Rhubarb

Strategic Agrichemical Review Process (SARP)

April 2026

Hort Innovation
Project – MT25005

Hort Innovation Project Number:
MT25005 – Vegetable Strategic Agrichemical Review Process (SARP) 2026 Updates

SARP Service Provider:
AGK Services

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

Date of report:
April 2026

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Communications Manager
Hort Innovation
Level 7, 141 Walker Street
North Sydney NSW 2060
Australia
Email: communications@horticulture.com.au
Phone: 02 8295 2300

Hort Innovation Strategic levy investment | VEGETABLE FUND

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Table of Contents

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 Rhubarb 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

The high priority disease is:

Common name	Scientific name
Sclerotium Rot	*Sclerotium rolfsii*

1.2 Insects and Mites

The high priority insects and mites are:

Common name	Scientific name
Broad Mites	*Polyphagotarsonemus latus*

1.3 Weeds

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

Common Name	Scientific Name
Amaranthus	*Amaranthus* spp.
Cleavers	*Galium aparine L.*
Annual Ryegrass	*Lolium rigidum*
Blackberry Nightshade	*Solanum nigrum*
Fat Hen	*Chenopodium album*
Pigweed	*Portulaca oleracea*
Fumitory	*Fumaria* spp.
Nutgrass	*Cyperus rotundus*
Sowthistle	*Sonchus oleraceus*

2. The Australian Rhubarb Industry

The Australian Rhubarb industry is a minor horticultural industry. The majority of production is in Tasmania and is grown during the summer months, with smaller areas grown in mainland states as a winter crop.

Rhubarb is an herbaceous perennial and a cool season crop valued for its long thick, red stems. Demand has fluctuated greatly over time and production has focused on the southern states as the industry has developed better varieties and more understanding of production requirements.

Specific production statistics are not available for the rhubarb industry in Australia.

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 Rhubarb 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 Rhubarb 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 process identifies diseases, insect pests and weeds of major concern to the Rhubarb 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 Rhubarb 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 Rhubarb 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[1] which covers Rhubarb 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) and the cost to industry of control measures.

[1] 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 rhubarb as a minor crop. The crop fits within the APVMA crop group VS0078: Stalk and stem vegetables, within the subgroup VS2080: Stems & Petioles. Access to minor use permits can be achieved as long as a reasonable justification is provided in accordance with the APVMA's minor use guidance[2].

Possible justification for future 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 argument is required to justify any new permit applications. Another option for the Rhubarb industry is for manufacturers to register new pesticides uses in the crop.

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

3.3 Methods

The current update of the Rhubarb 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	**Rhubarb 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 Rhubarb 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 ranked 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 rhubarb
Appendix 2. Products available for control of insects and mites in rhubarb
Appendix 3. Products available for weed control in rhubarb
Appendix 4. Current permits for use in rhubarb
Appendix 5. Rhubarb Maximum Residue Limits (MRLs)
Appendix 6. Rhubarb Agrichemical Regulatory Risk Assessment

4. Diseases, Pests and Weeds of Rhubarb

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[3].

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).

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

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

4.1 Diseases of rhubarb

4.1.1 Disease priorities

Common name	Scientific name
High	
Sclerotium Rot	*Sclerotium rolfsii*
Moderate	
Downy Mildew	*Peronospora destructor*
Ascochyta Blight	*Ascochyta rhei*
Crown Rot	*Rhizoctonia* spp., *Phytophthora* spp.
Rust	*Puccinia rhei-undulati*
Rhubarb Decline-Associated Closterovirus	
Cucumber Mosaic Virus	
Turnip Mosaic Virus	
Tomato Spotted Wilt Virus	
Low	
Ramularia Leaf Spot	*Ramularia rhei*
Alternaria Leaf Blight	*Alternaria cucumerina*
Botrytis Rot	*Botrytis cinerea*

The high priority disease is Sclerotium Rot. Available and potential products for controlling diseases of rhubarb are listed in Section 4.1.2.

Soil-borne diseases such as Sclerotium Rot and Crown Rot are favoured by warm, wet conditions particularly after rain events and in water-logged areas. Cultural controls are the most effective way to manage soil-borne disease in the longer term. These include crop rotation, cover cropping, general farm hygiene to destroy crop residues and remove weed hosts, and management of fields and irrigation practices to reduce waterlogging.

Chemical controls are not available for controlling viruses either with farm hygiene and disease-free, healthy planting material the key parts of a virus management strategy.

Resistance Management

CropLife Australia have resistance management strategies[4] related to the control of diseases in various crops, and users should refer to this before using any product.

[4] 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
Sclerotium Rot (*Sclerotium rolfsii*) **Priority: High**							
Sclerotium Rot is ranked as a high priority. It is a common soil-borne fungus infecting a wide range of vegetable, ornamental and field crops. It is most active during warm, wet weather in tropical and subtropical regions. The disease causes rots of the lower stem, roots & crown.							
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
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
Bacillius amyloliquefaciens (Serifel) BASF	BM01	Biological	NR	P		Registered in grapes, strawberries and berries (including blackberries, blueberries and raspberries) for control of Grey Mould (*Botrytis cinerea*). US registration for ***Sclerotium* spp.** in bulb vegetables.	R4
Bacillus amyloliquefaciens strain QST 713 (Serenade Opti) Bayer	BM 01	Biological / Protectant	NR	P		Registered in grapevines and strawberries for control of Botrytis, in tomatoes, capsicums and chillies for suppression of Bacterial Spot and in avocado and other tropical fruits (excluding banana) for control of Anthracnose and suppression of Stem End Rot. US registration for control of ***Sclerotium* spp.** in bulb vegetables.	R4
Azoxystrobin + Oxathiapiprolin (Orondis Flexi) Syngenta	11+49	Protectant & Curative		P		Registered for suppression of ***Sclerotium* spp.** in bulb vegetables.	R4
Fluopyram + Tebuconazole (Luna Experience) Bayer	7+3	Protectant & Curative		P		Registered for suppression of ***Sclerotium* spp.** in bulb vegetables.	R4
Mandestrobin (Intuity) Sumitomo	11	Protectant & Curative		P		Registered for control of ***Sclerotium* spp.** in onions.	R4
Downy Mildew (*Peronospora destructor*) **Priority: Moderate**							
Downy Mildew is ranked as a moderate priority. It is characterised by a white downy fungal growth that develops on the underside of the leaf. It is a common disease that is favoured by warm, moist weather. Management options include general farm hygiene, crop rotation, planting space (to allow air movement) and the use of protectant and curative fungicide spray applications when conditions favour disease outbreaks.							
Copper as Cupric Hydroxide, Copper Ammonium Acetate, Copper Oxychloride, Cuprous Oxide	M1	Protectant	1	A	ALL	Registered in rhubarb for control of Crown Rot (*Phytophthora* spp.) and **Downy Mildew** (*Peronospora jaapiana*). Apply as a foliar spray when conditions favour disease. Use a retreatment interval of 14 days. Maximum number of applications per crop not specified.	R4

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
Mancozeb	M3	Protectant	14	A	ALL	Registered in rhubarb for control of **Downy Mildew** and Rust. Apply as a foliar spray when disease symptoms first appear. Use a retreatment interval of 7-10 days. Maximum number of applications per crop not specified.	R2
Mancozeb + Metalaxyl (Ridomil Gold MZ) Syngenta	M3+4	Protectant & Curative	14	A	ALL	Registered in rhubarb for control of **Downy Mildew** (*Peronospora jaapiana*). Apply as a foliar spray when conditions favour disease development. Apply 2 consecutive applications using a retreatment interval of 7-10 days. Maximum of 4 applications per crop.	R2
Phosphorous Acid PER86805	33	Protectant & Curative	1 NG	A	ALL (excl. VIC)	Permitted in rhubarb for control of **Downy Mildew** (*Peronospora jaapiana*). Apply as a foliar spray when conditions favour disease development. Use a retreatment interval of 7-14 days. Maximum of 5 applications per crop.	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 **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

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
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
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

