

## Spinach/Silverbeet Agrichemical Regulatory Risk Assessment

September 2023

Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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 requiring 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 so as to ensure compliance, as a 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. As a consequence, it is possible that the number of approved agrichemical options could be adversely impacted.

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

## Spinach/Silverbeet regulatory risk assessment

<b>R1</b>	<b>Short-term: Critical concern over retaining access</b>
<b>R2</b>	<b>Medium-term: Maintaining access of significant concern</b>
<b>R3</b>	<b>Long-term: Potential issues associated with use - Monitoring required</b>

Active Constituents	Chemical Group	Problem	Comments
<b>INSECT AND OTHER PESTS</b>			
Abamectin	<b>6</b>	Western flower thrips Vegetable leafminer(PER81876)	APVMA: Nominated for spray drift label review Canada: Some uses amended, others cancelled EU: Use restricted to permanent greenhouses
Afidopyropen	<b>9D</b>	Cabbage aphid Cotton aphid Currant lettuce aphid Green peach aphid Silverleaf (Poinsettia) whitefly	EU: No authorisation
Alpha-cypermethrin	<b>3A</b>	Plague thrips Redlegged earth mite Vegetable weevil	EU: No authorisations UK: No authorisation
<i>Bacillus thuringiensis</i>	<b>11A</b>	Helicoverpa	EU: Renewal under review
Chlorantraniliprole	<b>28</b>	Helicoverpa Lucerne leafroller Cluster caterpillar Looper caterpillars Cabbage leafminer(PER87631)	
Chlorantraniliprole +thiamethoxam	<b>28 + 4A</b>	Brown sowthistle aphid Currant lettuce aphid Green peach aphid Vegetable leafhopper Western flower thrips Vegetable leafminer(PER91161)	<u>Thiamethoxam</u> <u>APVMA: Under review</u> Canada: Some field uses cancelled or amended EU: Not authorised USA: Re-registration with new risk mitigation measures

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Active Constituents	Chemical Group	Problem	Comments
Chlorpyrifos	1B	African black beetle	<a href="#">APVMA: Under review</a> Codex: All MRLs revoked Canada: Cancellation of all uses. EU: No authorisation in place USA: EPA decision to cancel use on food crops
		Field & Mole crickets	
		False wireworm(PER14583)	
		Wireworm (PER14583)	
		Blue oat mite(Silverbeet)	
		Redlegged earth mite(Silverbeet)	
Diazinon	1B	Webworms	<a href="#">APVMA: Under review</a> EU: No authorisation in place Codex: Withdrawal of Codex MRLs recommended
Dimpropridaz	36	Cabbage aphid	Codex: Evaluation for MRLs scheduled for 2025
		Green peach aphid	EU: Authorisation pending
Emamectin benzoate	6	Cabbage white butterfly	EU: Candidate for substitution
		Cluster caterpillar	
		Diamondback (Cabbage) moth	
		Helicoverpa	
		Looper caterpillars	
Flubendiamide	28	Helicoverpa	
Helicoverpa NPV	31	Helicoverpa	
Imidacloprid	4A	Aphids(PER10918)	<a href="#">APVMA: Under review</a> Canada: Field uses cancelled or amended EU: No authorisation in place expiry of the grace periods (June 2022), USA: Re-registration with new risk mitigation measures
		Greenhouse whitefly (PER10918)	
Indoxacarb	22A	Helicoverpa	Canada: No authorisations EU: No authorisation. UK: Proposed non-renewal
Methomyl	1A	Cucumber moth(PER82428)	<a href="#">APVMA: nominated for review</a> Canada: Re-evaluation completed. Majority of uses removed EU: No authorisations in place USA: Under review
		Looper caterpillars(PER82428)	
		Rutherglen bug(PER82428)	
		Thrips(PER82428)	
		Webworms(PER82428)	
		Western flower thrips(PER82428)	
		Helicoverpa (PER82428: Silverbeet)	

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Active Constituents	Chemical Group	Problem	Comments
Paraffinic oil/petroleum oil	UNM	Aphids	
		Leafhoppers	
		Mites	
		Thrips	
		Green mirids	
		Green vegetable bug	
		Grey cluster bug	
		Rutherglen bug	
Pirimicarb	1A	Aphids	Codex: JMPR re-evaluation scheduled EU: Candidate for substitution
Pymetrozine	9B	Cotton aphid	Canada: Restricted use to glasshouses only Codex: No registrant support EU: Not authorised
		Green peach aphid: continued	
		Potato aphid	
Pyrethrins	3A	Ants	Canada: Under review Codex: Under review
		Caterpillars	
		Diamondback (Cabbage) moth	
		Earwig	
		Flies	
		Leafhoppers	
		Rutherglen bug	
		Thrips	
		Two-spotted (Red spider) mite	
		Whitefly	
Spinetoram	5	Cabbage white butterfly	
		Caterpillars	
		Helicoverpa	
		Looper caterpillars	
		Western flower thrips	
		Vegetable leafminer (PER91155)	

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Active Constituents	Chemical Group	Problem	Comments
Spinosad	5	Helicoverpa	
		Looper caterpillars	
		Western flower thrips	
		Fall armyworm (PER89870)	
		Vegetable leafminer (PER90928)	
Spirotetramat	23	Green peach aphid: continued	
Spodoptera NPV	31	Fall armyworm(PER90820)	
Sulfoxaflor	4C	Brown sowthistle aphid	USA: Pollinator concerns EU: Restricted to permanent glasshouses only
		Green peach aphid: continued	
		Greenhouse whitefly	

