience) Bayer	7+3	Protectant & Curative		P		Registered for control of Yellow Sigatoka, Leaf Speckle and Cordana Leaf Spot in bananas. US registration for control of **Powdery Mildew** in almonds, brassica leafy greens, cucurbits, grapes, hops, dry and succulent beans, stone fruit and sunflowers.	R4
Fluxapyroxad + Pyraclostrobin (Merivon) BASF	7+11	Protectant & Curative		P		Registered for control of **Powdery Mildew** in fruiting vegetables, cucurbits and mangoes.	R4
Hydrogen Peroxide + Peroxyacetic Acid (Peratec Plus)	M	Protectant		P		Registered for control of **Powdery Mildew** in grapes, fruiting vegetables, cucurbits and potatoes.	R4

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
Mandestrobin (Intuity) Sumitomo	11	Protectant		P		Registered for control of **Powdery Mildew** in cucurbits.	R4
Mefentrifluconazole (Belanty) BASF	3	Protectant & Curative		P		Registered for control of **Powdery Mildew** in grapes, apples, cucurbits and fruiting vegetables.	R4
Metrafenone (Vivando) BASF	U8	Protectant		P		Registered for control of **Powdery Mildew** in cucurbits and grapes.	R4
Orange Oil (Prev-Am) Oro Agri	-	Protectant	NR	P		Registered for control of **Powdery Mildew** in fruiting vegetables, cucurbits, berries, apples and winegrapes.	R4
Polyoxin-D (Intervene) Nufarm	19	Protectant		P		Pending registration for control of Botrytis and **Powdery Mildew** in grapes, Botrytis, **Powdery Mildew** and Rhizopus Fruit Rot in berries, and **Powdery Mildew**, Alternaria and Fruit Spot in apples.	R4
Proquinazid (Talendo) Corteva	13	Protectant		P		Registered for control of **Powdery Mildew** in fruiting vegetables, cucurbits, grapes and pome fruit.	R4
Pyriofenone (Kusabi) AgNova	50	Protectant & Curative		P		Registered for control of **Powdery Mildew** in cucurbits and grapes.	R4
Tea Tree Oil (Timorex)	46	Protectant				Registered for control of **Powdery Mildew** in fruiting vegetables, cucurbits and grapes.	R4

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
Crown Rot (*Rhizoctonia* spp., *Phytophthora* spp.) **Priority: Low**							
Crown Rot is rated as a low priority. Soil-borne disease that is favoured by warm conditions and poorly drained soils. It causes severe damage to the plants vascular system leading to reduced yields and complete plant losses. Management options include crop rotation, improving soil drainage, general farm hygiene and fungicide controls.							
1,3-Dichloropropene + Chloropicrin + (Telone C-35)	8B	Soil Fumigant	NR	A	ALL	Registered in vegetables for control of plant parasitic Nematodes, Symphylans, Wireworms, soil borne diseases (including *Fusarium* and *Verticillium* wilts, ***Rhizoctonia**, Pythium*) and suppression of weeds. Restricted chemical. ***For use by professional and registered fumigators only.***	R4
Dazomet (Basamid)	8F	Soil Fumigant	NR	A	ALL	Pre-plant fumigant in seed beds for control of soil fungi including *Pythium*, ***Phytophthora***, *Sclerotinia*, *Sclerotium*, ***Rhizoctonia***, *Verticillium*, *Plasmodiophora*, *Armillaria* and *Fusarium* spp. Apply granules to the soil surface and incorporate and seal the soil surface immediately. Do not plant into soil until a positive germination test has been conducted.	R4
Metham Sodium	-	Fumigant	NR	A	ALL	Registered in food crops as a pre-plant fumigant for control of fungus diseases including *Rhizoctonia*, *Pythium*, *Fusarium*, *Phytophthora*, *Verticillium*, ***Sclerotinia*** and Club Root of crucifers. Applied as a soil injection, soil surface spray in front of a rotary tiller or through approved trickle irrigation systems.	R4
Streptomyces lydicus WYEC108 (Actinovate) Novozymes Bioag	BM 02	Biological	NR	A	ALL	Registered in vegetables as a seed treatment for control of *Fusarium,* ***Rhizoctonia*** *& Pythium*.	R4
Bacillus amyloliquefaciens Strain QST 713 (Serenade Prime Soil Ameliorant and Biofungicide) Bayer	BM 02	Biological	NR	P-A	ALL	Registered in vegetables for application to soil to improve bioavailability of soil resources to horticultural crops.	R4

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
Azoxystrobin	11	Protectant		P		Registered for control of ***Rhizoctonia* spp.** in lettuce and potatoes, and control of ***Phytophthora* spp.** in potatoes and tomatoes.	R4
Downy Mildew (*Pseudoperonospora* spp.) **Priority: Low**							
Downy Mildew is rated as a low priority. Foliar disease that is favoured by cool, humid weather and extended periods of leaf wetness. Management options include crop rotation, irrigation and canopy management to reduce leaf wetness and farm hygiene.							
Acibenzolar-S-Methyl (Actigard Plant Activator) Syngenta	P01	Protectant		P		Registered in tomatoes for the suppression of Bacterial Speck, Bacterial Spot, Bacterial Canker and Powdery Mildew. US registration for control of **Downy Mildew** in brassica leafy vegetables, cucurbits, leafy vegetables, spinach, and suppression of **Downy Mildew** in bulb onion.	R4
Azoxystrobin + Oxathiapiprolin (Orondis Flexi) Syngenta	11+49	Protectant & Curative		P		Registered for the control of **Downy Mildew** in brassica vegetables.	R4
Cyazofamid (Ranman) UPL	21	Protectant & Curative		P		Registered for the control of **Downy Mildew** in brassica leafy vegetable seedlings. US registration for control of **Downy Mildew** in herbs, brassica leafy vegetables, cucurbits, grapes, hops, leafy greens, succulent-podded and succulent-shelled beans and bulb vegetables.	R4
Dimethomorph + Ametoctradin (Zampro) AgNova	40+45	Protectant		P		Registered for the control of **Downy Mildew** in grapevines, bulb vegetables, lettuce, brassica leafy vegetables, beetroot, cucurbits and poppies.	R4
Fluoxapiprolin (Xivana Prime 20SC) Bayer	49	Protectant & Curative		P		Registered for control of **Downy Mildew** in grapevines.	R4
Fluxapyroxad + Pyraclostrobin (Merivon) BASF	7+11	Protectant & Curative		P		Registered in almonds, cherries and macadamia for control of various leaf diseases. US registration for suppression of **Downy Mildew** in bulb vegetables, cucurbits and leafy vegetables.	R4

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
Hydrogen Peroxide + Peroxyacetic Acid (Peratec Plus)	M	Protectant		P		Registered for control of **Downy Mildew** in brassica vegetables, bulb vegetables and grapes.	R4
Mandestrobin (Intuity) Sumitomo	11	Protectant		P		Registered for suppression **Downy Mildew** in onions.	R4
Mandipropamid (Revus) Syngenta	40	Protectant		P		Registered for control of **Downy Mildew** in grapes and brassica leafy crops.	R4
Orange Oil (Prev-Am) Oro Agri	-	Protectant	NR	P		Registered for control of **Downy Mildew** in bulb vegetables.	R4
Oxathiapiprolin (Zorvec Enicade) Corteva	49	Protectant		P		Registered for control of **Downy Mildew** in bulb vegetables, brassica vegetables, cucurbits, leafy vegetables, brassica leafy vegetables and poppies.	R4
Oxathiapiprolin + Mancozeb (Zorvec Enibel) Corteva	49+M3	Protectant		P		Registered for control of **Downy Mildew** in bulb vegetables.	R2
Polyoxin-D (Intervene) Nufarm	19	Protectant		P		Pending registration for control of Botrytis and Powdery Mildew in grapes, Botrytis, Powdery Mildew and Rhizopus Fruit Rot in berries, and Powdery Mildew, Alternaria and Fruit Spot in apples. US registration for control of **Downy Mildew** in ornamentals.	R4
Propamocarb Hydrochloride + Fluopicolide (Infinito) Bayer	28+43	Protectant		P		Registered for control of **Downy Mildew** in brassica vegetables, bulb vegetables, cucurbits, leafy vegetables, lettuce, poppies and potato.	R4
Propineb (Antracol) Bayer	M3	Protectant		P		Registered for control of **Downy Mildew** in cucurbits and onions.	R2

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
Propineb + Oxadixyl (Rebound) Kiwi Rural Trading	M3+4	Protectant & Curative		P		Registered for control of **Downy Mildew** in cucurbits, grape vines, lettuce and onions.	R2
Grey Mould (*Botrytis cinerea*) **Priority: Low**							
Grey Mould is rated as a low priority. Infection is favoured by cool, moist conditions and while it generally occurs in crop, often the symptoms don't appear until after harvest. In crop strategies include reducing humidity through plant spacing and irrigation management and a well-planned fungicide program. Plant damage during harvest should be avoided and post-harvest storage should be in cool, low humidity environments.							
Chlorothalonil (Bravo)	M5	Protectant	1	A	ALL	Registered in artichoke – globe for control of **Grey Mould** (*Botrytis cinerea*). Apply as a foliar spray at first sign of disease. Use a retreatment interval of 7-10 days. Maximum number of treatments per crop not specified.	R2
Aureobasidium pullulans (Botector) Nufarm	BM 02	Biological	NR	P		Registered for control of **Botrytis** in berries, fruiting vegetables, cucurbits and grapes.	R4
Bacillus amyloliquefaciens (Serenade Opti) Bayer	BM 02	Biological	NR	P		Registered for control of **Botrytis** in grapes and strawberries.	R4
Bacillus amyloliquefaciens strain MBI 600 (Serifel) BASF	BM 02	Biological	NR	P		Registered for control of **Botrytis** in grapes and strawberries.	R4
BLAD (ProBlad Plus)	BM 01	Biological	NR	P		Registered for control of Brown Rot and Blossom Blight in stone fruit. US registration for control of ***Botrytis*** in fruiting vegetables, grapes, strawberries and ornamentals.	R4