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
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
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
Ascochyta Blight (*Ascochyta rhei*) **Priority: Moderate**							
Ascochyta Blight is ranked as a moderate priority. It is a foliar disease with potential infection sources being from seed and spores produced on stubble from the previous year. Management practices include on-farm hygiene, crop rotation, stubble management, in-crop fungicides and use of disease-free seed.							
Chlorothalonil (Bravo)	M5	Protectant	7	A	ALL	Registered in rhubarb for control of **Ascochyta Leaf Spot** (*Ascochyta rhei*). Apply as a foliar spray when conditions favour disease. Use a retreatment interval of 10-14 days. Maximum number of applications per crop not specified.	R2
Copper as Cupric Hydroxide, Copper Ammonium Acetate, Copper Oxychloride, Cuprous Oxide	M1	Protectant	1	P-A	ALL	Registered in rhubarb for control of Crown Rot (*Phytophthora* spp.) and Downy Mildew (*Peronospora jaapiana*). Registered for control of **Ascochyta** in peas.	R4
Azoxystrobin	11	Protectant		P		Registered for control of **Ascochyta** in pulse crops.	R4
Mefentrifluconazole (Belanty) BASF	3	Protectant & Curative		P		Registered for control of Black Spot in apples and Powdery Mildew in grapes. US registration for the control of **Ascochyta Blight** in legume vegetables.	R4

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
Mefentrifluconazole + Pyraclostrobin (Balaya) BASF	3+11	Protectant & Curative		P		Registered for control of **Ascochyta** in pulse crops.	R4
Pydiflumetofen + Fludioxonil (Miravis Star) Syngenta	7+12	Protectant		P		Registered for control of **Ascochyta** in pulse crops.	R4
Thiram + Thiabendazole (P-Pickel T)	1+M3	Seed Treatment		P		Registered as a seed treatment for control of *Fusarium* and *Pythium* seedling root rots (*Macrophomina* spp.) in Faba beans. Registered for control of Leaf and Pod Spot and Collar Rot (*Phoma medicaginis var. pinodella, Mycosphaerella pinodes* & *Ascochyta pisi*) in peas.	R2
Crown Rot (*Rhizoctonia* spp., *Phytophthora* spp.) **Priority: Moderate**							
Crown Rot is ranked as a moderate priority. It is a soil-borne disease that can cause severe symptoms including death of whole plants. It is promoted by moist soil conditions so well-drained fields and good irrigation management are critical, along with crop rotation and general farm hygiene.							
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
Copper	M1	Protectant	1	A	ALL	Registered in rhubarb for control of **Crown Rot** (*Phytophthora* spp.) Dip rhubarb crowns in solution prior to planting.	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

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
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 for *Fusarium, Rhizoctonia* & *Pythium* Management. Apply as a seed treatment.	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
Azoxystrobin	11	Protectant		P		Registered for control of *Rhizoctonia* spp. in lettuce and potatoes, and control of *Phytophthora* spp. in potatoes and tomatoes.	R4
Rust (*Puccinia rhei-undulati*) **Priority: Moderate**							
Rust is ranked as a moderate priority. It is a foliar disease that expresses symptoms on the leaves and stalks. It is favoured by humid conditions. Management should include general farm hygiene and a planned fungicide program.							
Mancozeb	M3	Protectant	14	A	ALL	Registered in rhubarb for control of Downy Mildew and **Rust**. Apply as a foliar spray when disease symptoms first appear. Use a retreatment interval of 7-10 days. Maximum number of applications per crop not specified.	R2
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. Retreatment interval and maximum number of applications per crop not specified.	R4

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
Fluopyram + Tebuconazole (Luna Experience) Bayer	7+3	Protectant & Curative		P		Registered for control of **Rust** in almonds.	R4
Penthiopyrad (Fontelis) Corteva	7	Protectant		P		Registered for control of various diseases in fruit, nut and vegetables crops. US Registration for control of **Rust** in stone fruit.	R4
Mefentrifluconazole (Belanty) BASF	3	Protectant & Curative		P		Registered for suppression of **Rust** in almonds.	R4
Pydiflumetofen + Difenoconazole (Miravis Duo) Syngenta	7+3	Protectant & Curative		P		Registered for suppression of **Rust** in peanuts.	R4
Rhubarb Decline-Associated Closterovirus **Cucumber Mosaic Virus** **Turnip Mosaic Virus** **Tomato Spotted Wilt Virus** **Priority: Moderate**							
Viruses are ranked as a moderate priority. Viruses can cause significant yield losses, with symptoms being yellowing and patterning on leaves, stunted growth and leaf death. There are no chemical controls available for controlling viruses, and insect vectors are not thought to be a major source of infection. The use of certified disease-free planting material is the most effective means of reducing their impact.							
Chemical controls not available.							
Ramularia Leaf Spot (*Ramularia rhei*) **Priority: Low**							
Ramularia Leaf Spot is ranked as a low priority. Infection is favoured by cool to moderate temperatures and humid conditions. The pathogen can be spread long distances by wind but the required conditions for infection tend to make its occurrence sporadic and control measures are rarely required.							
Azoxystrobin + Prothioconazole (Maxentis EC) Adama	11+3			P		Registered for control of ***Ramularia* spp.** in barley.	R4

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
Benzovindiflupyr + Propiconazole (Elatus Ace) Syngenta	7+3			P		Registered for control of ***Ramularia* spp.** in barley.	R4
Mefentrifluconazole + Fluxapyroxad (Revystar) BASF	3+7			P		Registered for control of ***Ramularia* spp.** in barley.	R4
Mefentrifluconazole + Pyraclostrobin (Balaya) BASF	3+11	Protectant & Curative		P		Registered for control of ***Ramularia* spp.** in barley.	R4
Alternaria Leaf Blight (*Alternaria cucumerina*) **Priority: Low**							
Alternaria Leaf Blight is ranked as a low priority. Infection is favoured by cool, humid conditions and can be exacerbated by stress such as nutrient deficiencies.							
Copper as Cupric Hydroxide, Copper Ammonium Acetate, Copper Oxychloride, Cuprous Oxide	M1	Protectant	1	P-A	ALL	Registered in rhubarb for control of Crown Rot (*Phytophthora* spp.) and Downy Mildew (*Peronospora jaapiana*). Registered for control of **Alternaria** in carrots and potatoes.	R4
Azoxystrobin (Amistar)	11	Protectant & Curative		P		Registered for control of **Alternaria** in citrus, passionfruit, pistachio, brassica leafy vegetables, brassica vegetables, carrots, nursery stock, potatoes and tomatoes.	R4
Bacillus amyloliquefaciens (Serenade Opti) Bayer	BM 02	Biological	NR	P		Registered in grapes and strawberries for control of Botrytis, in tomatoes, capsicums and chillies for suppression of Bacterial Spot and in avocado, other tropical fruit crops (excluding banana) and mango for control of Anthracnose and suppression of Stem End Rot. US registration for control of **Alternaria** in berries, brassica vegetables, citrus, bulb vegetables, herbs/spices, root/tuber and corm vegetables, stone fruit and tree nuts.	R4

