

## Pumpkin 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Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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 pumpkins as well as current initiatives aimed at addressing identified pest management deficiencies.

## Pumpkin Agrichemical 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>	Root-knot nematodes 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> <b>9D</b> <b>9D</b> <b>9D</b> <b>9D</b>	Cabbage aphid Cotton / melon aphid Currant lettuce aphid Green peach aphid Silverleaf (Poinsettia) whitefly	EU: No authorisation
Alpha-cypermethrin	<b>3A</b>	Cucumber fly	EU: No authorisations UK: No authorisation
<i>B thuringiensis</i>	<b>11A</b>	Helicoverpa	EU: Under authorisation renewal
Beta-cyfluthrin	<b>3A</b>	Cucumber moth Helicoverpa	EU: No authorisation
Bifenazate	<b>20</b>	Bryobia mite Two-spotted (Red spider) mite	Canada: Review initiated EU: Use restricted to non-edible crops in permanent greenhouses
Bifenthrin	<b>3A</b>	Brown marmorated stink bug Caterpillars Cucumber moth Helicoverpa Mites Moths Silverleaf (Poinsettia) whitefly Whiteflies Yellow spotted stink bug	Canada: Not authorised EU: Not authorised

## Pumpkin Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical Group	Problem	Comments
Buprofezin	16	Cotton (Sweet Potato) whitefly	EU: MRLs set to limit of quantification
		Greenhouse whitefly	
		Silverleaf (Poinsettia) whitefly	
Carbaryl	1A	28-spotted potato ladybird	Canada: Reviewed, large number of uses deleted Codex: Review scheduled, support uncertain EU: Authorisation not renewed USA: Under review
		Armyworms	
		Cucurbit stem borer	
		Cutworms	
		European earwig	
		Green vegetable bug	
		Helicoverpa	
		Leaf eating ladybirds	
		Potato moth (Leafminer)	
		Pumpkin beetle	
		Rutherglen bug	
		Wingless grasshopper	
Chlorantraniliprole	28	Cucumber moth	
		Helicoverpa	
Chlorpyrifos	1B	Ants	<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
		Australian plague locust	
		Field crickets	
		Mealybugs	
		Migratory locust	
		Mole crickets	
		Spur-throated locust	
		Whiteflies	
		African black beetle (PER11768)	
Clothianidin	4A	Cucumber fly(PER80101)	<a href="#">APVMA: Under review</a> Canada: Field uses cancelled or amended EU: Not authorised USA: Re-registration with new risk mitigation measures

## Pumpkin Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical Group	Problem	Comments
Cyantraniliprole	28	Cotton / melon aphid	
		Cucumber moth	
		Helicoverpa	
		Silverleaf (Poinsettia) whitefly	
		Western flower thrips	
Diafenthiuron + cyantraniliprole	12A + 28	Cluster caterpillar	Diafenthiuron Codex: No MRLs EU: No authorisation
		Cotton / melon aphid	
		Cucumber moth	
		Green peach aphid	
		Helicoverpa	
		Plague thrips	
		Silverleaf (Poinsettia) whitefly	
		Tomato thrips	
		Two-spotted (Red spider) mite	
Western flower thrips			
Diazinon	1B	Caterpillars	APVMA: <a href="#">Under review</a> EU: No authorisation in place Codex: Withdrawal of Codex MRLs recommended
		Cutworms	
		Thrips	
Dimpropridaz	36	Cotton/melon aphid	Codex: Evaluation scheduled EU: Authorisation pending
		Greenhouse whitefly	
		Silverleaf whitefly	
Emamectin benzoate	6	Cluster caterpillar	EU: Candidate for substitution
		Cucumber moth	
		Helicoverpa	
		Tomato grub	
		Fall armyworm (PER89263)	
Etoxazole	10B	Tomato red spider mite(PER82460)	EU: Only uses on greenhouse ornamentals approved & Candidate for substitution
		Two-spotted (Red spider) mite (PER82460)	

## Pumpkin Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical Group	Problem	Comments
Fonicamid	29	Cotton / melon aphid	
		Green peach aphid	
		Silverleaf (Poinsettia) whitefly	
Fluazaindolizine	N-UN	Root-knot nematodes	EU: Pending
Flubendiamide	28	Cluster caterpillar	
		Helicoverpa	
Fluensulfone		Root-knot nematodes	EU: No authorisation
Flupyradifurone	4D	Greenhouse whitefly	EU: Under review
		Silverleaf (Poinsettia) whitefly	
		Cotton / melon aphid	
		Green peach aphid	
Helicoverpa NPV	31	Helicoverpa	
Hexythiazox	10A	Broad mite (PER14765)	
		Tomato red spider mite (PER14765)	
		Tomato russet mite (PER14765)	
		Two-spotted (Red spider) mite (PER14765)	
Imidacloprid	4A	Green peach aphid	<a href="#">APVMA: Under review</a> Canada: Field uses cancelled or amended EU: No authorisation USA: Re-registration with new risk mitigation measures
		Silverleaf (Poinsettia) whitefly	
Malathion/Maldison	1B	28-spotted potato ladybird	<a href="#">APVMA: Under review</a> Codex: Re-evaluation scheduled for 2025/26 EU: Restricted use to permanent greenhouses USA: Under review, label use patterns amended
		Aphids	
		Australian plague locust	
		Green vegetable bug	
		Jassids	
		Leafhoppers	
		Migratory locust	
		Pumpkin beetle	
		Redlegged earth mite	
		Rutherglen bug	
		Spur-throated locust	