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
Cyprodinil + Fludioxonil (Switch) Syngenta	9+12	Protectant		P		Registered for control of **Botrytis** in capsicum, cut flowers, grapes, onions, alliums, strawberries, lettuce, nursery stock and ornamentals.	R3
Eugenol + Geraniol + Thymol (Novellus) Eden Research PLC	1	Protectant & Curative		P		Registered for control of **Botrytis** in grapes.	R4
Fenhexamid (Teldor) Bayer	17	Protectant		P		Registered for control of **Botrytis** in grapevines, strawberries, peppers, cucumber, lettuce, rubus, snow peas, sugar snap peas and tree nursery stock.	R4
Fenpyrazamine (Prolectus) Sumitomo	17	Protectant & Curative		P		Registered for **Botrytis** control in grapes. US registration for control of **Botrytis** in almonds, berries, lettuce, pistachios and ornamentals.	R4
Florylpicoxamid (Verpixo Adavelt) Corteva	21	Protectant		P		Registered for control of **Botrytis** in capsicum, chilli, eggplant, okra, tomato, lettuce, strawberry and grapevines.	R4
Fluopyram + Tebuconazole (Luna Experience) Bayer	7+3	Protectant & Curative		P		Registered for control of **Botrytis** in citrus, grapevines, strawberries, macadamias and pistachios.	R4
Fluopyram + Trifloxystrobin (Luna Sensation) Bayer	7+11	Protectant & Curative		P		Registered for control of **Botrytis** in strawberries and cane berries.	R4
Hydrogen Peroxide + Peroxyacetic Acid (Peratec Plus)	M	Protectant		P		Registered for control of **Botrytis** in grapes.	R4
Ipflufenoquin (Migiwa Kinoprol) AgNova	52	Protectant		P		Registered for control of **Botrytis** in strawberries.	R4

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
Isofetamid (Kenja) AgNova	7	Protectant		P		Registered for control of **Botrytis** in low growing berries, cane berries and bush berries.	R4
Penthiopyrad (Fontelis) Corteva	7	Protectant		P		Registered for control of **Botrytis** in strawberry, onions, shallots, spring onion, cucurbits, fruiting vegetables and leafy vegetables.	R4
Polyoxin D Zinc Salt (Intervene) Nufarm	19	Protectant		P		Registered for control of **Botrytis** in almonds, berries and grapes.	R4
Pydiflumetofen + Fludioxonil (Miravis Prime) Syngenta	7+12	Protectant & Curative		P		Registered for control of **Botrytis** in berries, grapes, lettuce and potato.	R4
Pyrimethanil (Scala) Bayer	9	Protectant & Curative		P		Registered for control of **Botrytis** in grapevines, ornamentals and strawberries.	R4

4.2 Insect pests of artichoke

4.2.1 Insect pest priorities

Common name	Scientific name
High	
Green Peach Aphid	*Myzus persicae*
Vegetable Leafminer	*Liriomyza sativae*
Pea Leafminer / Serpentine Leafminer	*Liriomyza huidobrensis*
American Serpentine Leafminer	*Liriomyza trifolii*
Moderate	
African Black Beetle	*Heteronychus arator*
Cotton Bollworm / Corn Earworm	*Helicoverpa armigera*
Native Budworm	*Helicoverpa punctigera*
Jassids / Leafhoppers	Cicadellidae
Snails & Slugs	Gastropoda
Onion Thrips	*Thrips tabaci*
Plague Thrips	*Thrips imaginis*
Western Flower Thrips	*Frankliniella occidentalis*
Spotted Vegetable Weevil	*Desiantha diversipes*
Vegetable Weevil	*Listroderes difficilis*
Low	
Fall Armyworm	*Spodoptera frugiperda*

The high priority insect pest of artichoke is Green Peach Aphid. Available and potential products for control of insect pests are listed in Section 4.2.2.

Resistance to some insect groups has reduced control options despite a range of actives registered. Additionally, not all actives have broad registrations across Lepidoptera. Growers should not exceed the maximum number of applications permitted on the insecticide label.

Biological control involving other insects or fungal organisms in insect pest control is another option that need to be further evaluated. There are several identified biological control agents commercially available for pests in Australia. Resistance management strategies[6] are available on the Croplife Australia website.

[6] https://www.croplife.org.au/resources/programs/resistance-management/

4.2.2 Available and potential products for priority insects

TABLE KEY: Note that blank fields in the table indicate no information has been provided.

Availability		Regulatory risk (refer to Appendix 6)	
A	Available via either registration or permit approval	R1	Short-term risk: Critical concern over retaining access < 1 year
P	Potential - a possible candidate to pursue for registration or permit	R2	Medium-term risk: Maintaining access of significant concern <2-5 years
P-A	Potential, already approved in the crop for another use	R3	Long-term: Potential issues associated with use - Monitoring required < 5 years
		R4	No current risk / concerns

Withholding Period (WHP) – Number of days from last treatment to harvest (H) or Grazing (G)			
Harvest	H	Not Required when used as directed	NR
Grazing	G	No Grazing Permitted	NG

IPM – indicative overall impact on beneficials (based on the Cotton Pest Management Guide 2025-26 and cotton use patterns)
VL – Very low; L – Low; M – Moderate; H – High; VH – Very High; - not specified

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Green Peach Aphid (*Myzus persicae*) **Priority: High**								
Green Peach Aphid is rated as a high priority. Aphids are a sap-feeding insect that cause stunted growth and spread plant viruses in leek crops. An integrated pest management approach should be used to manage aphids, including the preservation of beneficial species, farm hygiene and strategic use of insecticides.								
Afidopyropen (Versys) BASF	9D	Ingestion	7	A	ALL	Registered in artichokes for control of **Green Peach Aphid** (*Myzus persicae*), Cabbage Aphid (*Brevicoryne brassicae*), Currant Lettuce Aphid (*Nasonovia ribis-nigri*), Cotton Aphid / Melon Aphid (*Aphis gossypii*) and Corn Aphid (*Rhopalosiphum maydis*) and suppression of Silverleaf Whitefly (*Bemisia tabaci*). Apply as a foliar spray, commencing when local thresholds are reached. Use a retreatment interval of 14 days. Maximum of 4 applications per crop, with no more than 2 consecutive applications.	L Bee:L	R4

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Beauveria bassiana (Velifer) BASF	UNF	Biological	NR	A	ALL	Registered in protected vegetables and ornamentals for suppression of Western Flower Thrips, Onion Thrips, Greenhouse Whitefly, Silverleaf Whitefly, Sweet Potato Whitefly, **Green Peach Aphid** and Two-Spotted Spider Mites. Apply as a foliar spray when pests are first detected or above economic threshold. Use a retreatment interval of 3-14 days. Maximum number of applications per crop not specified.	L Bee:L	R4
Garlic + Chilli + Pyrethrins + Piperonyl Butoxide	3A	Contact	1	A	ALL	Registered in vegetables for control of Ants, **Aphids**, Caterpillars, Earwigs, Whitefly, Thrips and Leafhoppers. Suitable for organic growers. Apply as a cover spray and re-apply as necessary every 2-3 weeks.	VH Bee:H	R4
Pirimicarb (Aphidex)	1A	Contact & Ingestion	2	A	ALL	Registered in artichokes (globe) for control of **Aphids**. Apply as a foliar spray when local thresholds are reached. Retreatment interval and maximum number of applications per crop not specified.	VL Bee:VL	R4
Potassium Salts of Fatty Acids (Natrasoap)	-	Contact	NR	A	ALL	Registered in vegetables for control of **Aphids**, Thrips, Mealybug, Two Spotted Mites, Spider Mite and Whitefly. Apply as a foliar spray as need. Use a retreatment interval of 5-7 days. Maximum number of applications per crop not specified.	L Bee:L	R4
Cyantraniliprole (Benevia) FMC	28	Ingestion		P		Registered for suppression of **Green Peach Aphid** in fruiting vegetables and potatoes, control of Melon Aphid in fruiting vegetables, and suppression of **Green Peach Aphid**, Melon Aphid and Strawberry Aphid in strawberries.	M Bee:VH	R4
Dimpropyridaz (Efficon) BASF	UN	Ingestion		P		Registered for control of Melon Aphid in cucurbits, and **Green Peach Aphid** in brassica vegetables, leafy vegetables and brassica leafy vegetables.	M Bee:L	R4
Flonicamid (Mainman) UPL	9C	Ingestion		P		Registered for control of **Green Peach Aphid** in canola, cucurbits and potato.	M Bee:L	R4

