

Spinach and Silverbeet Agrichemical Regulatory Risk Assessment

June 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Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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 spinach and silverbeet in Australia as well as assisting with any current initiatives aimed at identifying and addressing pest management deficiencies.

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

Blue text = new APVMA approved uses

INSECTICIDES/MITICIDES/NEMATOCIDES - Insect and other Pests Control

Active Constituent	MoA Group	Pest	Risks and Comments
ABAMECTIN	6	Western flower thrips	Australia: APVMA nominated for reconsideration and spray drift assessment EU: Approved Canada: In review
AFIDOPYROPEN	9D	Cabbage aphid Cotton aphid Currant lettuce aphid Green peach aphid Silverleaf (Poinsettia) whitefly	Australia: No current concerns. EU: Not approved UK: No registrations USA: Approved
ALPHA-CYPERMETHRIN	3A	Plague thrips Redlegged earth mite Vegetable weevil	Australia: APVMA nominated for reconsideration after 2029 Codex MRL: 0.7 mg/Kg EU: Not approved
<i>Bacillus thuringiensis</i>	11A	Helicoverpa	Australia: No current concerns. USA: Review upcoming
CHLORANTRANILIPROLE	28	Helicoverpa Lucerne leafroller Cluster caterpillar Looper caterpillars Permit PER87631 for the control of Cabbage leaf miner	Australia: No current concerns. Permit PER87631 Expiry date: 31/03/2029 Codex MRL: 20 mg/Kg EU: Approved UK: Approved Canada: In review

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Active Constituent	MoA Group	Pest	Risks and Comments
CHLORANTRANILIPROLE I THIAMETHOXAM	28 + 4A	<p>Helicoverpa Cluster Caterpillar Looper Lettuce Aphid Green Peach Aphid Brown Sowthistle Aphid Silverleaf Whitefly Western Flower Thrips Vegetable Leafhopper Lucerne Leafroller</p> <p>Permit PER94452 for the control of Leaf miners</p>	<p>Permit PER94452 Expiry date: 30/06/2026</p> <p>CHLORANTRANILIPROLE Australia: No current concerns. Permit PER87631 Expiry date: 31/03/2029 Codex MRL: 20 mg/Kg EU: Approved UK: Approved Canada: In review</p> <p>THIAMETHOXAM Australia: APVMA: Currently under review. Proposed regulatory decisions expected between Dec. 2025 to Oct. 2026. Codex MRL: 3 mg/Kg EU: Not approved Canada: In review USA: Review upcoming</p>
CHLOROPICRIN 1,3-DICHLOROPROPENE	8B + 8A	Parasitic nematodes	<p>CHLOROPICRIN Australia: APVMA: no current concerns. Codex MRL: EU: Not approved</p> <p>1,3-DICHLOROPROPENE Australia: APVMA: no current concerns. EU: Pending USA: Review upcoming</p>

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Active Constituent	MoA Group	Pest	Risks and Comments
CHLORPYRIFOS	1B	African black beetle Field & Mole crickets Redlegged earth mite (Silverbeet) Permit PER14583 for the control of African black beetle False wireworms and wireworms	Australia: The APVMA issued a Final Decision in September 2024. Stalk and stem crop uses were cancelled. Products with previously approved labels must not be possessed or used after September 30, 2025. Permit PER14583 Expiry date: 31/07/2025 Codex: All MRLs deleted EU: Not approved Canada: All uses cancelled 2023 USA: Upcoming review
CYROMAZINE	17	Permit PER81867 for the control of Leaf miner	Australia: Reviewed in 2014. No current concerns. Permit PER81867 Expiry date: 30/09/2026 EU: Not approved
DIAZINON	1B	Webworms	Australia: APVMA made a Final Decision on 10 September 2024 . Agricultural uses were not supported during the review. Approved use on all vegetables ceases 10 September 2025. Codex: All MRLs deleted EU: Not approved Canada: No current review USA: Review upcoming
DIMPROPYRIDAZ	36	Cabbage aphid Green peach aphid	Australia: No current concerns. EU: Pending
EMAMECTIN	6	Cabbage white butterfly Cluster caterpillar Diamondback (Cabbage) moth Helicoverpa Looper caterpillars	Australia: APVMA nominated for reconsideration and for targeted spray drift reconsideration Codex MRL: 0.05 mg/Kg EU: Approved, candidate for substitution. UK: Withdrawn. Expiry date: 30/11/2024
FLUBENDIAMIDE	28	Helicoverpa	Australia: No current concerns. EU: Not approved UK: Withdrawn. Expiry date: 30/11/2024 USA: No registrations