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
Bacillus amyloliquefaciens strain MBI 600 (Serifel) BASF	BM 02	Biological	NR	P		Registered for control of Botrytis in grapevines and strawberries. US registration for control of **Alternaria** in artichoke, asparagus, berries, brassica leafy vegetables, bulb vegetables, citrus, cucurbits, pome fruit, stone fruit and tobacco.	R4
Dimethomorph (Acrobat)	40	Protectant		P		Registered for control of **Alternaria** in cucurbits, onions and potatoes.	R4
Florylpicoxamid (Verpixo Adavelt) Corteva	21	Protectant & Curative		P		Registered for control of Target Spot (*Alternaria solani*) in capsicum, chilli, eggplant, okra and tomato.	R4
Fluopyram + Trifloxystrobin (Luna Sensation) Bayer	7+11	Protectant & Curative		P		Registered for control of **Alternaria** in pears. US registration for control of **Alternaria** in almond, brassica vegetables, brassica leafy vegetables, carrot, citrus, pome fruit, small vine climbing fruit except kiwi fruit, leafy greens, cucurbits, tree nuts, fruiting vegetables & root vegetables except sugar beet.	R4
Fluxapyroxad + Pyraclostrobin (Merivon) BASF	7+11	Protectant & Curative		P		Registered for control of **Alternaria Leaf Spot** in almonds. US registration for control of **Alternaria Leaf Blight** in cucurbits.	R4
Mefentrifluconazole (Belanty) BASF	3	Protectant & Curative		P		Registered for suppression of **Alternaria** (*Alternaria mali*) in apples.	R4
Penthiopyrad (Fontelis) Corteva	7	Protectant		P		Registered for control of **Alternaria** in pome fruit, onions, shallots, spring onions, fruiting vegetables and root & tuber vegetables.	R4
Pydiflumetofen + Difenoconazole (Miravis Duo) Syngenta	7+3	Protectant & Curative		P		Registered for control of **Alternaria** in fruiting vegetables, cucurbits and root vegetables.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory risk
Pydiflumetofen + Fludioxonil (Miravis Prime) Syngenta	7+12	Protectant		P		Registered for control of **Alternaria** in potato.	R4
Botrytis Rot (*Botrytis cinerea*) **Priority: Low**							
Botrytis Rot is ranked 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.							
Copper as Cupric Hydroxide, Copper Ammonium Acetate, Copper Oxychloride, Cuprous Oxide	M1	Protectant	1	P-A	ALL	Registered in rhubarb for control of Crown Rot (*Phytophthora* spp.) and Downy Mildew (*Peronospora jaapiana*). Registered for control of **Botrytis** in beans, faba beans and strawberries.	R4
Aureobasidium pullulans (Botector) Nufarm	BM 02	Biological		P		Registered for control of **Botrytis** in berries, fruiting vegetables, cucurbits and grapes.	R4
Bacillus amyloliquefaciens (Serenade Opti) Bayer	BM 02	Biological		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 and mite pests of rhubarb

4.2.1 Insect and mite pest priorities

Common name	Scientific name
High	
Broad Mites	*Polyphagotarsonemus latus*
Moderate	
Green Peach Aphid	*Myzus persicae*
Melon Aphid	*Aphis gossypii*
Cotton Bollworm / Corn Earworm	*Helicoverpa armigera*
Native Budworm	*Helicoverpa punctigera*
Cutworms	*Agrotis* spp.
Jassids / Leafhoppers	Cicadellidae
Snails & Slugs	Gastropoda
Low	
Earwigs	Dermaptera
Black Field Cricket	*Teleogryllus commodus*
Wingless Grasshopper	*Phaulacridium vittatum*
Onion Thrips	*Thrips tabaci*
Plague Thrips	*Thrips imaginis*
Spotted Vegetable Weevil	*Desiantha diversipes*
Vegetable Weevil	*Listroderes difficilis*
Fall Armyworm	*Spodoptera frugiperda*
Vegetable Leafminer	*Liriomyza sativae*
Serpentine Leafminer	*Liriomyza huidobrensis*
American Serpentine Leafminer	*Liriomyza trifolii*

Broad Mites are the only high priority insect pest in rhubarb. Available and potential products for these pests are listed in Section 4.2.2.

A wide variety of invertebrate pests can impact on rhubarb crops. An integrated pest management strategy should be used including the use of cultural and biological control measures in conjunction with chemical controls. The use of broad-spectrum insecticides should be avoided if possible, especially early in the cropping cycle, as this leads to destruction of beneficial insect populations.

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.

Resistance management strategies[5] are available on the Croplife Australia website.

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

4.2.2 Available and potential products for priority insects and mites

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
Broad Mites (*Polyphagotarsonemus latus*) **Priority: High**								
Broad Mites are ranked as a high priority. Mites are small arachnids that are difficult to identify with the naked eye. They inhabit the underside of leaves, preferring near the leaf veins. An integrated pest management approach should be used, particularly the preservation of beneficial species that will effectively keep mite populations in check.								
Abamectin	6	Ingestion	7 NG	A	ALL	Registered in rhubarb for control of **Broad Mite** (*Polyphagotarsonemus latus*). Apply as a foliar spray when pest numbers reach local threshold. Use a minimum retreatment interval of 14 days. Maximum of 2 applications per crop.	M Bee:H	R3
Dimethoate	1B	Contact	7	A	ALL	Registered in rhubarb for control of Aphids, Thrips, Jassids, **Mites**, Leafhoppers and Green Vegetable Bug. Apply as a foliar spray when pests appear. Retreatment interval and maximum number of applications per crop not specified.	H Bee:H	R3

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Sulphur	UN	Contact	NR	A	ALL	Registered in vegetables for control of **Mites.** Apply as a foliar spray when pest is first seen. Use a retreatment interval of 14-21 days. Maximum number of applications per crop not specified.	-	R4
Isocycloseram (Simodis) Syngenta	30	Ingestion		P		Registered for control of **Broad Mite** in cucurbits and fruiting vegetables.	H Bee:H	R4
Petroleum Oil	-	Contact		P		Registered for control of **Broad Mite** in citrus.	VL Bee:L	R4
Green Peach Aphid (*Myzus persicae*) **Melon Aphid** (*Aphis gossypii*) **Priority: Moderate**								
Green Peach Aphid and Melon Aphid are ranked as a moderate priority. Aphids are sap sucking insects that cause loss of vigour, and in some cases yellowing, stunting or distortion of plant parts. Honeydew secreted by the insects can cause sooty mould to develop on leaves.								
Afidopyropen (Versys) BASF	9D	Ingestion	7	A	ALL	Registered in rhubarb for control of **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*) 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
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

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Dimethoate	1B	Contact	7	A	ALL	Registered in rhubarb for control of **Aphids**, Thrips, Jassids, Mites, Leafhoppers and Green Vegetable Bug. Apply as a foliar spray when pests appear. Retreatment interval and maximum number of applications per crop not specified.	H Bee:H	R3
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
Imidacloprid PER14212	4A	Contact & Ingestion	14	A	ALL (excl. VIC)	Permitted in rhubarb for control of **Aphids**. Apply as a foliar spray at the first sign of pest infestation. Use a minimum retreatment interval of 42 days. Maximum of 2 applications per crop. Do not apply consecutive applications.	M Bee:M	R2
Permethrin (Ambush) PER13441	3A	Contact	2	A	ALL (excl. VIC)	Permitted in rhubarb for control of Green Looper (*Chrysodexis* spp.), Light Brown Apple Moth (*Epiphyas postvittana*), Native Budworm (*Helicoverpa punctigera*) and suppresion of **Green Peach Aphid** (*Myzus persicae*). Apply as a foliar spray when pest is present. Use a minimum retreatment interval of 7 days. Maximum of 3 applications per crop.	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
Spirotetramat (Movento) Bayer	23	Ingestion	3	A	ALL	Registered in rhubarb for control of **Green Peach Aphid** (*Myzus persicae*), **Cotton Aphid** (*Aphis gossypii*), Western Flower Thrips (*Frankliniella occidentalis*), Tomato Thrips (*Frankliniella schultzei*) and Plague Thrips (*Thrips imaginis*). Apply as a foliar spray, commencing when local thresholds are reached. Use a minimum retreatment interval of 7 days. Maximum of 2 applications per crop.	M Bee:VL	R4