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Flupyradifurone (Sivanto Prime) Bayer	4D	Contact & Ingestion		P		Registered for control of Cotton Aphid and **Green Peach Aphid** in cucurbits, eggplant, peppers and tomatoes, and control of **Green Peach Aphid** in green beans, potatoes and sweet potatoes.	L Bee:VL	R4
Orange Oil (Prev-Am) Oro Agri	-	Contact		P		Registered for suppression of **Green Peach Aphid** (*Myzus persicae*) in fruiting vegetables, cucurbits, legume vegetables, berries, brassica vegetables, celery, herbs and paw paw.	VL Bee:VL	R4
Pymetrozine (Chess) Syngenta	9B	Contact & Ingestion		P		Registered for control of **Green Peach Aphid** (*Myzus persicae*) in beetroot, brassica vegetables, cucurbits, leafy vegetables, lettuce, potatoes, tomatoes, eggplant, capsicum, almonds, pistachio, stone fruit, cut flowers and nursery stock.	L Bee:VL	R3
Spirotetramat (Movento) Bayer	23	Ingestion		P		Registered for control of **Green Peach Aphid** (*Myzus persicae*) in beans, peas, brassica vegetables, brassica leafy vegetables, celery, rhubarb, cucurbits, eggplant, peppers, tomatoes, herbs, leafy vegetables, lettuce, chicory, endive, radicchio, potatoes and sweet potatoes.	M Bee:VL	R4
Sulfoxaflor (Transform) Corteva	4C	Contact & Ingestion		P		Registered for control of **Green Peach Aphid** and Melon Aphid in cucurbits, and **Green Peach Aphid** in fruiting vegetables, sweet corn, leafy vegetables, root & tuber vegetables, brassica vegetables, cane berries, strawberries, stone fruit and tree nuts.	M Bee:VH	R4

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Vegetable Leafminer (*Liriomyza sativae*) **Serpentine Leafminer** (*Liriomyza huidobrensis*) **American Serpentine Leafminer** (*Liriomyza trifolii*) **Priority: High**								
Liriomyza Leafminers are rated as a high priority. They are recent arrivals to Australia which can cause widespread damage to a range of crops. The larvae tunnel through leaf tissue, leading to reduced photosynthesis, leaf death or premature leaf death. They can cause significant economic loss through reduced yields and serious cosmetic damage when uncontrolled. Control measures are limited. Interstate quarantine conditions are in place that require in-field chemical controls for entry of host produce into Western Australia.								
Spinetoram (Success Neo) Corteva PER94451	5	Ingestion	1	A	ALL (excl. VIC)	Permitted in stalk & stem vegetables including celery for control of **Liriomyza Leafminers**, including **Vegetable Leafminer** (*Liriomyza sativa*), **Pea Leafminer** / **Serpentine Leafminer** (*Liriomyza huidobrensis*) & **American Serpentine Leafminer** (*Liriomyza trifolii*). Apply as a foliar spray, commencing when leafminers first appear. Use a retreatment interval of 7-14 days. Maximum of 4 applications per crop.	M Bee:H	R4
Cyantraniliprole (Benevia) FMC PER93850	28	Ingestion		P		Permitted for control of Liriomyza Leafminers, including **Vegetable Leafminer** (*Liriomyza sativae*), Pea Leafminer / **Serpentine Leafminer** (*Liriomyza huidobrensis*) and **American Serpentine Leafminer** (*Liriomyza trifolii*) in celery.	M Bee:VH	R4
Cyromazine (Diptex 150WP)	17	IGR		P		Previously permitted for control of Liriomyza Leafminers including **Vegetable Leafminer** (*Liriomyza sativae*) and **Serpentine Leafminer** (*Liriomyza huidobrensis*) in various vegetable crops.	-	R4

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
African Black Beetle (*Heteronychus arator*) **Priority: Moderate**								
African Black Beetle is rated as a moderate priority. Soil-borne pest that have a voracious appetite and can cause severe damage to foliage and stems if the numbers get high. Control options are limited.								
Dazomet (Basamid)	8F	Soil Fumigant	NR	A	ALL	Pre-plant fumigant in seed beds for control of soil fungi including *Pythium*, *Phytophthora*, *Sclerotinia*, *Sclerotium*, *Rhizoctonia*, *Verticillium*, *Plasmodiophora*, *Armillaria* and *Fusarium* spp, nematodes, soil insects and weeds. Apply granules to the soil surface and incorporate and seal the soil surface immediately. Do not plant into soil until a positive germination test has been conducted.	-	R4
Broflanilide (Cimegra) BASF	30	Contact & Ingestion		P		Registered in brassica vegetables and Chinese cabbage for control of Diamondback Moth. Broad-spectrum activity on soil-dwelling pests although specific effect on beetles is currently unknown.	H Bee:VH	R4
Chlorantraniliprole (Coragen) FMC	28	Ingestion		P		Registered for control of Lepidoptera in various vegetable crops. Chlorantraniliprole has activity on **African Black Beetle** at high rates.	L Bee:VL	R4
Chlorantraniliprole (Acelepryn) Syngenta	28	Ingestion		P		Registered for control of **African Black Beetle** in turf. Note that rate in turf is higher than in vegetables.	L Bee:VL	R4
Cyantraniliprole + Thiamethoxam (Spinner) Syngenta	28+4A	Contact & Ingestion		P		Registered for control of **African Black Beetle** in turf.	M Bee:VH	R2
Tetraniliprole (Vayego) Bayer	28	Ingestion		P		Registered for control of Sigastus Weevil in macadamia and control of Apple Weevil, Fuller's Rose Weevil and Garden Weevil in pome fruit and stone fruit.	M Bee:VH	R4

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Cotton Bollworm (*Helicoverpa armigera*) **Native Budworm** (*Helicoverpa punctigera*) **Priority: Moderate**								
Cotton Bollworm and Native Budworm are rated as a moderate priority. *Helicoverpa armigera* is generally regarded as the more serious pest because of its greater capacity to develop resistance to insecticides, broader host range, and persistence in cropping areas from year to year. Larvae feed on leaves but are most damaging when feeding on the stems and growing terminals.								
Bacillus thuringiensis subsp. kurstaki (DiPel)	11A	Biological	NR	A	ALL	Registered in vegetables for control of Lepidoptera. Time spraying to coincide with egg hatch. Treatments per season not limited.	VL Bee:VL	R4
Flubendiamide (Belt) Bayer	28	Ingestion	1	A	ALL	Registered in stalk & stem vegetables for control of **Heliothis** (*Helicoverpa* spp.) Apply as a foliar spray, commencing when local thresholds are reached. Use a retreatment interval of 7-14 days. Maximum of 3 applications per crop.	L-M Bee:L	R4
Garlic + Chilli + Pyrethrins + Piperonyl Butoxide	3A	Contact	1	A	ALL	Registered in vegetables for control of Ants, Aphids, **Caterpillars**, Earwigs, Whitefly, Thrips and Leafhoppers. Suitable for organic growers. Apply as a foliar spray when pest is evident. Use a retreatment interval of 14-21 days. Maximum number of applications per crop not specified.	VH Bee:H	R4
Nuclear Polyhedrosis Virus of *Helicoverpa armigera* (Vivus Max) AgBiTech	31	Biological	NR	A	ALL	Registered in stalk vegetables for control of **Cotton Bollworm** (*Helicoverpa armigera*) and **Native Budworm** (*Helicoverpa punctigera*). Apply as a foliar spray targeting early-stage larvae. Use a retreatment interval of 2-3 days. Maximum number of applications per crop not specified.	VL Bee:L	R4
Spinetoram (Success Neo) Corteva	5	Ingestion	1	A	ALL	Registered in stalk & stem vegetables for control of ***Helicoverpa* spp.** Apply as a foliar spray when monitoring indicates pest thresholds have been reached. Use a retreatment interval of 7-14 days. Maximum of 4 applications per season.	M Bee:H	R4
Spinosad (Entrust Organic) Corteva	5	Ingestion	1	A	ALL	Registered in stalk & stem vegetables for control of **Heliothis**. Apply as a foliar spray when monitoring indicates pest thresholds have been reached. Use a retreatment interval of 7-14 days. Maximum of 4 applications per season.	L Bee:L	R4

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Chlorantraniliprole (Coragen) FMC	28	Ingestion		P		Registered for control of **Cotton Bollworm** (*Helicoverpa armigera*) and **Native Budworm** (*Helicoverpa punctigera*) in brassica vegetables, brassica leafy vegetables, celery, rhubarb, leafy vegetables, lettuce, fruiting vegetables, cucurbits, legume vegetables, potatoes, strawberries and sweet corn.	L Bee:VL	R4
Clitoria ternatea Extract (Sero-X) Growth Agriculture	-	Biological	NR	P		Registered for control of ***Helicoverpa* spp.** in cotton, lucerne and tomato.	L Bee:VL	R4
Emamectin (Proclaim Opti) Syngenta	6	Ingestion		P		Registered for control of ***Helicoverpa* spp.** in brassica vegetables, root & tuber vegetables, leafy vegetables, brassica leafy vegetables, sweet corn, strawberries, lettuce, cucurbits, legume vegetables and fruiting vegetables.	M Bee:H	R3
Indoxacarb (Avatar Evo) FMC	22A	Ingestion		P		Registered for control of **Cotton Bollworm** (*Helicoverpa armigera*), **Native Budworm** (*Helicoverpa punctigera*) in brassica vegetables, leafy vegetables, fruiting vegetables, celery, cucurbits, sweet corn, pome fruit and stone fruit.	L Bee:H	R4
Isocycloseram (Simodis) Syngenta	30	Ingestion		P		Registered for suppression of **Heliothis** in brassica vegetables, brassica leafy vegetables, cucurbits and fruiting vegetables.	H Bee:H	R4
Methoxyfenozide (Prodigy) Corteva	18	Insect Growth Regulator		P		Registered for control of **Native Budworm** in tomatoes, peppers, eggplant and okra.	VL Bee:VL	R4

