

Spinach/Silverbeet Agrichemical Regulatory Risk Assessment

March 2024

Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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

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

Active Constituents	Chemical Group	Problem	Comments
INSECT AND OTHER PESTS			
Abamectin	6	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	9D	Cabbage aphid Cotton aphid Currant lettuce aphid Green peach aphid Silverleaf (Poinsettia) whitefly	EU/UK: No authorisations in place
Alpha-cypermethrin	3A	Plague thrips Redlegged earth mite Vegetable weevil	EU/UK: No authorisations in place
<i>Bacillus thuringiensis</i>	11A	Helicoverpa	EU: Renewal under review
Chlorantraniliprole	28	Helicoverpa Lucerne leafroller Cluster caterpillar Looper caterpillars Cabbage leafminer(PER87631)	
Chlorantraniliprole +thiamethoxam	28 + 4A	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/UK: No authorisations in place USA: Re-registration with new risk mitigation measures

Spinach/Silverbeet regulatory risk assessment

Active Constituents	Chemical Group	Problem	Comments
Chlorpyrifos	1B	African black beetle	APVMA: Proposed deletion of uses Codex: All MRLs revoked Canada: Cancellation of all uses. EU/UK: 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	APVMA: Proposed deletion of uses EU/UK: No authorisation in place Codex: Codex MRLs deleted
Dimpropridaz	36	Cabbage aphid	EU: Authorisation pending
		Green peach aphid	
Emamectin benzoate	6	Cabbage white butterfly	EU: Candidate for substitution
		Cluster caterpillar	
		Diamondback (Cabbage) moth	
		Helicoverpa	
		Looper caterpillars	
Flubendiamide	28	Helicoverpa	EU: Authorisation expires August 2024
Helicoverpa NPV	31	Helicoverpa	
Imidacloprid	4A	Aphids(PER10918)	APVMA: Under review Canada: Field uses cancelled or amended EU/UK: No authorisation in place USA: Re-registration with new risk mitigation measures
		Greenhouse whitefly (PER10918)	
Indoxacarb	22A	Helicoverpa	Canada: No authorisations EU/UK: No authorisations in place
Methomyl	1A	Cucumber moth(PER82428)	APVMA: nominated for review Canada: Re-evaluation completed. Majority of uses removed EU/UK: No authorisations in place USA: Under review
		Looper caterpillars(PER82428)	
		Rutherglen bug(PER82428)	
		Thrips(PER82428)	
		Webworms(PER82428)	
		Western flower thrips(PER82428)	
		Helicoverpa (PER82428: Silverbeet)	

Spinach/Silverbeet regulatory risk assessment

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/UK: No authorisations in place
		Green peach aphid: continued	
		Potato aphid	
Pyrethrins	3A	Ants	Canada: Under review
		Caterpillars	
		Diamondback (Cabbage) moth	
		Earwig	
		Flies	
		Leafhoppers	
		Rutherglen bug	
		Thrips	
		Two-spotted (Red spider) mite	
		Whitefly	
		Spinetoram	
Caterpillars			
Helicoverpa			
Looper caterpillars			
Western flower thrips			
Vegetable leafminer (PER91155)			

Spinach/Silverbeet regulatory risk assessment

Active Constituents	Chemical Group	Problem	Comments
Spinosad	5	Helicoverpa	
		Looper caterpillars	
		Western flower thrips	
		Fall armyworm (PER89870)	
Spirotetramat	23	Green peach aphid: continued	EU: Authorisation expires April 2024
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	