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
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
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*) and **Melon Aphid** (*Aphis gossypii*) in fruiting vegetables, cucurbits, legume vegetables, berries and paw paw, and suppression of **Green Peach Aphid** (*Myzus persicae*) in brassica vegetables and herbs.	VL Bee:VL	R4
Pymetrozine (Chess) Syngenta	9B	Contact & Ingestion		P		Registered for control of **Green Peach Aphid** (*Myzus persicae*) and **Melon Aphid** (*Aphis gossypii*) in cucurbits, leafy vegetables and cut flowers, and control of **Green Peach Aphid** (*Myzus persicae*) in beetroot, brassica vegetables, lettuce, potatoes, tomatoes, eggplant, capsicum, almonds, pistachios and stone fruit.	L Bee:VL	R3
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
Cotton Bollworm / Corn Earworm (*Helicoverpa armigera*) **Native Budworm** (*Helicoverpa punctigera*) **Priority: Moderate**								
Cotton Bollworm / Corn Earworm and Native Budworm are ranked as a moderate priority. *Helicoverpa armigera* is 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
Chlorantraniliprole (Coragen) FMC	28	Ingestion	3	A	ALL	Registered in rhubarb for control of **Cotton Bollworm** (*Helicoverpa armigera*) and **Native Budworm** (*Helicoverpa punctigera*). Apply as a foliar spray, targeting eggs and newly hatched larvae before they become entrenched. Use a minimum retreatment interval of 7 days. Maximum of 3 applications per crop, with no more than 2 consecutive applications.	L Bee:VL	R4
Flubendiamide (Belt) Bayer	28	Ingestion	1	A	ALL	Registered in rhubarb 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 cover spray and re-apply as necessary every 2-3 weeks.	VH Bee:H	R4
Nuclear Polyhedrosis Virus of *Helicoverpa armigera* (Gemstar)	31	Biological	NR	A	ALL	Registered in rhubarb 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

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Permethrin (Ambush) PER13441	3A	Contact	2	A	ALL (excl. VIC)	Permitted in rhubarb for control of Green Looper (*Chrysodexis* spp.), Light Brown Apple Moth (*Epiphyas postvittana*), **Native Budworm** (*Helicoverpa punctigera*) and suppresion of Green Peach Aphid (*Myzus persicae*). Apply as a foliar spray when pest is present. Use a minimum retreatment interval of 7 days. Maximum of 3 applications per crop.	VH Bee:H	R4
Spinetoram (Success Neo) Corteva	5	Ingestion	1	A	ALL	Registered in stalk & stem vegetables, including rhubarb, 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, including rhubarb, 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
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
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
Cutworms (*Agrotis* spp.) **Priority: Moderate**								
Cutworms are ranked as a moderate priority. Cutworms are caterpillars that attack seedling crops by chewing through leaves and stems at ground level. Cutworms can be a pest of emerging seedlings but the incidence of this pest causing economic damage is generally rare in most crops, but it can impact plant densities. This pest is typically found along field margins that adjoin pastures or where crops have been sown into recently sprayed out weedy fallows. Soil pests can reduce plant establishment, row density and vigour. Symptoms can be confused with other establishment problems and may be worse if seedling development is slow due to climate or other factors. Soil pests predominantly feed on germinating seed and seedling roots, resulting in poor establishment. Bait sampling prior to planting should be used to determine their presence. Clean fallows (free from weeds) generally cause pest insect numbers to decline due to a lack of food.								
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
Chlorantraniliprole (Acelepryn) Syngenta	28	Ingestion		P		Registered for control of **Black Cutworm** in turf. Note that rate in turf is higher than in vegetables.	L Bee:VL	R4
Clothianidin + Imidacloprid (Poncho Plus Seed Treatment) BASF	4A	Contact & Ingestion		P		Registered for control of **Cutworms** as seed treatment in canola, forage brassicas, maize, sweet corn, sorghum, sunflower and pastures.	M Bee:M	R2
Cyantraniliprole + Thiamethoxam (Spinner) Syngenta	28+4A	Contact & Ingestion		P		Registered for control of **Black Cutworm** in turf.	M Bee:VH	R2
Indoxacarb (Provaunt) Syngenta	22A	Ingestion		P		Registered for control of **Black Cutworm** in turf.	L Bee:H	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 ranked 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.								
Dimethoate	1B	Contact	7	A	ALL	Registered in rhubarb for control of Aphids, Thrips, **Jassids**, Mites, **Leafhoppers** and Green Vegetable Bug. Apply as a foliar spray when pests appear. Retreatment interval and maximum number of applications per crop not specified.	H Bee:H	R3
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
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 ranked as a moderate priority. Snails cause direct feeding damage to rhubarb stalks 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

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
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
Earwigs (Dermaptera) **Priority: Low**								
Earwigs are ranked as a low priority. Soil pests such as earwigs can reduce plant establishment, row density and vigour. Symptoms can be confused with other establishment problems and may be worse if seedling development is slow due to climate or other factors. Earwigs, predominantly feed on germinating seed and seedling roots, resulting in poor establishment. Bait sampling prior to planting should be used to determine the presence of earwigs. The use of in-furrow insecticide treatments has been found to be generally ineffective for the protection of newly sown grain crops where dense populations are present. Clean fallows generally cause pest insect numbers to decline due to a lack of food.								
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
Indoxacarb (Avatar eVo) FMC	22A	Ingestion		P		Registered for control of **Earwigs** in stone fruit and strawberries.	L Bee:H	R3
Broflanilide (Cimegra) BASF	30	Contact & Ingestion		P		Registered in brassica vegetables and Chinese cabbage for control of Diamondback Moth. Broadspectrum activity on soil-dwelling pests although specific effect on earwigs is currently unknown.	H Bee:VH	R4

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Black Field Cricket (*Teleogryllus commodus*) **Priority: Low**								
Black Field Cricket is ranked as a low priority. They are a soil-borne pest that have a voracious appetite and can cause severe damage to foliage if the numbers get high. Damage is usually limited to feeding on newly established plants and reducing plant populations. 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
Fipronil (Regent)	2B	Contact		P		Registered for control of Mole Crickets in potatoes.	M Bee:H	R2
Wingless Grasshopper (*Phaulacridium vittatum*) **Priority: Low**								
Wingless Grasshopper is ranked as a low priority. Large numbers can cause feeding damage to leaves and stalks. A minor pest that rarely requires control measures.								
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
Fipronil (Regent)	2B	Contact	NR	P-A	ALL	Registered in sweet potato for control of Wireworm, Mole Cricket and White Fringed Weevil.	M Bee:VH	R2
Indoxacarb (Avatar eVo) FMC	22A	Ingestion		P		Registered for control of **Wingless Grasshopper** in pome fruit, stone fruit and grapes.	L Bee:H	R3

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Onion Thrips (*Thrips tabaci*) **Plague Thrips** (*Thrips imaginis*) **Priority: Low**								
Onion Thrips and Plague Thrips are ranked as a low 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
Dimethoate	1B	Contact	7	A	ALL	Registered in rhubarb for control of Aphids, **Thrips**, Jassids, Mites, Leafhoppers and Green Vegetable Bug. Apply as a foliar spray when pests appear. Retreatment interval and maximum number of applications per crop not specified.	H Bee:H	R3
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
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
Spirotetramat (Movento) Bayer	23	Ingestion	3	A	ALL	Registered in rhubarb for control of Green Peach Aphid (*Myzus persicae*), Cotton Aphid (*Aphis gossypii*), Western Flower Thrips (*Frankliniella occidentalis*), Tomato Thrips (*Frankliniella schultzei*) and **Plague Thrips** (*Thrips imaginis*). Apply as a foliar spray, commencing when local thresholds are reached. Use a minimum retreatment interval of 7 days. Maximum of 2 applications per crop.	M Bee:VL	R4