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Jassids / Leafhoppers (Cicadellidae) **Priority: Moderate**								
Jassids / Leafhoppers are rated as a moderate priority. Jassids are a sap sucking insect that can damage crops in both adult and nymph stages, causing wilting, stunting and distortion of plants. Sooty mould may grow on honey dew after heavy infestations.								
Garlic + Chilli + Pyrethrins + Piperonyl Butoxide	3A	Contact	1	A	ALL	Registered in vegetables for control of Ants, Aphids, Caterpillars, Earwigs, Whitefly, Thrips and **Leafhoppers**. Suitable for organic growers. Apply as a foliar spray when pest is evident. Use a retreatment interval of 14-21 days. Maximum number of applications per crop not specified.	VH Bee:H	R4
Flupyradifurone (Sivanto Prime) Bayer	4D	Contact & Ingestion		P		Registered for control of suppression of various pests in macadamias and various fruit and vegetables crops. US registration for control of Leafhoppers in alfalfa, brassica vegetables, clover, cucurbits, fruiting vegetables, kava, leaf petiole vegetables, celtuce, leafy vegetables, legume vegetables, peanut, pome fruit, root vegetables, small fruit vine climbing (except fuzzy kiwifruit), taro leaves and tuberous & corm vegetables.	L Bee:VL	R4
Sulfoxaflor (Transform) Corteva	4C	Contact & Ingestion		P		Registered for control of Aphids and other insect pests in various fruit and vegetable crops. US registration for control of **Leafhoppers** in berries, pome fruit and root and tuber vegetables.	M Bee:VH	R4
Snails & Slugs (Gastropoda) **Priority: Moderate**								
Snails & Slugs are rated as a moderate priority. Snails cause direct feeding damage to artichokes leading to reduced yields or marketability. Molluscicides can be used as a broadcast across the field or applied to localised areas of infestation.								
Iron Powder	-	Contact	NR	A	ALL	Registered in vegetables for control of **Slugs** & **Snails**. Broadcast pellets around plants to be protected.	-	R4
Metaldehyde	-	Contact	7	A	ALL	Registered in horticultural crops for control of **Snails** and **Slugs**. Broadcast evenly over the ground where snails and slugs are active or incorporate with seed when direct drilling. Treatments per season not limited.	-	R4

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Methiocarb (Mesurol)	1A	Contact	7 G:7	A	ALL	Registered in vegetables for control of common garden **Snails**, **Slugs, White Italian Snail** and **White Snail**. Scatter bait evenly onto ground where snails or slugs occur.	-	R2
Onion Thrips (*Thrips tabaci*) **Plague Thrips** (*Thrips imaginis*) **Western Flower Thrips** (*Frankliniella occidentalis*) **Priority: Moderate**								
Onion Thrips, Plague Thrips and Western Flower Thrips are rated as a moderate priority. Thrips are a rasping pest that are difficult to control with insecticides. Cultural measures including field hygiene should be used, as well as avoiding disruptive insecticide early season to preserve beneficials.								
Beauveria bassiana (Velifer) BASF	UNF	Biological	NR	A	ALL	Registered in protected vegetables and ornamentals for suppression of **Western Flower Thrips**, **Onion Thrips**, Greenhouse Whitefly, Silverleaf Whitefly, Sweet Potato Whitefly, Green Peach Aphid and Two-Spotted Spider Mites. Apply as a foliar spray when pests are first detected or above economic threshold. Use a retreatment interval of 3-14 days. Maximum number of applications per crop not specified.	L Bee:L	R4
Garlic + Chilli + Pyrethrins + Piperonyl Butoxide	3A	Contact	1	A	ALL	Registered in vegetables for control of Ants, Aphids, Caterpillars, Earwigs, Whitefly, **Thrips** and Leafhoppers. Suitable for organic growers. Apply as a foliar spray when pest is evident. Use a retreatment interval of 14-21 days. Maximum number of applications per crop not specified.	VH Bee:H	R4
Potassium Salts of Fatty Acids (Natrasoap)	-	Contact	NR	A	ALL	Registered in vegetables for control of Aphids, **Thrips**, Mealybug, Two Spotted Mites, Spider Mite and Whitefly. Apply as a foliar spray as need. Use a retreatment interval of 5-7 days. Maximum number of applications per crop not specified.	L Bee:L	R4
Spinetoram (Success Neo) Corteva	5	Ingestion	1	P-A	ALL	Registered in stalk & stem vegetables for control of *Helicoverpa* spp. Registered for control of **Western Flower Thrips** in brassica vegetables, bulb vegetables, cucurbits, fruiting vegetables, leafy vegetables, legume vegetables, ornamentals and berryfruit.	M Bee:H	R4

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Spinosad (Entrust Organic) Corteva	5	Ingestion	1	P-A	ALL	Registered in stalk & stem vegetables for control of Heliothis. Registered for control of **Western Flower Thrips** in brassica vegetables, cucurbits, fruiting vegetables, leafy vegetables, legume vegetables, ornamentals, berryfruit, pome fruit and stone fruit.	L Bee:L	R4
Isocycloseram (Simodis) Syngenta	30	Ingestion		P		Registered for suppression of **Plague Thrips** (*Thrips imaginis*) in bulb vegetables, and **Western Flower Thrips** (*Frankliniella occidentalis*) and **Plague Thrips** (*Thrips imaginis*) in cucurbits and fruiting vegetables.	H Bee:H	R4
Orange Oil (Prev-Am) Oro Agri	-	Contact		P		Registered for suppression of Onion Thrips (*Thrips tabaci*) and **Western Flower Thrips** (*Frankliniella occidentalis*) in fruiting vegetables, cucurbits, legume vegetables, berries, brassica vegetables, celery, herbs, apples, citrus and paw paw.	VL Bee:VL	R4
Spirotetramat (Movento) Bayer	23	Ingestion		P		Registered for control of **Western Flower Thrips** (*Frankliniella occidentalis*) in green beans, eggplant, peppers and lettuce, **Western Flower Thrips** (*Frankliniella occidentalis*) and **Plague Thrips** (*Thrips imaginis*) in celery, rhubarb and herbs, **Onion Thrips** (*Thrips tabaci*), **Western Flower Thrips** (*Frankliniella occidentalis*) and **Plague Thrips** (*Thrips imaginis*) in bulb vegetables, and **Plague Thrips** (*Thrips imaginis*) in grapes.	M Bee:VL	R4

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Spotted Vegetable Weevil (*Desiantha diversipes*) **Vegetable Weevil** (*Listroderes difficilis*) **Priority: Moderate**								
Spotted Vegetable Weevil and Vegetable Weevil are rated as a moderate priority. Weevils are soil-borne pests that primarily attack the foliage of artichoke and do not usually feed on the fruit itself. Control options are limited.								
Dazomet (Basamid)	8F	Soil Fumigant	NR	A	ALL	Pre-plant fumigant in seed beds for control of soil fungi including *Pythium*, *Phytophthora*, *Sclerotinia*, *Sclerotium*, *Rhizoctonia*, *Verticillium*, *Plasmodiophora*, *Armillaria* and *Fusarium* spp, nematodes, soil insects and weeds. Apply granules to the soil surface and incorporate and seal the soil surface immediately. Do not plant into soil until a positive germination test has been conducted.	-	R4
Broflanilide (Cimegra) BASF	30	Contact & Ingestion		P		Registered in brassica vegetables and Chinese cabbage for control of Diamondback Moth. Broad-spectrum activity on soil-dwelling pests although specific effect on weevils is currently unknown.	H Bee:VH	R4
Indoxacarb (Avatar eVo) FMC	22A	Ingestion		P		Registered for control of **Weevils** in pome fruit and stone fruit.	L Bee:H	R3
Tetraniliprole (Vayego) Bayer	28	Ingestion		P		Registered for control of Sigastus Weevil in macadamia and control of Apple Weevil, Fuller's Rose Weevil and Garden Weevil in pome fruit and stone fruit.	M Bee:VH	R4
Fall Armyworm (*Spodoptera frugiperda*) **Priority: Low**								
Fall Armyworm is rated as a low priority. Fall Armyworm is an exotic pest that can reproduce prolifically, especially in warm weather. It is important to monitor crops for any incursions.								
Bacillus thuringiensis subsp. kurstaki (DiPel)	11A	Biological	NR	A	ALL	Registered in vegetables for control of **Lepidoptera**. Time spraying to coincide with egg hatch. Treatments per season not limited.	VL Bee:VL	R4

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Garlic + Chilli + Pyrethrins + Piperonyl Butoxide	3A	Contact	1	A	ALL	Registered in vegetables for control of Ants, Aphids, **Caterpillars**, Earwigs, Whitefly, Thrips and Leafhoppers. Suitable for organic growers. Apply as a foliar spray when pest is evident. Use a retreatment interval of 14-21 days. Maximum number of applications per crop not specified.	VH Bee:H	R4
Spinosad (Entrust Organic) Corteva PER89870	5	Ingestion	1 G:14	A	ALL (excl. VIC)	Permitted in stalk & stem vegetables for control of **Fall Armyworm** (*Spodoptera frugiperda*). Apply as a foliar spray, targeting eggs and newly hatched larvae before they become entrenched. Use a retreatment interval of 7-14 days. Maximum of four applications per crop.	L Bee:L	R4
Spinetoram (Success Neo) Corteva	5	Ingestion		P-A		Registered in stalk & stem vegetables, including rhubarb, for control of *Helicoverpa* spp. Permitted for control of **Fall Armyworm** in ginger, capsicum and sweet corn.	M Bee:H	R4

4.3 Weeds in Artichoke

4.3.1 Weed priorities

Common Name	Scientific Name
Moderate	
Amaranthus	*Amaranthus* spp.
Blackberry Nightshade	*Solanum nigrum*
Fat Hen	*Chenopodium album*
Nutgrass	*Cyperus rotundus*
Pigweed	*Portulaca oleracea*
Wild Turnip	*Raphanus raphanistrum*
Low	
Fumitory	*Fumaria* spp.
Slender Celery	*Ciclospermum leptophyllum*
Annual Ryegrass	*Lolium rigidum*

There are no high priority weed issues but Amaranthus, Blackberry Nightshade, Fat Hen, Nutgrass, Pigweed and Wild Turnip are rated as moderate priority. Herbicide options are listed in Appendix 3 which can be used in conjunction with various management practices such as soil fumigation, pre-crop spraying, spot spraying and mechanical controls. There are no herbicides currently available for in-crop use in artichoke.