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Active Constituent	MoA Group	Pest	Risks and Comments
HELICOVERPA ARMIGERA NPV	31	Helicoverpa	Australia: No current concerns. EU: Approved
IMIDACLOPRID	4A	Permit PER10918 for the control of Greenhouse whitefly and aphids	Australia: APVMA: Currently under review. Proposed regulatory decisions expected between Dec. 2025 to Oct. 2026. Permit PER10918 Expiry date: 31/10/2026 EU: Not approved Canada: Field uses cancelled or amended USA: Re-registration with risk mitigation measures. Review upcoming
INDOXACARB	22A	Helicoverpa	Australia: No current concerns. EU: Not approved UK: Withdrawn. Expiry date: 31/08/2024 Canada: No registrations.
ISOCYCLOSERAM	30	Permit PER94854 for the control of Serpentine leaf miner	Australia: No current concerns. Permit PER94854 Expiry date: 31/08/2025
METHOMYL	1A	Permit PER82428 for the control of: Helicoverpa spp. Cucumber moth Cluster caterpillar Loopers Webworm Rutherglen bug Thrips including WFT	Australia: APVMA reconsideration. Prioritised to be commenced by 2026. Permit PER82428 Expiry date: 31/01/2029 EU: Not approved Canada: In review USA: Review upcoming
PETROLEUM OIL	UN	Permit PER12221 for the control of Aphids Green mirid Green vegetable bug Grey cluster bug Leafhoppers Mites Rutherglen bug Thrips	Australia: No current concerns. Permit PER12221 Expiry date: 30/09/2027 EU: Not approved

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Active Constituent	MoA Group	Pest	Risks and Comments
PIRIMICARB	1A	Aphids	Australia: No current concerns. EU: Approved, candidate for substitution. UK: Approved USA: No registrations
PYMETROZINE	9B	Cotton aphid Green peach aphid: continued Potato aphid	Australia: APVMA nominated for reconsideration and spray drift assessment EU: Not approved
PYRETHRINS	3A	Ants Caterpillars Diamondback (Cabbage) moth Earwig Flies Leafhoppers Rutherglen bug Thrips Two-spotted (Red spider) mite Whitefly	Australia: No current concerns. EU: Approved UK: Approved
SPINETORAM	5	Cabbage white butterfly Caterpillars Helicoverpa Looper caterpillars Western flower thrips Permit PER13322 for the control of Potato Moth Permit PER94451 for the control of Leaf miners	Australia: No current concerns. Permit PER13322 Expiry date: 31/03/2027 Permit PER94451 Expiry date: 31/07/2027 Codex MRL: 8 mg/Kg EU: Not approved UK: Withdrawn. Expiry date: 30/09/2024 Canada: In review

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Active Constituent	MoA Group	Pest	Risks and Comments
SPINOSAD	5	Helicoverpa Looper caterpillars Western flower thrips Permit PER89870 for the control of Fall Armyworm Permit PER94331 for the control of Dipteran leaf miners	Australia: Reviewed in 2014. No current concerns. Permit PER89870 Expiry date: 31/07/2025 Permit PER94331 Expiry date: 30/04/2026 Codex MRL: 10 mg/Kg EU: Approved UK: Approved Canada: In review
SPIROTETRAMAT	23	Green peach aphid	Australia: No current concerns. Codex MRL: 7 mg/Kg EU: Not approved UK: Approved Canada: In review
SPODOPTERA FRUGIPERDA NPV	--	Permit PER90820 for the control of Fall Armyworm	Australia: No current concerns. Permit PER90820 Expiry date: 31/03/2027
SULFOXAFLOX	4C	Brown sowthistle aphid Green peach aphid: continued Greenhouse whitefly	Australia: No current concerns. Codex MRL: 6 mg/Kg EU: Approved UK: Approved
TRICHLORFON	1B	Cabbage White Butterfly Cabbage Moth Green Vegetable Bug Rutherglen Bug	Australia: APVMA nominated for reconsideration after 2029 EU: Not approved USA: Review upcoming

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FUNGICIDES – Disease Control