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Spinetoram (Success Neo) Corteva	5	Ingestion		P-A		Registered in stalk & stem vegetables, including rhubarb, for control of *Helicoverpa* spp. Registered for control of Western Flower Thrips in brassica vegetables, brassica leafy vegetables, bulb vegetables, cucurbits, fruiting vegetables, leafy vegetables, legume vegetables, ornamentals and berryfruit.	M Bee:H	R4
Spinosad (Entrust Organic) Corteva	5	Ingestion		P-A		Registered in stalk & stem vegetables, including rhubarb, for control of Heliothis. Registered for control of Western Flower Thrips in brassica vegetables, brassica leafy vegetables, cucurbits, fruiting vegetables, leafy vegetables, legume vegetables, ornamentals, berryfruit, pome fruit and stone fruit.	L Bee:L	R4
Cyantraniliprole (Benevia) FMC	28	Ingestion		P		Registered for suppression of Western Flower Thrips in fruiting vegetables and cucurbits, **Plague Thrips** in potatoes, and Western Flower Thrips and **Plague Thrips** in strawberries.	M Bee:VH	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 various thrips species in fruiting vegetables, cucurbits, legume vegetables, berries, bulb vegetables, brassica vegetables, celery, herbs, apples and citrus.	VL Bee:VL	R4
Spotted Vegetable Weevil (*Desiantha diversipes*) **Vegetable Weevil** (*Listroderes difficilis*) **Priority: Low**								
Spotted Vegetable Weevil and Vegetable Weevil are ranked as a low priority. Weevils are soil-borne pests that cause direct feeding damage to rhubarb stalks, making them unsaleable. Control options are limited.								
Indoxacarb (Avatar Evo) FMC	22A	Ingestion		P		Registered for control of **Vegetable Weevil** in celery.	L Bee:H	R4
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
Fall Armyworm (*Spodoptera frugiperda*) **Priority: Low**								
Fall Armyworm is ranked 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
Spinosad (Entrust Organic) Corteva PER89870	5	Ingestion	1 G:14	A	ALL (excl. VIC)	Permitted in stalk and stem vegetables for control of **Fall Armyworm** (*Spodoptera frugiperda*).	L Bee:L	R4
Chlorantraniliprole (Coragen) FMC	28	Ingestion	3	P-A	ALL	Registered in rhubarb for control of Cotton Bollworm (Helicoverpa armigera) and Native Budworm (*Helicoverpa punctigera*). Permitted for control of **Fall Armyworm** in ginger, cane berries, capsicum and sweet corn.	L Bee:VL	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
Vegetable Leafminer (*Liriomyza sativae*) **Serpentine Leafminer** (*Liriomyza huidobrensis*) **American Serpentine Leafminer** (*Liriomyza trifolii*) **Priority: Low**								
Vegetable Leafminer, Serpentine Leafminer and American Serpentine Leafminer are ranked as a low 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 when uncontrolled. Control measures are limited.								
Cyromazine (Diptex 150WP) PER81867	17	IGR	7 NG	A	ALL	Permitted in stalk & stem vegetables for control of Liriomyza Leafminers including **Vegetable Leafminer** (*Liriomyza sativae*) and **Serpentine Leafminer** (*Liriomyza huidobrensis*). Apply as a foliar spray when pest first appears. Use a minimum retreatment interval of 7 days. Maximum of 6 applications per crop.	-	R4

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory risk
Spinetoram (Success Neo) Corteva PER94451	5	Ingestion	1	A	ALL (excl. VIC)	Permitted in stalk & stem vegetables including rhubarb 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
Spinosad (Entrust Organic) Corteva PER94331	5	Ingestion	1 G:14	A	ALL (excl. VIC)	Permitted in stalk & stem vegetables including rhubarb 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 minimum retreatment interval of 5 days. Maximum of 4 applications per crop, with no more than 2 consecutive applications.	L Bee:L	R4

4.3 Weeds in Rhubarb

4.3.1 Weed priorities

Common Name	Scientific Name
Moderate	
Amaranthus	*Amaranthus* spp.
Cleavers	*Galium aparine L.*
Annual Ryegrass	*Lolium rigidum*
Blackberry Nightshade	*Solanum nigrum*
Fat Hen	*Chenopodium album*
Pigweed	*Portulaca oleracea*
Fumitory	*Fumaria* spp.
Nutgrass	*Cyperus rotundus*
Sowthistle	*Sonchus oleraceus*

There are no high priority weeds but several rated as a 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.

Growers generally use a pre-plant weed control (general knockdown herbicides) to prepare the field. Growers then either alternate the herbicides used or use them in combination for effective weed control.

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[6].

[6] 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. It is a 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
MCPA 250 PER13152	4**	Rhubarb	Permitted in rhubarb for control of broadleaf weeds, including **Amaranth**. Apply by boom spray onto emerged weeds, when rhubarb is at crown dormancy stage.	NR	A	ALL	R3
Paraquat + Diquat (SpraySeed)	22**	General Pre-Crop Spray	Registered as a pre-plant knockdown application for control of grass and broadleaf weeds.	NR	A	ALL	R1

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory risk
S-Metolachlor (Dual Gold) Syngenta	15**	Rhubarb / Pre-Emergent	Registered in rhubarb for control of grass and broadleaf weeds, including suppression of **Amaranth**. Apply one application only, immediately before or after transplanting crowns and before weeds have germinated. Irrigate to ensure weed zone is wet within 24 hours.	NR G:91	A	ALL	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
Fluroxypyr (Starane)	4**		Registered for control of broadleaf weeds, including **Amaranth** in sorghum, maize, sweet corn and millet.		P		R4
Ethofumesate (Tramat)	15**		Registered for control of grass and broadleaf weeds, including **Amaranth** in beet crops, oilseed poppy and onions.		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
Mesotrione (Callisto) Syngenta	27		US registration for control of broadleaf weeds, including ***Amaranthus* spp.**, in rhubarb.		P		R4
Metobromuron (Soleto) GroChem	5**		Registered for control of **Amaranth** in potatoes.		P		R4
Cleavers (*Galium aparine L.*) **Priority: Moderate**							
Cleavers are rated as a moderate priority. It is a fast-growing annual broadleaf weed that competes aggressively, forming dense masses of tangled vegetation in crop. Herbicide control is effective if it is targeted to young, actively-growing weeds.							
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
Paraquat + Diquat (SpraySeed)	22**	General Pre-Crop Spray	Registered as a pre-plant knockdown application for control of grass and broadleaf weeds.	NR	A	ALL	R1
Ethofumesate (Tramat)	15**		Registered for control of grass and broadleaf weeds, including **Cleavers** in beet crops and ryegrass pastures.		P		R4

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory risk
Phenmedipham (Betanal) Bayer	5**		Registered for control of grass and broadleaf weeds, including **Cleavers** in beetroot.		P		R4
Annual Ryegrass (*Lolium rigidum*) **Priority: Moderate**							
Annual Ryegrass is rated as a moderate 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.							
Clethodim (Select) PER82459	1***	Rhubarb / Post-Emergent	Permitted in rhubarb for control of grass weeds, including **Annual Ryegrass**. Apply post-emergent to grass weeds when they are at 2 leaf to filly tillered stages. Maximum of 1 application per crop.	63	A	ALL	R4
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
Paraquat + Diquat (SpraySeed)	22**	General Pre-Crop Spray	Registered as a pre-plant knockdown application for control of grass and broadleaf weeds.	NR	A	ALL	R1
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
Metobromuron (Soleto) GroChem	5**		Registered for control of **Annual Ryegrass** in potatoes.		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

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory risk
Blackberry Nightshade (*Solanum nigrum*) **Priority: Moderate**							
Blackberry Nightshade is rated as a moderate priority. It is a 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
Paraquat + Diquat (SpraySeed)	22**	General Pre-Crop Spray	Registered as a pre-plant knockdown application for control of grass and broadleaf weeds.	NR	A	ALL	R1
S-Metolachlor (Dual Gold) Syngenta	15**	Rhubarb / Pre-Emergent	Registered in rhubarb for control of grass and broadleaf weeds, including **Blackberry Nightshade**. Apply one application only, immediately before or after transplanting crowns and before weeds have germinated. Irrigate to ensure weed zone is wet within 24 hours.	NR G:91	A	ALL	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
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