Growers generally use cultivation and knockdown herbicides as pre-plant weed control to ensure minimal weed populations at the start of the crop. Paraquat, diquat and their co-formulations have played an important role in pre-plant weed control. Few alternative chemistries currently match their broad weed spectrum, rapid knockdown and practical fit across different crops and production systems. There are also limited pre-emergent and post-emergence herbicide options currently available for use in crop. Access to additional modes of action would be desirable to reduce reliance on mechanical weed control measures.

Resistance management
Specific resistance management strategies for high resistance risk (1 and 2) and moderate resistance risk (0, 3, 4, 5, 6, 9, 10, 12, 13, 14, 15, 22, 27, 31 and 34) herbicide modes of action are available on the CropLife Australia webpage[7].

[7] https://www.croplife.org.au/resources/programs/resistance-management

4.3.2 Available and potential products for weed control

TABLE KEY: Note that blank fields in the table indicate no information has been provided.

Availability			
A	Available via either registration or permit approval		
P	Potential – a possible candidate to pursue for registration or permit		
P-A	Potential, already approved in the crop for another use		
Resistance risk		**Regulatory risk (refer to Appendix 6)**	
***	High resistance risk	R1	Short-term risk: Critical concern over retaining access < 1 year
		R2	Medium-term risk: Maintaining access of significant concern <2-5 years
**	Moderate resistance risk	R3	Long-term: Potential issues associated with use - Monitoring required < 5 years
		R4	No current risk / concerns
Withholding Period (WHP) – Number of days from last treatment to harvest (H) or Grazing (G)			
Harvest	H	Not Required when used as directed	NR
Grazing	G	No Grazing Permitted	NG

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory risk
Amaranthus (*Amaranthus* spp.) **Priority: Moderate**							
Amaranthus is rated as a moderate priority. Short-lived annual weed that can pose a problem every year as it is a prolific seed producer. Herbicide control can be effective, but application timing is critical to ensure small weeds are targeted.							
Glyphosate (Roundup)	9**	General Pre-Crop Spray	Registered for control of grass and broadleaf weeds as a pre-crop spray or fallow spray.	NR	A	ALL	R3
Clomazone	13**		Registered for suppression of **Amaranth** in cucumber, pumpkins, kabocha squash, rockmelons, watermelon, zucchini, green beans, navy beans, poppies, potatoes and tobacco.		P		R4
Dimethenamid-P (Outlook)	15**		Registered for pre-emergent control of grass and broadleaf weeds in sweet corn, beans, peas, pumpkins and kabocha.		P		R4
Ethofumesate (Tramat)	15**		Registered for control of grass and broadleaf weeds, including **Amaranth** in beet crops, oilseed poppy and onions.		P		R4

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory risk
Ethyl Dipropylthiocarbamate (Eptam)	15**		Registered for control of **Amaranth** in beans, potatoes, maize and sweet corn.		P		R4
Fluroxypyr (Starane)	4**		Registered for control of broadleaf weeds, including **Amaranth** in sorghum, maize, sweet corn and millet.		P		R4
Glufosinate-Ammonium (Basta) BASF	10**		Registered for control of grass and broadleaf weeds including **Amaranthus** in berries, tomatoes, beans and fallow.		P		R3
Metobromuron (Soleto) GroChem	5**		Registered for control of **Amaranth** in potatoes.		P		R4
Prosulfocarb + S-Metolachlor (Boxer Gold)	15**		Registered for control of **Redroot Amaranth** in potatoes.		P		R4
S-Metolachlor (Dual Gold) Syngenta	15**		Registered for control of grass and broadleaf weeds in Brassica vegetables, Brassica leafy vegetables, sweet potatoes, spring onions, shallots, spinach, silverbeet, rhubarb, culinary herbs and beans.		P		R4
Blackberry Nightshade (*Solanum nigrum*) **Priority: Moderate**							
Blackberry Nightshade is rated as a moderate priority. Prolific perennial, broadleaf, weed that is widely adapted and difficult to eradicate, mainly due to its long-term seed viability. Herbicide control is effective but requires timely application and avoidance of seed set over several years to bring the soil seed bank down.							
Glyphosate (Roundup)	9**	General Pre-Crop Spray	Registered for control of grass and broadleaf weeds as a pre-crop spray or fallow spray.	NR	A	ALL	R3
Ethyl Dipropylthiocarbamate (Eptam)	15**		Registered for control of grass and broadleaf weeds, including **Blackberry Nightshade**, in beans, potatoes, maize and sweet corn.		P		R4

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory risk
Aclonifen (Emerger) Bayer	32**	Pre-Emergence	Bayer is expected to seek registration for pre-emergent control of grass and broadleaf weeds in various vegetable crops. Registered in Europe for use in potatoes, legume vegetables and cereals. **Blackberry Nightshade** is listed as moderately susceptible at a high rate.		P		R4
Dimethenamid-P (Outlook) BASF	15**		Registered for control of grass and broadleaf weeds, including **Blackberry Nightshade** in sweet corn, beans, peas, pumpkins and kabocha.		P		R4
Ethyl Dipropylthiocarbamate (Eptam)	15**		Registered for control of grass and broadleaf weeds, including **Blackberry Nightshade**, in beans, potatoes, maize and sweet corn.		P		R4
Fluroxypyr (Starane) Corteva	4**		Registered for control of **Blackberry Nightshade** in non-crop areas and pastures.		P		R4
Norflurazon (Zoliar) AgNova	12**		Registered for control of various grass and broadleaf weeds, including **Blackberry Nightshade** in citrus, grapes, almonds, pome fruit and stone fruit.		P		R4
Oxyfluorfen (Goal)	14**		Registered for control of various grass and broadleaf weeds, including **Blackberry Nightshade**, in fruit and nut trees, vines, brassica vegetables, coffee, duboisia, pyrethrum, tobacco and tropical & subtropical fruit.		P		R4
S-Metolachlor (Dual Gold)	15**		Registered for control of grass and broadleaf weeds in brassica vegetables, brassica leafy vegetables, sweet potatoes, spring onions, shallots, spinach, silverbeet, rhubarb, culinary herbs and beans.		P		R4
Fat Hen (*Chenopodium album*) **Priority: Moderate**							
Fat Hen is rated as a moderate priority. Fast-growing, annual broadleaf weed that germinates from spring to autumn. Herbicide control can be difficult and targeting weeds at early growth stages is critical.							
Glyphosate (Roundup)	9**	General Pre-Crop Spray	Registered for control of grass and broadleaf weeds as a pre-crop spray or fallow spray.	NR	A	ALL	R3

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory risk
Aclonifen (Emerger) Bayer	32**	Pre-Emergence	Bayer is expected to seek registration for pre-emergent control of grass and broadleaf weeds in various vegetable crops. Registered in Europe for use in potatoes, legume vegetables and cereals. **Fat Hen** is listed as susceptible.		P		R4
Ethofumesate (Tramat)	15**		Registered for control of grass and broadleaf weeds, including **Fat Hen** in beet crops, oilseed poppy and onions.		P		R4
Ethyl Dipropylthiocarbamate (Eptam)	15**		Registered for control of grass and broadleaf weeds, including **Fat Hen**, in beans, potatoes, maize and sweet corn.		P		R4
Glufosinate-Ammonium (Basta) BASF	10**		Registered for control of grass and broadleaf weeds including **Fat Hen** in berries, tomatoes, beans and fallow.		P		R3
Norflurazon (Zoliar) AgNova	12**		Registered for control of grass and broadleaf weeds including **Fat Hen** in asparagus, citrus, grapes, nuts, stone & pome fruits.		P		R4
Oxyfluorfen (Goal)	14**		Registered for control of grass and broadleaf weeds, including **Fat Hen** in fallow, Brassica vegetables and fruit and nut trees. Compatible with glyphosate.		P		R4
S-Metolachlor (Dual Gold) Syngenta	15**		Registered for control of grass and broadleaf weeds in Brassica vegetables, Brassica leafy vegetables, sweet potatoes, spring onions, shallots, spinach, silverbeet, rhubarb, culinary herbs and beans.		P		R4
Nutgrass (*Cyperus rotundus*) **Priority: Moderate**							
Nutgrass is rated as a moderate priority. Nutgrass prefers damp, water-logged soils but can survive for years underground during dry times. Herbicide options are limited and unreliable. Improve soil drainage if possible.							
Glyphosate (Roundup)	9**	General Pre-Crop Spray	Registered for control of grass and broadleaf weeds, and **Nutgrass**, as a pre-crop spray or fallow spray.	NR	A	ALL	R3