Active constituent	MoA Group	Pest	Risks and Comments
AZOXYSTROBIN OXATHIPIPROLIN	11 + 49	Alternaria leaf spots Downy mildew Sclerotinia rot	AZOXYSTROBIN Australia: No current concerns. EU: Approved UK: Approved Canada: In review OXATHIPIPROLIN Australia: No current concerns. Codex MRL: 15 mg/Kg EU: Approved UK: Approved
BOSCALID	7	Sclerotinia rot	Australia: No current concerns. Codex MRL: 40 mg/Kg EU: Approved UK: Approved Canada: In review
CHLOROTHALONIL	M5	Permit PER82895 for the control of Downy mildew, Alternaria Leaf Blight, Grey Mould	Australia: APVMA reconsideration. Prioritised to be commenced by 2028. Permit PER82895 Expiry date: 31/05/2030 EU: Not approved Canada: In review USA: Review upcoming
COPPER	M1	Downy mildew Leaf diseases/spot Powdery mildew Rust Target spot (Early blight)	Australia: No current concerns. EU: Approved, candidate for substitution.

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Active constituent	MoA Group	Pest	Risks and Comments
CYAZOFAMID	21	Damping off: Pythium	Australia: No current concerns. Codex MRL: 10 mg/Kg EU: Approved UK: Approved Canada: In review
DIFENOCONAZOLE	3	Permit PER87973 for the control of Powdery mildew	Australia: APVMA nominated for reconsideration after 2029 Permit PER87973 Expiry date: 30/06/2030 EU: Approved, candidate for substitution. UK: Approved Canada: In review
DIMETHOMORPH	40	Permit PER14958 for the control of Downy mildew	Australia: No current concerns. Permit PER14958 Expiry date: 31/10/2027 Codex MRL: 30 mg/Kg EU: Not approved UK: Approved
DIMETHOMORPH AMETOCTRADIN	40 + 45	Downy mildew	DIMETHOMORPH Australia: No current concerns. Codex MRL: 30 mg/Kg AMETOCTRADIN Australia: No current concerns. Codex MRL: 50 mg/Kg EU: Approved UK: Approved

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Active constituent	MoA Group	Pest	Risks and Comments
FAMOXADONE OXATHIPIPROLIN	11 + 49	Downy mildew	<p>FAMOXADONE Australia: No current concerns. EU: Not approved UK: Withdrawn. Expiry date: 30/06/2024 Canada: In review</p> <p>OXATHIPIPROLIN Australia: No current concerns. Codex MRL: 15 mg/Kg EU: Approved UK: Approved</p>
FLUDIOXONIL METALAXYL-M	12 + 4	Damping off: Rhizoctonia/Phytophthora	<p>FLUDIOXONIL Australia: No current concerns. Codex MRL: 30 mg/Kg EU: Approved, candidate for substitution. UK: Approved</p> <p>METALAXYL-M Australia: No current concerns. EU: Approved UK: Approved</p>
IPRODIONE	2	Permit PER84955 for the control of Sclerotinia and Grey mould	<p>Australia: No current concerns. Permit PER84955 Expiry date: 30/11/2027 EU: Not approved Canada: Most of the food crop uses deleted USA: Review upcoming Codex: No MRLs</p>
MANCOZEB	M3	<p>Cercospora leaf spot Downy mildew</p> <p>Permit PER14958 for the control of Downy mildew</p>	<p>Australia: APVMA reconsideration. Prioritised to be commenced by 2027. Permit PER14958 Expiry date: 31/10/2027 EU: Not approved UK: Withdrawn. Expiry date: 31/05/2024 Canada: Most of uses cancelled USA: Review upcoming</p>

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Active constituent	MoA Group	Pest	Risks and Comments
MANCOZEB I METALAXYL-M	M3 + 4	Permit PER13673 for the control of Downy mildew	Permit PER13673 Expiry date: 31/07/2026 MANCOZEB Australia: APVMA reconsideration. Prioritised to be commenced by 2027. METALAXYL-M Australia: No current concerns. EU: Approved UK: Approved
MANDIPROPAMID	40	Downy mildew	Australia: No current concerns. Codex MRL: 25 mg/Kg EU: Approved UK: Approved Canada: In review
OXATHIPIPROLIN	49	Downy mildew	Australia: No current concerns. Codex MRL: 15 mg/Kg EU: Approved UK: Approved
PENTHIOPYRAD	7	Botrytis grey mould Powdery mildew Sclerotinia rot	Australia: No current concerns. Codex MRL: 30 mg/Kg EU: Approved UK: Approved
PHOSPHOROUS (PHOSPHONIC) ACID	P07 (33)	Permit PER11951 for the control of Downy mildew	Australia: No current concerns. Permit PER11951 Expiry date: 28/02/2030
POTASSIUM BICARBONATE	M2	Permit PER13695 for the control of Powdery mildew	Australia: No current concerns. Permit PER13695 Expiry date: 30/06/2030 Canada: In review