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory risk
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
Fat Hen (*Portulaca oleracea*) **Priority: Moderate**							
Fat Hen is rated as a moderate priority. It is a fast-growing, annual broadleaf weed that germinates from spring to autumn. Herbicide control can be difficult and it is critical to target weed control to early growth stages.							
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
MCPA 250 PER13152	4**	Rhubarb	Permitted in rhubarb for control of broadleaf weeds, including **Fat Hen**. Apply by boom spray onto emerged weeds, when rhubarb is at crown dormancy stage.	NR	A	ALL	R3
Paraquat + Diquat (SpraySeed)	22**	General Pre-Crop Spray	Registered as a pre-plant knockdown application for control of grass and broadleaf weeds.	NR	A	ALL	R1
S-Metolachlor (Dual Gold) Syngenta	15**	Rhubarb / Pre-Emergent	Registered in rhubarb for control of grass and broadleaf weeds, including **Fat Hen**. Apply one application only, immediately before or after transplanting crowns and before weeds have germinated. Irrigate to ensure weed zone is wet within 24 hours.	NR G:91	A	ALL	R4
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

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 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 and diquat/paraquat.		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
Paraquat + Diquat (SpraySeed)	22**	General Pre-Crop Spray	Registered as a pre-plant knockdown application for control of grass and broadleaf weeds.	NR	A	ALL	R1
S-Metolachlor (Dual Gold) Syngenta	15**	Rhubarb / Pre-Emergent	Registered in rhubarb for control of grass and broadleaf weeds, including suppression of **Pigweed**. Apply one application only, immediately before or after transplanting crowns and before weeds have germinated. Irrigate to ensure weed zone is wet within 24 hours.	NR G:91	A	ALL	R4
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

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 **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
Fumitory (*Fumaria* spp.) **Priority: Moderate**							
Fumitory is rated as a moderate priority. Fumitory is an 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
MCPA 250 PER13152	4**	Rhubarb	Permitted in rhubarb for control of broadleaf weeds, including **Fumitory**. Apply by boom spray onto emerged weeds, when rhubarb is at crown dormancy stage.	NR	A	ALL	R3
Paraquat + Diquat (SpraySeed)	22**	General Pre-Crop Spray	Registered as a pre-plant knockdown application for control of grass and broadleaf weeds.	NR	A	ALL	R1
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

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory risk
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
Nutgrass (*Cyperus rotundus*) **Priority: Moderate**							
Nutgrass is rated as a moderate priority. It 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 as a pre-crop spray or fallow spray.	NR	A	ALL	R3
Norflurazon (Zoliar) AgNova	12**		Registered for control of **Nutgrass** in asparagus, citrus, grapes, nuts, stone & pome fruits.		P		R4
Sowthistle (*Sonchus oleraceus*) **Priority: Moderate**							
Sowthistle is rated as a moderate priority. Sowthistle is prolific and widespread in all regions, and it is also prone to development of herbicide resistance. 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
MCPA 250 PER13152	4**	Rhubarb	Permitted in rhubarb for control of broadleaf weeds, including **Sowthistle**. Apply by boom spray onto emerged weeds, when rhubarb is at crown dormancy stage.	NR	A	ALL	R3
Paraquat + Diquat (SpraySeed)	22**	General Pre-Crop Spray	Registered as a pre-plant knockdown application for control of grass and broadleaf weeds.	NR	A	ALL	R1

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory risk
S-Metolachlor (Dual Gold) Syngenta	15**	Rhubarb / Pre-Emergent	Registered in rhubarb for control of grass and broadleaf weeds, including suppression of **Sowthistle**. Apply one application only, immediately before or after transplanting crowns and before weeds have germinated. Irrigate to ensure weed zone is wet within 24 hours.	NR G:91	A	ALL	R4
Cyanazine	5**		Registered for control of **Sowthistle** in peas, onions, potatoes and sweet corn.		P		R3
Glufosinate-Ammonium (Basta) BASF	10**		Registered for control of grass and broadleaf weeds including **Sowthistle** in berries, tomatoes, beans and fallow.		P		R3
Isoxaben (Gallery) Corteva	29**		Registered for control of **Sowthistle** in non-crop, forests, fencelines, tree fruit & nut orchards, vineyards, nursery & amenity tree plantings.		P		R4
Metobromuron (Soleto) GroChem	5**		Registered for control of **Sowthistle** in potatoes.		P		R4
Metribuzin	5**		Registered for control of **Sowthistle** in peas, potatoes and tomatoes.		P		R4
Napropamide (Devrinol)	0**		Registered for control of **Sowthistle** in almonds, grapevines, stone fruit, tomatoes and canola.		P		R4
Nonanoic Acid (Beloukha)	-		Registered for control of **Sowthistle** in non-crop areas, turf, orchards & vineyards, fallow and forestry.		P		R4
Norflurazon (Zoliar) AgNova	12**		Registered for control of grass and broadleaf weeds including **Sowthistle** in asparagus, citrus, grapes, nuts, stone & pome fruits.		P		R4
Oxyfluorfen (Goal)	14**		Registered for control of grass and broadleaf weeds, including **Sowthistle** in fallow, Brassica vegetables and fruit and nut trees. Compatible with glyphosate and diquat/paraquat.		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:

Thanks go to the many industry people who contributed information and collaborated on the review of this report.

6. Appendices:

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

Appendix 1. Products available for disease control in rhubarb

Active Ingredient (Trade Name)	Chemical group	Situation	Diseases / Comments	States	WHP Days	Regulatory risk
1,3-dichloropropene + Chloropicrin + (Telone C-35)	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	Rhubarb	Ascochyta Leaf Spot (*Ascochyta rhei*)	ALL	7	R2
Copper as Cupric Hydroxide, Copper Ammonium Acetate, Copper Oxychloride, Cuprous Oxide	M1	Rhubarb	Crown Rot (*Phytophthora* spp.) Downy Mildew (*Peronospora jaapiana*)	ALL	1	R4
Copper as Tribasic Copper Sulfate			Crown Rot (*Phytophthora* spp.)			
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
Mancozeb	M3	Rhubarb	Downy Mildew Rust	ALL	14	R2
Metalaxyl-M + Mancozeb (Ridomil Gold MZ) Syngenta	4+M3	Rhubarb	Downy Mildew (*Peronospora jaapiana*)	ALL	14	R2
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
Phosphorous Acid PER86805	33	Rhubarb	Downy Mildew (*Peronospora jaapiana*)	ALL (excl. VIC)	1 NG	R4

Active Ingredient (Trade Name)	Chemical group	Situation	Diseases / Comments	States	WHP Days	Regulatory risk
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 and mites in rhubarb

Active Ingredient (Trade Name)	Chemical group	Situation	Pests / Comments	States	WHP Days	Regulatory risk
1,3-dichloropropene + Chloropicrin + (Telone C-35)	8	Vegetables	Soil borne pests including Nematodes. *For use by professional and registered fumigators only.*	ALL	NR	R4
Abamectin	6	Rhubarb	Broad Mite (*Polyphagotarsonemus latus*)	ALL	7 NG	R3
Afidopyropen (Versys) BASF	9D	Rhubarb	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
Chlorantraniliprole (Coragen) FMC	28	Rhubarb	Cotton Bollworm (*Helicoverpa armigera*) Native Budworm (*Helicoverpa punctigera*)	ALL	3	R4
Cyromazine (Diptex 150WP) PER81867	17	Stalk & Stem Vegetables	Liriomyza Leafminers including: Vegetable Leafminer (*Liriomyza sativae*) Serpentine Leafminer (*Liriomyza huidobrensis*)	ALL	7 NG	R4
Dazomet (Basamid)	8F	Soil fumigant	Soil fungi, Nematodes, soil insects and weeds.	ALL	NR	R4
Dimethoate	1B	Rhubarb	Aphids, Thrips, Jassids, Mites, Leafhoppers, Green Vegetable Bug	ALL	7	R3