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory risk
Ethyl Dipropylthiocarbamate (Eptam)	15**		Registered for control of **Nutgrass** in non-crop situations.		P		R4
Norflurazon (Zoliar) AgNova	12**		Registered for control of **Nutgrass** in asparagus, citrus, grapes, nuts, stone & pome fruits.		P		R4
Pigweed (*Portulaca oleracea*) **Priority: Moderate**							
Pigweed is rated as a moderate priority. Summer growing broadleaf weed that competes aggressively in-crop and can be difficult to control with herbicides.							
Glyphosate (Roundup)	9**	General Pre-Crop Spray	Registered for control of grass and broadleaf weeds as a pre-crop spray or fallow spray.	NR	A	ALL	R3
Clomazone	13**		Registered for control of **Pig Weed** in cucumber, pumpkins, kabocha squash, rockmelons, watermelon, zucchini, green beans, navy beans, poppies, potatoes and tobacco.		P		R4
Ethyl Dipropylthiocarbamate (Eptam)	15**		Registered for control of **Pigweed** in beans, potatoes, maize and sweet corn.		P		R4
Metobromuron (Soleto) GroChem	5**		Registered for control of **Pigweed** in potatoes.		P		R4
Dimethenamid-P (Outlook) BASF	15**		Registered for control of grass and broadleaf weeds, including **Pigweed** in sweet corn, beans, peas, pumpkins and kabocha.		P		R4
Fluroxypyr (Starane) Corteva	4**		Registered for control of **Pigweed** in summer fallow, lucerne, sorghum, maize, millets and sweet corn.		P		R4
Norflurazon (Zoliar) AgNova	12**		Registered for control of **Pigweed** in citrus, grapes, almonds, pome fruit and stone fruit.		P		R4

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory risk
Wild Turnip (*Raphanus raphanistrum*) **Priority: Moderate**							
Wild Turnip is rated as a moderate priority. Winter growing annual broadleaf that competes aggressively with crops and runs to seed quickly. Timely herbicide control can be effective provided that weeds are targeted when they are young and actively growing.							
Glyphosate (Roundup)	9**	General Pre-Crop Spray	Registered for control of grass and broadleaf weeds as a pre-crop spray or fallow spray.	NR	A	ALL	R3
Norflurazon (Zoliar) AgNova	12**		Registered for control of grass and broadleaf weeds including **Wild Turnip** in asparagus, citrus, grapes, nuts, stone & pome fruits.		P		R4
S-Metolachlor (Dual Gold) Syngenta	15**		Registered for control of grass and broadleaf weeds in Brassica vegetables, Brassica leafy vegetables, sweet potatoes, spring onions, shallots, spinach, silverbeet, rhubarb, culinary herbs and beans.		P		R4
Fumitory (*Fumaria* spp.) **Priority: Low**							
Fumitory is rated as a low priority. Aggressive and competitive weed which develops a highly persistent seed bank. Requires ongoing management using an integrated weed management approach.							
Glyphosate (Roundup)	9**	General Pre-Crop Spray	Registered for control of grass and broadleaf weeds as a pre-crop spray or fallow spray.	NR	A	ALL	R3
Dimethenamid-P (Outlook)	15**		Registered for control of grass and broadleaf weeds, including **Fumitory** in sweet corn, beans, peas, pumpkins and kabocha.		P		R4
Ethofumesate (Tramat)	15**		Registered for control of grass and broadleaf weeds, including **Fumitory** in beet crops, oilseed poppy and onions.		P		R4
Metobromuron (Soleto) GroChem	5**		Registered for control of **Fumitory** in potatoes.		P		R4
Metribuzin	5**		Registered for control of **Fumitory** in peas, potatoes and tomatoes.		P		R4
Oxyfluorfen (Goal)	14**		Registered for control of **Fumitories** in onions.		P		R4

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory risk
Prosulfocarb + S-Metolachlor (Boxer Gold)	15**		Registered for control of **Fumitory** in potatoes.		P		R4
S-Metolachlor (Dual Gold) Syngenta	15**		Registered for control of grass and broadleaf weeds in brassica vegetables, brassica leafy vegetables, sweet potatoes, spring onions, shallots, spinach, silverbeet, rhubarb, culinary herbs and beans.		P		R4
Slender Celery (*Ciclospermum leptophyllum*) **Priority: Low**							
Slender Celery is rated as a low priority. Erect, annual herb with threadlike leaves which is widely adapted to a range of environments. Difficult to control with herbicides.							
Glyphosate (Roundup)	9**	General Pre-Crop Spray	Registered for control of grass and broadleaf weeds as a pre-crop spray or fallow spray.	NR	A	ALL	R3
Aclonifen (Emerger) Bayer	32**	Pre-Emergence	Bayer is expected to seek registration for pre-emergent control of grass and broadleaf weeds in various vegetable crops. Registered in Europe for use in potatoes, legume vegetables and cereals.		P		R4
Ioxynil (Totril)	6**	Post-Emergence	Registered for control of various broadleaf weeds, including **Slender Celery**, in onions, spring onions, shallots, Welsh onions, garlic and leeks.		P		R3
S-Metolachlor (Dual Gold)	15**		Registered for control of grass and broadleaf weeds in brassica vegetables, brassica leafy vegetables, sweet potatoes, spring onions, shallots, spinach, silverbeet, rhubarb, culinary herbs and beans.		P		R4
Annual Ryegrass (*Lolium rigidum*) **Priority: Moderate**							
Annual Ryegrass is rated as a low priority. Annual Ryegrass is the most serious grass weed of southern Australia with distribution that is gradually extending north. Populations are prone to herbicide resistance so integrated weed management and rotation of herbicide modes of action are important aspects of a long-term control strategy.							
Glyphosate (Roundup)	9**	General Pre-Crop Spray	Registered for control of grass and broadleaf weeds as a pre-crop spray or fallow spray.	NR	A	ALL	R3

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory risk
Aclonifen (Emerger) Bayer	32**		Bayer is expected to seek registration for pre-emergent control of grass and broadleaf weeds in various crops. Registered in Europe for use in potatoes, legume vegetables and cereals.		P		R4
Dimethenamid-P (Outlook)	15**		Registered for pre-emergent control of grass and broadleaf weeds in sweet corn, beans, peas, pumpkins and kabocha.		P		R4
Ethyl Dipropylthiocarbamate (Eptam)	15**		Registered for control of **Annual Ryegrass** in beans, potatoes, maize and sweet corn.		P		R4
Metobromuron (Soleto) GroChem	5**		Registered for suppression of **Annual Ryegrass** in potatoes.		P		R4
Metribuzin	5**		Registered for control of **Annual Ryegrass** in peas, potatoes and tomatoes.		P		R4
Napropamide (Devrinol)	0**		Registered for control of **Annual Ryegrass** in almonds, grapevines, stone fruit, tomatoes and canola.		P		R4
Nonanoic Acid (Beloukha)	-		Registered for control of **Annual Ryegrass** in non-crop areas, turf, orchards & vineyards, fallow and forestry.		P		R4
Norflurazon (Zoliar) AgNova	12**		Registered for control of **Annual Ryegrass** in citrus, grapes, nuts, stone & pome fruits.		P		R4
Prosulfocarb + S-Metolachlor (Boxer Gold)	15**		Registered for control of **Annual Ryegrass** in potatoes.		P		R4
S-Metolachlor (Dual Gold) Syngenta	15**		Registered for control of grass and broadleaf weeds in brassica vegetables, brassica leafy vegetables, sweet potatoes, spring onions, shallots, spinach, silverbeet, rhubarb, culinary herbs and beans.		P		R4

5. References

5.1 Information:

AgChem Access Priority Access Forum	https://www.agrifutures.com.au/national-rural-issues/agvet-chemicals/
Australian Pesticide and Veterinary Medicines Authority	www.apvma.gov.au
APVMA Chemical review	https://apvma.gov.au/chemicals-and-products/chemical-review/listing
MRL Databases (DAFF)	https://www.agriculture.gov.au/agriculture-land/farm-food-drought/food/nrs/databases
APVMA Permit search	https://productsearch.apvma.gov.au/permits
APVMA Product search	https://productsearch.apvma.gov.au/products
AUSVEG	https://ausveg.com.au
Cotton Pest Management Guide 2025-26	https://www.cottoninfo.com.au/publications/cotton-pest-management-guide
CropLife Australia (resistance management)	https://www.croplife.org.au/resources/programs/resistance-management/
Hort Innovation	www.horticulture.com.au

5.2 Abbreviations and Definitions:

APVMA	Australian Pesticides and Veterinary Medicines Authority
IPM	Integrated pest management
LOQ	Limit of quantification
MRL	Maximum residue limit (mg/kg or ppm)
Pesticides	Plant protection products (fungicide, insecticide, herbicide, nematicides, rodenticides, etc.).
Plant pests	Diseases, insects, nematodes, rodents, viruses, weeds, etc.
SARP	Strategic Agrichemical Review Process
TBC	To be confirmed
WHP	Withholding Period

5.3 Acknowledgements:

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6. Appendices

Appendix 1. Products available for disease control in artichoke
Appendix 2. Products available for control of insects in artichoke
Appendix 3. Products available for weed control in artichoke
Appendix 4. Current permits for use in artichoke
Appendix 5. Artichoke Maximum Residue Limits (MRLs)
Appendix 6. Artichoke Agrichemical Regulatory Risk Assessment