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Active constituent	MoA Group	Pest	Risks and Comments
PROPAMOCARB FLUOPICOLIDE	28 + 43	Downy mildew	<p>PROPAMOCARB Australia: No current concerns. Codex MRL: 40 mg/Kg EU: Approved UK: Approved</p> <p>FLUOPICOLIDE Australia: No current concerns. Codex MRL: 30 mg/Kg EU: Approved, candidate for substitution. UK: Approved</p>
PROPICONAZOLE	3	Permit PER14479 for the control of Leaf spot	<p>Australia: APVMA nominated for reconsideration and spray drift assessment Permit PER14479 Expiry date: 31/08/2029 EU: Not approved Canada: In review USA: Review upcoming</p>
PYDIFLUMETOFEN FLUDIOXONIL	7 + 12	Botrytis Sclerotinia	<p>PYDIFLUMETOFEN Australia: No current concerns. EU: Pending UK: Approved Canada: In review</p> <p>FLUDIOXONIL Australia: No current concerns. Codex MRL: 30 mg/Kg EU: Approved, candidate for substitution. UK: Approved</p>
QUINOXYFEN	13	Powdery mildew	<p>Australia: No current concerns. EU: Not approved</p>

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Active constituent	MoA Group	Pest	Risks and Comments
SULPHUR	M2	Downy mildew Leaf diseases/spot Rust Powdery mildew	Australia: No current concerns. UK: Approved Canada: In review
TEBUCONAZOLE	3	Sclerotinia rot	Australia: APVMA: Removed from nomination list - maintain watching brief EU: Approved, candidate for substitution. UK: Approved Canada: Phase-Out USA: Review upcoming
TRIFLOXYSTROBIN	11	Permit PER14494 for the control of Powdery mildew	Australia: No current concerns. Permit PER14494 Expiry date: 31/08/2027 Codex MRL: 20 mg/Kg EU: Approved UK: Approved Canada: In review
ZINEB	M3	Permit PER14839 for the control of Anthracnose	Australia: APVMA reconsideration. Prioritised to be commenced by 2027. Permit PER14839 Expiry date: 31/07/2029 EU: Not approved

HERBICIDES – Weed Control

Active Constituent	MoA Group	Risks and Comments
CHLORIDAZON	5	Australia: No current concerns. Use in baby leafy spinach Permit PER92508 Expiry date: 31/10/2025 EU: Not approved

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Active Constituent	MoA Group	Risks and Comments
CLETHODIM	1	Australia: No current concerns. Permit PER82459 Expiry date: 30/09/2026 EU: Approved UK: Approved Codex: No MRLs
DIQUAT	22	Australia: APVMA: Currently under review. APVMA proposed decisions July 2024 It is proposed to remove uses in stalk and stem vegetables. Only uses up to 283gai/ha to be kept. Publication of the final regulatory decision is expected in <u>December 2025</u> EU: Not approved (withdrawn in 2018). UK: Not approved.
ETHOFUMESATE	15	Australia: No current concerns. Permit PER14703 Expiry date: 31/05/2029 EU: Approved UK: Approved Canada: In review
FLUAZIFOP-P PRESENT AS THE BUTYL ESTER	1	Australia: APVMA nominated for reconsideration and for targeted spray drift reconsideration Use approved in Spinach and Silverbeet. Also, Permit PER81244 Expiry date: 30/04/2027 EU: Approved
METOLACHLOR	15	Australia: No current concerns. EU: Not approved
PARAQUAT	22	Australia: APVMA: Currently under review. APVMA proposed decisions July 2024 It is proposed to remove uses in stalk and stem vegetables. Only uses up to 231gai/ha to be kept. Publication of the final regulatory decision is expected in <u>December 2025</u> . EU: Not approved (withdrawn in 2018). UK: Not approved.
PHENMEDIPHAM	5	Australia: No current concerns. Use approved in Silverbeet Permit PER81241 Expiry date: 31/03/2028 for use in spinach and baby spinach (Field crops only) EU: Approved UK: Approved

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Active Constituent	MoA Group	Risks and Comments
PROPACHLOR	15	Australia: No current concerns. Permit PER12008 Expiry date: 30/11/2025 EU: Not approved
S-METOLACHLOR	15	Australia: No current concerns. EU: Not approved UK: Approved

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