Active Ingredient (Trade Name)	Chemical group	Situation	Pests / Comments	States	WHP Days	Regulatory risk
Emulsifiable Botanical Oil (Eco-Oil)	-	Vegetables	Greenhouse Whitefly	ALL	NR	R4
Flubendiamide (Belt) Bayer	28	Rhubarb	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
Imidacloprid PER14212	4A	Rhubarb	Aphids	ALL (excl. VIC)	14	R2
Iron Powder	-	Vegetables	Slugs & Snails	ALL	NR	R4
Metaldehyde	-	Vegetables	Slugs & Snails	ALL	7 NG	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* (Gemstar)	31	Stalk Vegetables including Rhubarb	Cotton Bollworm (*Helicoverpa armigera*) Native Budworm (*Helicoverpa punctigera*)	ALL	NR	R4
Permethrin (Ambush) PER13441	3A	Rhubarb	Green Looper (*Chrysodexis* spp.) Light Brown Apple Moth (*Epiphyas postvittana*) Native Budworm (*Helicoverpa punctigera*) Suppresion of: Green Peach Aphid (*Myzus persicae*)	ALL (excl. VIC)	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

Active Ingredient (Trade Name)	Chemical group	Situation	Pests / Comments	States	WHP Days	Regulatory risk
Spinetoram (Success Neo) Corteva	5	Stalk & Stem Vegetables including Rhubarb	*Helicoverpa* spp.	ALL	1	R4
Spinetoram (Success Neo) Corteva PER94451	5	Rhubarb	Liriomyza Leafminers, including: Vegetable Leafminer (*Liriomyza sativae*) Pea Leafminer / Serpentine Leafminer (*Liriomyza huidobrensis*) American Serpentine Leafminer (*Liriomyza trifolii*)	ALL (excl. VIC)	1	R4
Spinosad (Entrust Organic) Corteva	5	Stalk & Stem Vegetables including Rhubarb	Heliothis	ALL	1	R4
Spinosad (Entrust Organic) Corteva PER89870	5	Stalk & Stem Vegetables	Fall Armyworm (*Spodoptera frugiperda*)	ALL (excl. VIC)	1 G:14	R4
Spinosad (Entrust Organic) Corteva PER94331	5	Rhubarb	Liriomyza Leafminers, including: Vegetable Leafminer (*Liriomyza sativae*) Pea Leafminer / Serpentine Leafminer (*Liriomyza huidobrensis*) American Serpentine Leafminer (*Liriomyza trifolii*)	ALL (excl. VIC)	1 G:14	R4
Spirotetramat (Movento) Bayer	23	Rhubarb	Green Peach Aphid (*Myzus persicae*) Cotton Aphid (*Aphis gossypii*) Western Flower Thrips (*Frankliniella occidentalis*) Tomato Thrips (*Frankliniella schultzei*) Plague Thrips (*Thrips imaginis*)	ALL	3	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 rhubarb

Active Ingredient (Trade Name)	Chemical Group	Situation	Comment / Use / Weed	WHP (days)	States	Regulatory risk
1,3-dichloropropene + Chloropicrin + (Telone C-35)	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
Clethodim (Select) PER82459	1***	Rhubarb	Grass Weeds	63	ALL	R4
Glyphosate (Roundup)	9**	General Pre-Crop Spray	Grass and Broadleaf Weeds	NR	ALL	R3
MCPA 250 PER13152	4**	Rhubarb	Broadleaf Weeds	NR	ALL (exc. VIC)	R3
Paraquat + Diquat (SpraySeed)	22**	General Pre-Crop Spray	Grass and Broadleaf Weeds	7	ALL	R1
S-Metolachlor (Dual Gold)	15**	Rhubarb / Pre-Emergent	Grass and Broadleaf Weeds	NR G:91	ALL	R4

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

Appendix 4. Current permits for use in rhubarb

Permit No.	Description	Issued Date	Expiry Date	Permit Holder
PER94331	Spinosad (Entrust Organic) / Rhubarb / Liriomyza Leafminers	29-Apr-24	30-Apr-26	Hort Innovation
PER81867 Version 3	Cyromazine (Diptex 150 WP) / Stalk & Stem Vegetables / Liriomyza Leafminers	02-Dec-19	30-Sep-26	Hort Innovation
PER13152 Version 4	MCPA 250 / Rhubarb / Broadleaf Weeds	04-Dec-11	30-Sep-26	Hort Innovation
PER82459 Version 2	Clethodim (Select) / Rhubarb / Grass Weeds	19-Apr-17	30-Sep-26	Hort Innovation
PER13441 Version 2	Permethrin (Ambush) / Rhubarb / Green Peach Aphid, Green Looper, Light Brown Apple Moth and Budworms	11-Apr-12	31-Mar-27	Hort Innovation
PER94451	Spinetoram (Success Neo) / Rhubarb / Liriomyza Leafminers	05-Jul-24	31-Jul-27	Hort Innovation
PER14212 Version 4	Imidacloprid / Rhubarb / Aphids	31-Oct-13	31-Jul-27	Hort Innovation
PER86805 Version 2	Phosphorous Acid / Rhubarb / Downy Mildew	21-Jan-19	31-Oct-28	Hort Innovation
PER89870 Version 3	Spinosad (Entrust Organic) / Stalk & Stem Vegetables / Fall Armyworm	21-Jul-20	31-Oct-30	Hort Innovation

Appendix 5. Rhubarb Maximum Residue Limits (MRLs)

CODEX commodity groupings of root and tuber vegetables and subgroups:

VS 0078 Stalk and stem vegetables
VS 2080 Stems and petioles
VS 0627 Rhubarb
Vegetables

Note: No exports are recorded for Australia rhubarb. 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	-
Abamectin	VS0627	Rhubarb	T0.05	-
Afidopyropen	VS0627	Rhubarb	0.1	-
	VS 2080	Stems and petioles	-	3
Boscalid	VS0078	Stalk and stem vegetables	-	30
Chlorantraniliprole	VS0627	Rhubarb	5	-
Chlordane		Vegetables {except fruiting vegetables, cucurbits; sugar beet}	E0.02	-
Chlorothalonil	VS 0627	Rhubarb	-	7
		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	VS0078	Stalk and stem vegetables {except artichoke & celery}	-	0.04
	VS 2080	Stems and petioles	-	0.04
Cyromazine	VS0078	Stalk and stem vegetables	T7	-
DDT		Vegetables	E1	-
Diazinon		Vegetables	0.7	-
Dicofol		Vegetables {except cucumber; gherkin; tomato}	5	-
Dimethoate	VS0627	Rhubarb	0.7	-

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	-
Dithiocarbamates	VS0627	Rhubarb	2	-
EPTC		Vegetables	*0.04	-
Fluazaindolizine	VS0078	Stalk and stem vegetables	-	0.04
Flubendiamide	VS0078	Stalk and stem vegetables	5	-
Glyphosate	VS0078	Stalk and stem vegetables	*0.01	-
Heptachlor		Vegetables {except carrot; soya bean (dry); tomato}	E0.05	-
Imidacloprid	VS0627	Rhubarb	T0.2	0.5
Inorganic Bromide		Vegetables {except peppers, sweet [capsicum]}	20	-
Lindane		Vegetables	E2	-
Linuron		Vegetables {except carrot, celeriac; celery; leek; parsnip}	*0.05	-
MCPA	VS0627	Rhubarb	*0.02	-
Mesotrione	VS 0627	Rhubarb	-	*0.01
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	-
Methyl Bromide		Vegetables {except cucumber; peppers}	T*0.05	-
Metolachlor	VS0627	Rhubarb	*0.05	-
Omethoate	VS0627	Rhubarb	0.3	-
Paraquat		Vegetables {except potato, pulses}	*0.05	-
Permethrin	VS0627	Rhubarb	1	-
Phosphorous acid	VS0627	Rhubarb	T100	-
Piperonyl Butoxide		Vegetables	8	-
Pirimicarb		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	-
Pydiflumetofen	VS 2080	Stems and petioles	-	15
Pyrethrins		Vegetables	1	-
Sethoxydim	VS0627	Rhubarb	0.1	-
Spinetoram	VS0078	Stalk and stem vegetables	2	-
Spinosad	VS0627	Rhubarb	2	-
Spirotetramat	VS0627	Rhubarb	5	-
Thiamethoxam	VS 2080	Stems and petioles	-	0.8

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 13. Prepared 11 March 2026. CODEX MRLs: CODEX Alimentarius International Food Standards database (April 2026), http://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/en/

Appendix 6: Rhubarb Agrichemical Regulatory Risk Assessment

Rhubarb
Agrichemical Regulatory Risk Assessment

November 2025

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 agrichemicals 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 agrichemicals 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 prohibit use in the exporting country to ensure compliance, as MRL breach would adversely affect market access.