Appendix 1. Products available for disease control in artichoke

Active Ingredient (Trade Name)	Chemical group	Situation	Diseases / Comments	States	WHP Days	Regulatory risk
1,3-dichloropropene + Chloropicrin	8B	Vegetables / Soil fumigant	Plant parasitic nematodes, symphylans, wireworms, soil borne diseases (including *Fusarium*, *Verticillium* wilts, *Rhizoctonia*, & *Pythium*) and suppression of weeds. *For use by professional and registered fumigators only.*	ALL	NR	R4
Chlorothalonil (Bravo)	M5	Artichoke - globe	Grey Mould (*Botrytis cinerea*)	ALL	1	R2
Dazomet (Basamid)	8F	General soil fumigant	Pre-plant fumigant in seed beds for control of soil fungi including *Pythium*, *Phytophthora*, *Sclerotinia*, *Sclerotium*, *Rhizoctonia*, *Verticillium*, *Plasmodiophora*, *Armillaria* and *Fusarium* spp. Nematodes, plus insects, weeds & soil fungi	ALL	NR	R4
Metham Sodium	-	Food Crops / Pre-Plant Fumigant	Fungal diseases including *Rhizoctonia*, *Pythium*, *Fusarium*, *Phytophthora*, *Verticillium*, *Sclerotinia* and Club Root of crucifers & Nematodes	ALL	NR	R4
Streptomyces lydicus WYEC108 (Actinovate) Novozymes Bioag	BM 02	Vegetables	As a seed treatment for *Fusarium, Rhizoctonia* & *Pythium* Management	ALL	NR	R4
Sulphur	M2	Vegetables	Powdery Mildew and Rust	ALL	NR	R4

Appendix 2. Products available for control of insects in artichoke

Active Ingredient (Trade Name)	Chemical group	Situation	Pests / Comments	States	WHP Days	Regulatory risk
1,3-dichloropropene + Chloropicrin	8	Vegetables	Soil borne pests including Nematodes. *For use by professional and registered fumigators only.*	ALL	NR	R4
Afidopyropen (Versys) BASF	9D	Artichokes	Green Peach Aphid (*Myzus persicae*) Cabbage Aphid (*Brevicoryne brassicae*) Currant Lettuce Aphid (*Nasonovia ribis-nigri*) Cotton Aphid / Melon Aphid (*Aphis gossypii*) Corn Aphid (*Rhopalosiphum maydis*) Suppression of: Silverleaf Whitefly (*Bemisia tabaci*)	ALL	7	R4
Bacillus thuringiensis subsp. kurstaki (DiPel)	11A	Vegetables	Lepidoptera	ALL	NR	R4
Beauveria bassiana (Velifer) BASF	UNF	Protected vegetables and ornamentals	Suppression of various pests including Western Flower Thrips, Onion Thrips, Greenhouse Whitefly, Silverleaf Whitefly, Sweet Potato Whitefly, Green Peach Aphid & Two-Spotted Spider Mites.	ALL	NR	R4
Dazomet (Basamid)	8F	Soil fumigant	Soil fungi, Nematodes, soil insects and weeds.	ALL	NR	R4
Emulsifiable Botanical Oil (Eco-Oil)	-	Vegetables	Greenhouse Whitefly	ALL	NR	R4
Flubendiamide (Belt) Bayer	28	Stalk & Stem Vegetables	Heliothis (*Helicoverpa* spp.)	ALL	1	R4
Garlic + Chilli + Pyrethrins + Piperonyl Butoxide	3A	Vegetables	Ants, Aphids, Caterpillars, Earwigs, Whitefly, Thrips and Leafhoppers. Suitable for organic growers	ALL	1	R4
Iron Powder	-	Vegetables	Slugs & Snails	ALL	NR	R4

Active Ingredient (Trade Name)	Chemical group	Situation	Pests / Comments	States	WHP Days	Regulatory risk
Metaldehyde	-	Vegetables	Slugs & Snails	ALL	7 NG	R4
Methiocarb (Mesurol)	1A	Vegetables	Common Garden Snail Slugs White Italian Snail White Snail	ALL	7 G:7	R4
Metham Sodium	-	Pre-Plant Soil Fumigant	Plant parasitic Nematodes, weed seeds, and various fungal diseases	ALL	NR	R4
Nuclear Polyhedrosis Virus of *Helicoverpa armigera* (Vivus Max) AgBiTech	31	Stalk Vegetables	Cotton Bollworm (*Helicoverpa armigera*) Native Budworm (*Helicoverpa punctigera*)	ALL	NR	R4
Pirimicarb (Aphidex)	1A	Artichokes (globe)	Aphids	ALL	2	R4
Potassium Salts of Fatty Acids (Natrasoap)	-	Vegetables	Aphids, Thrips, Mealybug, Two Spotted Mites, Spider Mite and Whitefly	ALL	NR	R4
Propargite (Omite)	12C	Vegetables	Two-Spotted Mites & Spider Mites	ALL	7	R3
Pyriproxyfen (Distance Ant Bait) Sumitomo	7C	Vegetables	Invasive & Nuisance Ants	ALL	NR	R4
Spinetoram (Success Neo) Corteva	5	Stalk & Stem Vegetables	*Helicoverpa* spp.	ALL	1	R4
Spinetoram (Success Neo) Corteva PER94451	5	Stalk & Stem Vegetables	Liriomyza Leafminers, including: Vegetable Leafminer (*Liriomyza sativae*) Pea Leafminer / Serpentine Leafminer (*Liriomyza huidobrensis*) American Serpentine Leafminer (*Liriomyza trifolii*)	ALL (excl. VIC)	1	R4

Active Ingredient (Trade Name)	Chemical group	Situation	Pests / Comments	States	WHP Days	Regulatory risk
Spinosad (Entrust Organic) Corteva PER89870	5	Stalk & Stem Vegetables	Fall Armyworm (*Spodoptera frugiperda*)	ALL (excl. VIC)	1 G:14	R4
Sulphur	UN	Vegetables	Mites	ALL	NR	R4
Trichlorfon (Lepidex)	1B	Vegetables	Cabbage White Butterfly, Cabbage Moth, Rutherglen Bug & Green Vegetable Bug	ALL	2	R3

Appendix 3. Products available for weed control in artichoke

Active Ingredient (Trade Name)	Chemical Group	Situation	Comment / Use / Weed	WHP (days)	States	Regulatory risk
1,3-dichloropropene + Chloropicrin	8	Vegetables	Plant parasitic Nematodes, Symphylans, Wireworms, soil borne diseases and suppression of weeds. *For use by professional and registered fumigators only.*	NR	ALL	R4
Glyphosate (Roundup)	9**	General Pre-Crop Spray	Grass and Broadleaf Weeds	NR	ALL	R3

Chemical Group Resistance Risk: ** Moderate, *** High

Appendix 4. Current permits for use in artichoke

Permit No.	Description	Issued Date	Expiry Date	Permit Holder
PER94451	Spinetoram (Success Neo) / Stalk Vegetables / Liriomyza Leafminers	05-Jul-24	31-Jul-27	Hort Innovation
PER89870 Version 3	Spinosad (Entrust Organic) / Stalk & Stem Vegetables / Fall Armyworm	21-Jul-20	31-Oct-30	Hort Innovation

Appendix 5. Artichoke Maximum Residue Limits (MRLs)

CODEX commodity groupings of root and tuber vegetables and subgroups:

VS 0078 Stalk and stem vegetables
VS 2082 Other stalk and stem vegetables
VS 0620 Artichoke, globe
Vegetables

Note: Major export markets for artichoke include Vietnam, Thailand, Singapore, New Caledonia and Indonesia. Available information indicates that in the absence specific limits in legislation the most countries defer to Codex, followed by EU MRL standards, or apply a 0.01ppm default value. Food exported to New Zealand from Australia may be legally sold if it complies with Australian requirements. MRLs and legislation are subject to change; the values presented should not be relied on.

Chemical	Codex	Description	APVMA MRL mg/kg	Codex MRL mg/kg
2,2-DPA		Vegetables	*0.1	-
Acephate	VS0620	Artichoke, globe	-	0.3
Afidopyropen	VS0620	Artichoke, globe	0.1	-
Azoxystrobin	VS0620	Artichoke, globe	-	5
Boscalid	VR0078	Stalk and stem vegetables	-	30
Chlorantraniliprole	VS0620	Artichoke, globe	-	2
Chlordane		Vegetables {except fruiting vegetables, cucurbits, sugar beet}	E0.02	-
Chlorothalonil		Vegetables {except asparagus; brussels sprouts; carrot; celery; fennel, bulb; fruiting vegetables, cucurbits; galangal, greater; galangal, lesser; garlic; peas; leafy vegetables; leek; onion, bulb; potato; pulses; spring onion; tomato}	T7	-
Chlorpyrifos		Vegetables {except asparagus; brassica vegetables; cassava; celery; leek; peppers, sweet [capsicum]; potato; swede; sweet potato; taro; tomato}	T*0.01	-
Clothianidin	VS0620	Artichoke, globe	-	0.05
Cypermethrins (including alpha- and zeta-cypermethrin)	VS0620	Artichoke, globe	-	0.1
Cyprodinil	VS0620	Artichoke, globe	-	4
Cyromazine	VR0078	Stalk and stem vegetables	T7	-
	VS0620	Artichoke, globe	-	3
DDT		Vegetables	E1	-
Diazinon		Vegetables	0.7	-
Dicofol		Vegetables {except cucumber; gherkin; tomato}	5	-
Difenoconazole	VS0620	Artichoke, globe	-	1.5
Dimethomorph	VS0620	Artichoke, globe	-	2