Spinach/Silverbeet regulatory risk assessment

Active Constituents	Chemical Group	Problem	Comments
DISEASES			
Ametoctradin + dimethomorph	45 + 40	Downy mildew	<u>Dimethomorph</u> EU: Under review
Azoxystrobin + oxathiapiprolin	11 + 49	Alternaria leaf spots	<u>Azoxystrobin</u> Canada: Review proposed
		Downy mildew	
		Sclerotinia rot	
Boscalid	7	Sclerotinia rot	Canada: Under review
Chlorothalonil	M5	Alternaria leaf spots(PER82895)	APVMA: nominated for review Canada: Cancellation of uses proposed EU/UK: No authorisation in place USA: Under review
		Botrytis grey mould(PER82895)	
		Downy mildew(PER82895)	
Copper	M1	Downy mildew	EU: Candidates for substitution
		Leaf diseases/spot	
		Powdery mildew	
		Rust	
		Target spot (Early blight)	
Cyazofamid	21	Damping off: Pythium	Canada: Under review
Cyprodinil +fludioxonil	12 + 9	Sclerotinia rot	<u>Cyprodinil</u> Canada: Under review EU: Candidate for substitution <u>Fludioxonil</u> EU: Under review, & candidate for substitution
Difenoconazole	3	Powdery mildew(PER87973)	APVMA: nominated for review EU: Candidate for substitution USA: Under review
Dimethomorph +mancozeb	40 + M3	Downy mildew (PER14958)	<u>Dimethomorph</u> EU: Under review <u>Mancozeb</u> APVMA: nominated for review Canada: Many uses cancelled Codex: To be reviewed EU/UK: No authorisations in place

Spinach/Silverbeet regulatory risk assessment

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: Review scheduled EU/UK: No authorisations in place USA: Proposed deletion or restriction of uses
Mancozeb	M3	Cercospora leaf spot Downy mildew Leaf diseases/spot Powdery mildew Rust	APVMA: nominated for review Canada: Many uses cancelled Codex: To be reviewed EU/UK: No authorisations in place
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)	APVMA: nominated for review EU/UK: No authorisations in place USA: Under review

Spinach/Silverbeet regulatory risk assessment

Active Constituents	Chemical Group	Problem	Comments
Pydiflumetofen + fludioxonil	7 + 12	Botrytis	Fludioxonil
		Sclerotinia	EU: Under review, & candidate for substitution Pydiflumetofen: EU: Authorisation pending
Quinoxifen	13	Powdery mildew (silverbeet)	EU/UK: No authorisations in place
Sulfur	M2	Downy mildew	
		Leaf diseases/spot	
		Rust	
		Powdery mildew	
Tebuconazole	3	Sclerotinia rot	APVMA: nominated for review Canada: Under review EU: Candidate for substitution USA: Under review
Trifloxystrobin	11	Powdery mildew(PER14494)	Canada: Under review
Zineb	M3	Anthraco nose (PER14839)	APVMA: nominated for review
		Leaf diseases/spot(PER14839)	Codex: To be reviewed EU/UK: No authorisations in place

Spinach/Silverbeet regulatory risk assessment

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

Funding statement: MT20007 - Regulatory Support & Response Co-ordination. This *multi-industry* project has been funded by Hort Innovation, using *industry research and development levies* and contributions from the Australian Government. Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture.

Disclaimer:

Horticulture Innovation Australia Limited (Hort Innovation) makes no representations and expressly disclaims all warranties (to the extent permitted by law) about the accuracy, completeness, or currency of information in MT20007 – Regulatory Support & Response Co-ordination. Reliance on any information provided by Hort Innovation is entirely at your own risk. Hort Innovation is not responsible for, and will not be liable for, any loss, damage, claim, expense, cost (including legal costs) or other liability arising in any way, including from any Hort Innovation or other person’s negligence or otherwise from your use or non-use of MT20007 – Regulatory Support & Response Co-ordination, or from reliance on information contained in the material or that Hort Innovation provides to you by any other means.

Legal notice

Copyright © Horticulture Innovation Australia Limited 2024

Copyright subsists in Ag-Chemical Update. Horticulture Innovation Australia Limited (Hort Innovation) owns the copyright, other than as permitted under the Copyright ACT 1968 (Cth). The Ag-Chemical Update (in part or as a whole) cannot be reproduced, published, communicated or adapted without the prior written consent of Hort Innovation. Any request or enquiry to use the Ag-Chemical Update should be addressed to:

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

Email: communications@horticulture.com.au

Phone: 02 8295 2300