The effects of the above are greater regulatory pressure placed on the use of individual agrichemicals or chemical groups. Consequently, 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 rhubarb crops in Australia, as well as assisting with any current initiatives aimed at identifying and addressing 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
ABAMECTIN	6	Broad mite	Australia: APVMA nominated for reconsideration and spray drift assessment. Canada: Re-evaluation finalised. Label amendments to mitigate risks to human health and environment (July, 2025)
AFIDOPYROPEN	9D	Green peach aphid Cabbage aphid Currant lettuce aphid Cotton aphid / Melon aphid Corn aphid	Australia: No current concerns. EU: Not approved
Bacillus thuringiensis	11A	Armyworm Cotton bollworm Native budworm Cabbage moth Cabbage white butterfly Caterpillar Green looper Light brown apple moth Caterpillar pear loopers Vine moth	Australia: No current concerns. USA: Under Registration Review (scheduled)

Active Constituent	MoA Group	Pest	Risks and Comments
CANOLA OIL | PYRETHRINS	3A	Aphids Thrips Caterpillars Whitefly Ants Flies Earwigs Leafhopper Two-spotted mite Scale Mealybug Sooty mould	Australia: No current concerns
CHLORANTRANILIPROLE	28	Helicoverpa	Australia: No current concerns. Canada: In re-evaluation
CHLORPYRIFOS	1B	--	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 USA: Agricultural uses cancelled. Very few registrations as Restricted Use Pesticide.
CYROMAZINE	17	Permit PER81867 for the control of leaf miners	Australia: No current concerns. Permit PER81867 Expiry date: 30/09/2026 EU: Not approved
Diazinon	1B	Caterpillars Cutworms	Australia: 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 USA: Under Registration Review (scheduled)

Active Constituent	MoA Group	Pest	Risks and Comments
DIMETHOATE	1B	Aphids Bugs/Green vegetable bug Jassids Leafhoppers Leafminer flies Mites Thrips	Australia: APVMA reconsideration. Prioritised to be commenced by 2029. EU: Not approved Canada: In re-evaluation USA: Under Registration Review (scheduled)
FLUBENDIAMIDE	28	Helicoverpa	Australia: No current concerns. EU: Not approved UK: Withdrawn (2024).
HELICOVERPA NPV	--	Helicoverpa	Australia: No current concerns.
PHOSPHOROUS ACID		Permit PER86805 for the control of: Green Peach Aphid Green Looper Light Brown Apple Moth Budworms	Australia: No current concerns. Permit PER86805 Expiry date: 31/10/2028
PIPERONYL BUTOXIDE | PYRETHRINS	3A	Ants Aphids Caterpillars Leaf hoopers Thrips	Australia: No current concerns.
PYRIPROXYFEN	7C	Ants	Australia: No current concerns.
SPINETORAM	5	Permit PER94451 for the control of leaf miners	Australia: No current concerns. Permit PER94451 Expiry date: 31/07/2027 EU: Not approved UK: Withdrawn (2024). Canada: In re-evaluation

Active Constituent	MoA Group	Pest	Risks and Comments
SPINOSAD	5	Permit PER89870 for the control of Fall Armyworm Permit PER94331 for the control of Dipteran leaf miners	Australia: No current concerns. Permit PER89870 Expiry date: 31/10/2030 Permit PER94331 Expiry date: 30/04/2026 Canada: In re-evaluation
SPIROTETRAMAT	23	Cotton aphid Green peach aphid Plague thrips Tomato thrips Western flower thrips Permit PER88640 for the control of Liriomyza leafminers	Australia: No current concerns. Permit PER88640 Expiry date: 28/02/2026 EU: Not approved Canada: In re-evaluation
TRICHLORFON	1B	Cabbage moth Cabbage white butterfly Green vegetable bug Rutherglen bug	Australia: APVMA nominated for reconsideration after 2029. EU: Not approved Canada: Cancelled USA: Under Registration Review (scheduled)

FUNGICIDES – Disease Control

Active Constituent	MoA Group	Pest	Risks and Comments
CHLOROTHALONIL	M5	Ascochyta leaf spot	Australia: APVMA reconsideration. Prioritised to be commenced by 2028. Codex MRL: 7 mg/Kg EU: Not approved Canada: In re-evaluation USA: Under Registration Review (scheduled)
COPPER	M1	Downy mildew Leaf spots Phytophthora crown rot Rust	Australia: No current concerns.
MANCOZEB	M3	Downy mildew Rust	Australia: APVMA reconsideration. Prioritised to be commenced by 2027. EU: Not approved UK: Withdrawn (2024). USA: Under Registration Review (scheduled)
MANCOZEB | METALAXYL	M3 + 4	Downy mildew	MANCOZEB Australia: APVMA reconsideration. Prioritised to be commenced by 2027. METALAXYL Australia: No current concerns. EU: Approved, candidate for substitution. Canada: In re-evaluation
PHOSPHOROUS (PHOSPHONIC) ACID	P07 (33)	Permit PER86805 for the control of Downy mildew	Australia: No current concerns. Permit PER86805 Expiry date: 31/10/2028
SULPHUR	M2	Powdery Mildew Bean Rust Tomato Russet Mite Bean Spider Mite Twospotted Mite	Australia: No current concerns. Canada: In re-evaluation

Active Constituent	MoA Group	Pest	Risks and Comments
THIRAM	M3	Damping off	Australia: APVMA reconsideration. Prioritised to be commenced by 2027. EU: Not approved Canada: Only approved for seed treatment.

HERBICIDES – Weed Control

Active Constituent	MoA Group	Risks and Comments
CLETHODIM	1	Australia: No current concerns. Permit PER82459 Expiry date: 30/09/2026
DIQUAT	22	Australia: APVMA: Currently under review. Publication of the final regulatory decision is expected now in Mid 2026. EU: Not approved USA: No agricultural uses allowed. Aquatic herbicide.
FLUAZIFOP-P PRESENT AS THE BUTYL ESTER	1	Australia:APVMA Nominated for targeted spray drift reconsideration Canada: Cancelled
MCPA	4	Australia: Chemical reconsideration for Group 4 - Phenoxy-carboxylate herbicides. Spray drift. Prioritised for Q3 2025. Permit PER13152 Expiry date: 30/09/2026 Canada: In re-evaluation USA: Under Registration Review (scheduled)
PARAQUAT	22	Australia: APVMA: Currently under review. Publication of the final regulatory decision is expected now in Mid 2026. Candidate chemical recommended to be listed to Rotterdam Convention. EU: Not approved Canada: Cancelled USA: Restricted use
S-METOLACHLOR	15	Australia: No current concerns. EU: Not approved

FUMIGANTS – Mixed Function

Active Constituent	Use	Risks and Comments
CHLOROPICRIN + 1,3-DICHLOROPROPENE	Control of soil borne diseases, plant parasitic Nematodes, Symphylans and Wireworms	CHLOROPICRIN Australia: No current concerns. EU: Not approved USA: Restricted use 1,3-DICHLOROPROPENE Australia: No current concerns. EU: Pending Canada: Cancelled
DAZOMET	Control of bacterial spot (Xanthomonas spp.) (suppression only). Soil insects and nematodes	Australia: No current concerns. USA: Under Registration Review (scheduled)
ETHANEDINITRILE	Soil borne pathogens, nematodes and weeds	Australia: No current concerns.
ETHYL FORMATE	Post harvest fumigant for the control of Detritus moth	Australia: No current concerns. EU: Not approved
METHAM PRESENT AS SODIUM SALT	Germinating weeds and soil-borne fungus diseases	Australia: No current concerns.

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Communications Manager
Hort Innovation
Level 7, 141 Walker Street
North Sydney NSW 2060
Australia
Email: communications@horticulture.com.au
Phone: 02 8295 2300