## Pumpkin Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical Group	Problem	Comments
Methomyl	1A	Cluster caterpillar (PER82428)	<a href="#">APVMA: nominated for review</a> Canada: Re-evaluation completed. Majority of uses removed EU: No authorisations in place USA: Under review
		Cucumber moth (PER82428)	
		Helicoverpa (PER82428)	
		Loopers (PER82428)	
		Rutherglen bug (PER82428)	
		Thrips (PER82428)	
		Webworms (PER82428)	
		Western flower thrips (PER82428)	
Petroleum oil	UN	Aphids	
		Leafhoppers	
		Mites	
		Thrips	
		Greenhouse whitefly(PER12221)	
		Silverleaf (Poinsettia) whitefly(PER12221)	
Pirimicarb	1A	Aphids	Codex: JMPR re-evaluation scheduled EU: Candidate for substitution
Pymetrozine	9B	Cotton / melon aphid	Canada: Restricted use to glasshouses only Codex: No registrant support EU: Not authorised
		Cowpea aphid	
		Green peach aphid	
		Greenhouse whitefly	
		Potato aphid	
		Silverleaf (Poinsettia) whitefly	

### Pumpkin Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical Group	Problem	Comments
Pyrethrins	3A	Ants	Canada: Under review Codex: Under review
		Aphids	
		Cabbage white butterfly	
		Caterpillars	
		Diamondback (Cabbage) moth	
		Earwigs	
		Flies	
		Leafhoppers	
		Mealybugs	
		Scale insects	
		Thrips	
		Two-spotted (Red spider) mite	
		Whiteflies	
Pyriproxyfen	7C	Greenhouse whitefly	
		Silverleaf (Poinsettia) whitefly	
Spinetoram	5	Cabbage white butterfly	
		Caterpillars	
		Cucumber moth	
		Helicoverpa	
		Melon thrips	
		Vegetable leafminer(PER91155)	
Spinosad	5	Cucumber moth	
		Helicoverpa	
		Western flower thrips	
		Fall armyworm(PER89870)	
		Vegetable leafminer(PER90928)	

## Pumpkin Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical Group	Problem	Comments
Spirotetramat	23	Cotton / melon aphid	
		Green peach aphid	
		Silverleaf (Poinsettia) whitefly	
Sulfoxaflor	4C	Cotton / melon aphid	USA: Pollinator concerns
		Green peach aphid	EU: Restricted to permanent glasshouses only
		Greenhouse whitefly	
Trichlorfon	1B	Cutworms	<a href="#">APVMA: nominated for review</a> Codex: No MRLs EU: No authorisations USA: No MRLs



## Pumpkin Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical Group	Problem	Comments
<b>DISEASES</b>			
Ametoctradin + dimethomorph	<b>45 + 40</b>	Downy mildew	<u>Dimethomorph</u> EU: Under review
<i>Aureobasidium pullulans</i>		Grey mould	
Azoxystrobin	<b>11</b>	Downy mildew Gummy stem blight Powdery mildew	Canada: Review proposed
Benalaxyl	<b>4</b>	Anthraco-nose Gummy stem blight Alternaria leaf blight Downy mildew	EU: No authorisation
Boscalid + kresoxim-methyl	<b>7 + 11</b>	Powdery mildew	<u>Boscalid</u> : Canada: Under review
Bupirimate	<b>8</b>	Powdery mildew	
Chlorothalonil	<b>M5</b>	Alternaria leaf blight Anthraco-nose Downy mildew Gummy stem blight Powdery mildew Rhizoctonia ground rot Target leafspot	<a href="#">APVMA: nominated for review</a> Canada: Cancellation of uses proposed EU: No authorisation in place USA: Under review
Copper	<b>M1</b>	Angular leaf spot Anthraco-nose Bacterial spot Downy mildew Gummy stem blight Late (Irish) blight Powdery mildew	EU: Candidates for substitution