Chemical	Codex	Description	APVMA MRL mg/kg	Codex MRL mg/kg
Diquat		Vegetables {except beans; broad bean; lupin (dry); onion, bulb; peas; potato; soya bean (dry); sugar beet}	*0.05	-
EPTC		Vegetables	*0.04	-
Fluazaindolizine	VR0078	Stalk and stem vegetables	-	0.04
Flubendiamide	VR0078	Stalk and stem vegetables	5	-
Flumioxazin	VS0620	Artichoke, globe	-	*0.02
Fluopyram	VS0620	Artichoke, globe	-	0.4
Glyphosate	VR0078	Stalk and stem vegetables	*0.01	-
Heptachlor		Vegetables {except carrot; soya bean (dry); tomato}	E0.05	-
Inorganic Bromide		Vegetables {except peppers, sweet [capsicum]}	20	-
Lindane		Vegetables	E2	-
Linuron		Vegetables {except carrot, celeriac; celery; leek; parsnip}	*0.05	-
Metalaxyl		Vegetables {except asparagus; beetroot; bulb vegetables [alliums]; fruiting vegetables, cucurbits; leafy vegetables; peppers; podded pea (young pods) [snow and sugar snap peas]; tomato}	T0.1	-
Metaldehyde		Vegetables	1	-
Methamidophos	VS0620	Artichoke, globe	-	0.2
Methiocarb	VS0620	Artichoke, globe	*0.06	*0.05
Methyl Bromide		Vegetables {except cucumber; peppers}	T*0.05	-
Paraquat		Vegetables {except potato, pulses}	*0.05	-
Penconazole	VS0620	Artichoke, globe	-	0.06
Piperonyl Butoxide		Vegetables	8	-
Pirimicarb	VS0620	Artichoke, globe	-	5
		Vegetables {except celeriac; celery; leafy vegetables; onion, welsh; pulses; shallot; spring onion; sweet corn (corn-on-the-cob)}	1	-
Prometryn		Vegetables	*0.1	-
Propargite		Vegetables	3	-
Pyraclostrobin	VS0620	Artichoke, globe	-	2
Pyrethrins		Vegetables	1	-
Spinetoram	VR0078	Stalk and stem vegetables	2	-
Spirotetramat	VS0620	Artichoke, globe	-	1
Sulfoxaflor	VS0620	Artichoke, globe	-	0.9
Tebuconazole	VS0620	Artichoke, globe	-	0.6
Thiamethoxam	VS0620	Artichoke, globe	-	0.5
Triadimefon	VS0620	Artichoke, globe	-	0.7
Triadimenol	VS0620	Artichoke, globe	-	0.7

Chemical	Codex	Description	APVMA MRL mg/kg	Codex MRL mg/kg
Trichlorfon		Vegetables {except beetroot; brussels sprouts; cape gooseberry; cauliflower; celery; egg plant, thai; leafy vegetables; pepino; peppers; pulses (dry); sweet corn (corn-on-the-cob)}	0.1	-
Trifluralin		Vegetables {except carrot; parsnip; fennel, bulb; galangal, greater}	0.05	-

NOTE: MRLs are constantly under review and subject to change. Check for current MRLs and do not rely on the values stated above.

* Indicates that an MRL is at the Limit of Quantitation (LOQ)
T =Temporary MRL
E = The MRL is based on extraneous residues

Sources: APVMA MRLs: Agricultural and Veterinary Chemicals Code (MRL Standard) Instrument 2023. Compilation 16. Prepared 21 August 2026. CODEX MRLs: CODEX Alimentarius International Food Standards database (September 2026), http://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/en/

Appendix 6: Artichoke Agrichemical Regulatory Risk Assessment

Artichoke
Agrichemical Regulatory
Risk Assessment

May 2026

Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use. For older agrichemicals these pressures are often the result of reconsiderations involving new or refined risk assessment methodologies that require the generation of new data. A consequence of which can be that many of these chemicals are not meeting contemporary risk assessment standards as the necessary data is unavailable, or where data is available, the risk posed is considered unacceptable.

The use of farm chemicals can also be impacted through differences in standards between trading partners. The lack of an appropriate pesticide maximum residue limit (MRL) in an importing country can, for practical purposes, effectively prohibiting the use in the exporting country to ensure compliance, as breaches of MRLs would adversely affect market access.

The effects of the above are greater pressure placed on the availability and use of individual chemicals or chemical groups. As a consequence, it is possible that the number of approved agrichemical options could be adversely impacted.

To assist strategic planning, with respect to future pest management options, the following tables have been developed to highlight the regulatory threats to agrichemicals currently approved for the management of the pests and diseases in artichoke as well as current initiatives aimed at addressing identified pest management deficiencies.

R0	Use no longer approved
R1	Short-term: Critical concern over retaining access < 1 year
R2	Medium-term: Maintaining access of significant concern <2-5 years
R3	Long-term: Potential issues associated with use – Monitoring required < 5 years
R4	No current risk/concerns

INSECTICIDES/MITICIDES/NEMATICIDES - Insect and other pests

Blue text = new APVMA approved uses

Active Constituent	MoA Group	Pest	Risks and Comments
AFIDOPYROPEN	9D	Cabbage aphid; Cotton aphid; Currant lettuce aphid; Green peach aphid; Silverleaf white fly (suppression)	Australia: No current concerns. EU: Not approved
Bacillus thuringiensis	11A	Armyworm (Spodoptera spp.) Cotton bollworm (Helicoverpa armigera) Native budworm (Helicoverpa punctigera) Cabbage moth (Plutella xylostella) Cabbage white butterfly (Pieris rapae) Loopers (Chrysodeixis spp., Ectropis excursaria, Thysanoplusia orichalcea) Lightbrown apple moth (Epiphyas postvittana) Vine moth (Phalaenoides glycinae, Agarista agricola)	Australia: No current concerns.
CHLORPYRIFOS	1B	Cutworms; Field crickets; Mole crickets; Spotted vegetable weevil; Vegetable weevil; Wingless grasshopper	Australia: The chemical review was completed in September 2024. Most uses in horticultural crops were removed. After 30 September 2025, products with previously approved labels must not be supplied. The only remaining approved use is in Brassica crops as specified on current labels. EU: Not approved Canada: Cancelled
CYROMAZINE	17	PER81867 for the control of Leaf miner	Australia: No current concerns. Permit PER81867 Expiry date: 30/09/2026 Codex MRL: 3 mg/Kg EU: Not approved
DIAZINON	1B	Caterpillars; webworms	Australia: APVMA made a Final Decision on 2024. After 10 September 2025, crop uses are no longer approved. . Codex: All MRLs deleted EU: Not approved Canada: Cancelled
PIRIMICARB	1A	Aphids	Australia: No current concerns. Codex MRL: 5 mg/Kg EU: Approved, candidate for substitution Canada: Cancelled

Active Constituent	MoA Group	Pest	Risks and Comments
POTASSIUM SALTS OF FATTY ACIDS	--	Aphids; Thrips; Mites; Whitefly	Australia: No current concerns. Canada: In re-evaluation
PROPARGITE	12C	Spider mite, Two spotted mite	Australia: APVMA reconsideration. Prioritised to be commenced by 2029. EU: Not approved Canada: Cancelled
PYRETHRINS	3A	Ants, Aphids, Caterpillars, Leafhoppers, Whiteflies	Australia: No current concerns.
PYRIPROXYFEN	7C	fire ant	Australia: No current concerns.
SPINETORAM	5	Helicoverpa	Australia: No current concerns. EU: Not approved Canada: In re-evaluation
SULFUR	UN	Mites	Australia: No current concerns.
TRICHLORFON	1B	Cabbage White Butterfly; Cabbage Moth; Green Vegetable Bug	Australia: APVMA nominated for reconsideration after 2029. EU: Not approved Canada: Cancelled

FUNGICIDES – Disease Control

Blue text = new APVMA approved uses

Active Constituent	MoA Group	Pest	Risks and Comments
CHLOROTHALONIL	M5	Grey mould	Australia: APVMA reconsideration. Prioritised to be commenced by 2028. EU: Not approved Canada: In re-evaluation USA: Under Registration Review (scheduled)
COPPER	M1	Leaf diseases	Australia: No current concerns.
HYDROGEN PEROXIDE + PEROXYACETIC ACID		Bactericide	**HYDROGEN PEROXIDE** Australia: No current concerns. **PEROXYACETIC ACID** Australia: No current concerns.
SULPHUR	M2	Rust	Australia: No current concerns. Canada: In re-evaluation

HERBICIDES – Weed Control

Blue text = new APVMA approved uses

Active Constituent	MoA Group	Risks and Comments
DIQUAT	22	Australia: APVMA: [Review finalised] Final regulatory decision handed down in July 2026. Significant restrictions and 24 month transition period. EU: Not approved
PARAQUAT	22	Australia: APVMA: [Review finalised] Final regulatory decision handed down in July 2026. Significant restrictions and 24 month transition period. Candidate chemical recommended to be listed to Rotterdam Convention. EU: Not approved Canada: Cancelled USA: Restricted use

FUMIGANTS

Blue text = new APVMA approved uses

Active Constituent	Use	Risks and Comments
1,3-DICHLOROPROPENE	Control of soil borne diseases, plant parasitic Nematodes, Symphylans and Wireworms	Australia: No current concerns. EU: Pending Canada: Cancelled
CHLOROPICRIN	Control of soil borne diseases, plant parasitic Nematodes, Symphylans and Wireworms	Australia: No current concerns. EU: Not approved
CHLOROPICRIN + 1,3-DICHLOROPROPENE	Control of soil borne diseases, plant parasitic Nematodes, Symphylans and Wireworms	**CHLOROPICRIN** Australia: No current concerns. EU: Not approved **1,3-DICHLOROPROPENE** Australia: No current concerns. EU: Pending Canada: Cancelled
ETHANEDINITRILE	Soil borne pathogens, nematodes and weeds	Australia: No current concerns.
METHAM PRESENT AS SODIUM SALT	Germinating weeds and soil-borne fungus diseases	Australia: No current concerns.

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