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Active Constituents	Chemical Group	Problem	Comments
<b>DISEASES</b>			
Ametoctradin + dimethomorph	<b>45 + 40</b>	Downy mildew	<u>Dimethomorph</u> EU: Under review
Azoxystrobin + oxathiapiprolin	<b>11 + 49</b>	Alternaria leaf spots	<u>Azoxystrobin</u> Canada: Review proposed
		Downy mildew	
		Sclerotinia rot	
Boscalid	<b>7</b>	Sclerotinia rot	Canada: Under review
Chlorothalonil	<b>M5</b>	Alternaria leaf spots(PER82895)	<u>APVMA: nominated for review</u> Canada: Cancellation of uses proposed EU: No authorisation in place USA: Under review
		Botrytis grey mould(PER82895)	
		Downy mildew(PER82895)	
Copper	<b>M1</b>	Downy mildew	EU: Candidates for substitution
		Leaf diseases/spot	
		Powdery mildew	
		Rust	
		Target spot (Early blight)	
Cyazofamid	<b>21</b>	Damping off: Pythium	Canada: Under review
Cyprodinil +fludioxonil	<b>12 + 9</b>	Sclerotinia rot	<u>Cyprodinil</u> Canada: Under review EU: Candidate for substitution
			<u>Fludioxonil</u> EU: Under review, & candidate for substitution
Difenoconazole	<b>3</b>	Powdery mildew(PER87973)	<u>APVMA: nominated for review</u> EU: Candidate for substitution USA: Under review
Dimethomorph +mancozeb	<b>40 + M3</b>	Downy mildew (PER14958)	<u>Dimethomorph</u> EU: Under review
			<u>Mancozeb</u> <u>APVMA: nominated for review</u> Canada: Many uses cancelled Codex: To be reviewed 2024/25 EU: Authorisation not renewed

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Active Constituents	Chemical Group	Problem	Comments
Fludioxonil +metalaxyl-M	12 + 4	Damping off: Rhizoctonia/Phytophthora	<u>Fludioxonil</u> EU: Under review, & candidate for substitution <u>Metalaxyl-M</u> EU: Restricted use approval
Fluopicolide +propamocarb HCl	28 + 43	Downy mildew	<u>Fluopicolide:</u> EU: Candidate for substitution
Iprodione	2	Fungal diseases: Sclerotinia Botrytis grey mould(PER84955)	Canada: Majority of food crop uses deleted Codex: Under review EU: No authorisation in place USA: Proposed deletion or restriction of uses
Mancozeb	M3	Cercospora leaf spot Downy mildew Leaf diseases/spot Powdery mildew Rust	<a href="#">APVMA: nominated for review</a> Canada: Many uses cancelled Codex: To be reviewed 2024/25 EU: Authorisation not renewed
Mandipropamid	40	Downy mildew	
Metalaxyl-M	4	Downy mildew(PER13673)	EU: Restricted use approval
Oxathiapiprolin	49	Downy mildew	
Penthiopyrad	7	Botrytis grey mould Powdery mildew Sclerotinia rot	
Phosphorous acid	33	Downy mildew(PER11951)	
Potassium bicarb	M2	Powdery mildew(PER13695: Silverbeet)	
Propiconazole	3	Cercospora leaf spot(PER14479) Powdery mildew(PER14479) Rust(PER14479)	<a href="#">APVMA: nominated for review</a> EU: No authorisations USA: Under review

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Pydiflumetofen + fludioxonil	7 + 12	Botrytis	Fludioxonil EU: Under review, & candidate for substitution <u>Pydiflumetofen:</u> EU: Authorisation pending
		Sclerotinia	
Quinoxyfen	13	Powdery mildew (silverbeet)	EU: No authorisations
Sulfur	M2	Downy mildew	
		Leaf diseases/spot	
		Rust	
		Powdery mildew	
Tebuconazole	3	Sclerotinia rot	<a href="#">APVMA: nominated for review</a> Canada: Under review EU: Candidate for substitution USA: Under review
Trifloxystrobin	11	Powdery mildew(PER14494)	Canada: Under review
Zineb	M3	Anthraco nose (PER14839)	<a href="#">APVMA: nominated for review</a> Codex: To be reviewed 2024/25 EU: No authorisation in place
		Leaf diseases/spot(PER14839)	



## Spinach/Silverbeet regulatory risk assessment

Active Constituents	Chemical Group	Comments
<b>WEEDS</b>		
Chloridazon (PER92508)	<b>5</b>	EU: No authorisation in place
Clethodim (PER82459)	<b>1</b>	Codex: MRLs proposed for deletion
Ethofumesate (PER14703)	<b>15</b>	
Fluazifop-P	<b>1</b>	
Haloxyfop-P (Spinach)	<b>1</b>	EU: Not authorised
Metolachlor / S-metolachlor	<b>15</b>	<u>Metolachlor:</u> EU: No authorisation <u>S-metolachlor:</u> EU: Proposed non-renewal of authorisation
Phenmedipham (PER81241)	<b>5</b>	EU: Review outcome not positive
Propachlor (PER12008)	<b>15</b>	EU: No authorisation in place

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Communications Manager  
Hort Innovation  
Level 7, 141 Walker Street  
North Sydney NSW 2060  
Australia

Email: [communications@horticulture.com.au](mailto:communications@horticulture.com.au)

Phone: 02 8295 2300