## Pumpkin Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical Group	Problem	Comments
Copper	<b>M1</b>	Rust	EU: Candidates for substitution
		Septoria leaf spot	
		Target spot (Early blight)	
Cyanogen (ethanedinitrile)	-	Fungal diseases : Fusarium	EU: No authorisation
		Fungal diseases : Rhizoctonia	
		Fusarium wilt	
		Phytophthora trunk/collar rot	
		Pythium diseases : soil borne	
		Rhizoctonia rot	
		Root and collar rot	
		Sclerotium crown rot	
		Spot blotch	
Cyflufenamid	<b>U6</b>	Powdery mildew	
Difenoconazole + pydiflumetofen	<b>3 + 7</b>	Powdery mildew	<u>Difenoconazole:</u>
		Gummy stem blight	<a href="#">APVMA: nominated for review</a>
		Alternaria leaf spot	EU: Candidate for substitution
		Cercospora leaf spot	USA: Under review
			<u>Pydiflumetofen:</u> EU: Authorisation pending
Dimethomorph	<b>40</b>	Alternaria leaf blight	EU: Under review
		Anthracoise	
		Downy mildew	
		Gummy stem blight	
		Septoria spot	
Fluopicolide	<b>43</b>	Downy mildew	EU: Candidate for substitution
Florylpicoxamid	<b>21</b>	Powdery mildew	EU: Authorisation pending
Guazatine acetate	<b>M7</b>	Fusarium fruit rot	EU: No authorisation
		Pink mould rot	
		Rhizopus rot	
Hydrogen peroxide +peroxyacetic acid	<b>M</b>	Powdery mildew	

## Pumpkin Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical Group	Problem	Comments
Imazalil	3	Fusarium fruit rot	EU: Under review -data gaps identified. Withdrawal of many EU MRLs proposed
		Pink mould rot	
Iodine	M	Bactericide	
		Fungi	
Mancozeb	M3	Alternaria leaf blight	<a href="#">APVMA: nominated for review</a> Canada: Many uses cancelled Codex: To be reviewed 2024/25 EU: Authorisation not renewed
		Anthracnose	
		Downy mildew	
		Gummy stem blight	
		Powdery mildew	
		Septoria spot	
Metalaxyl/Metalaxyl-M	4	Alternaria leaf blight	<u>Metalaxyl</u> EU: Candidate for substitution <u>Metalaxyl-M</u> EU: Restricted use approval
		Anthracnose	
		Damping off	
		Downy mildew	
		Gummy stem blight	
		Phytophthora soil fungus (Dieback)	
Metiram	M3	Downy mildew	<a href="#">APVMA: nominated for review</a> Canada: Only foliar use on potato Codex: To be reviewed 2024/25 EU: No authorisation
		Gummy stem blight	
Metrafenone	U8	Powdery mildew	
Oxadixyl	4	Anthracnose	EU: No authorisation
		Downy mildew	
		Gummy stem blight	
Oxathiapiprolin	49	Downy mildew	
Penthiopyrad	7	Grey mould	
		Gummy stem blight	
		Powdery mildew	
Phosphorous acid	33	Downy mildew	
Propamocarb HCl	28	Downy mildew	

## Pumpkin Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical Group	Problem	Comments
Propineb	<b>M3</b>	Anthracnose	<a href="#">APVMA: nominated for review</a>
		Downy mildew	EU: No authorisation in place
		Gummy stem blight	Codex: To be reviewed 2024/25
Proquinazid	<b>13</b>	Powdery mildew	
Pyriofenone	<b>U8</b>	Powdery mildew	
<i>Streptomyces lydicus</i>	<b>BM02</b>	Powdery mildew	
Sulfur	<b>M2</b>	Anthracnose	
		Downy mildew	
		Gummy stem blight	
		Powdery mildew	
		Rust	
		Septoria spot	
		Target spot (Early blight)	
Tea tree oil	<b>46</b>	Powdery mildew	
Triadimefon	<b>3</b>	Powdery mildew	<a href="#">APVMA: nominated for review</a> EU: No authorisation in place USA: Under review. Proposed use restrictions on turf and ornamentals
Triadimenol	<b>3</b>	Powdery mildew	<a href="#">APVMA: nominated for review</a> <a href="#">Canada</a> : No authorisation in place EU: No authorisation in place USA: Registration cancelled
Zineb	<b>M3</b>	Anthracnose	<a href="#">APVMA: nominated for review</a>
		Downy mildew	Codex: To be reviewed 2024/25 EU: No authorisation in place

## Pumpkin Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical Group	Comment
<b>WEEDS</b>		
Clomazone	<b>13</b>	
Dimethenamid-P	<b>15</b>	
Fluazifop-P	<b>1</b>	
Quizalofop-P	<b>1</b>	Canada: Under re-evaluation EU: Candidate for substitution
Sethoxydim	<b>1</b>	EU: No authorisation 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 2023

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

Phone: 02 8295 2300