

## Pumpkin 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Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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 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/UK: No authorisations in place
Alpha-cypermethrin	<b>3A</b>	Cucumber fly	EU/UK: No authorisations in place
<i>B thuringiensis</i>	<b>11A</b>	Helicoverpa	EU: Under authorisation renewal
Beta-cyfluthrin	<b>3A</b>	Cucumber moth Helicoverpa	EU/UK: No authorisations in place
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/UK: No authorisations in place

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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/UK: No authorisations in place 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: Proposed deletion of uses</a> Codex: All MRLs revoked Canada: Cancellation of all uses. EU/UK: 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/UK: Not authorised USA: Re-registration with new risk mitigation measures

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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	<u>Diafenthiuron</u> Codex: No MRLs EU/UK: No authorisations in place
		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	<a href="#">APVMA: Proposed deletion of uses</a> EU: No authorisation in place Codex: Codex MRLs deleted
		Cutworms	
		Thrips	
Dimpropridaz	36	Cotton/melon aphid	Codex: Evaluation scheduled EU/UK: No authorisations in place
		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)	

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Active Constituents	Chemical Group	Problem	Comments
Flonicamid	29	Cotton / melon aphid	
		Green peach aphid	
		Silverleaf (Poinsettia) whitefly	
Fluazaindolizine	N-UN	Root-knot nematodes	EU: Pending
Flubendiamide	28	Cluster caterpillar	EU: Authorisation expires August 2024
		Helicoverpa	
Fluensulfone		Root-knot nematodes	EU/UK: No authorisations in place
Flupyradifurone	4D	Greenhouse whitefly	EU: Under review
		Silverleaf (Poinsettia) whitefly	
		Cotton / melon aphid	
		Green peach aphid	
Helicoverpa NPV	31	Helicoverpa	
Imidacloprid	4A	Green peach aphid	<a href="#">APVMA: Under review</a> Canada: Field uses cancelled or amended EU/UK: No authorisations in place 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			

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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/UK: 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/UK: No authorisations in place
		Cowpea aphid	
		Green peach aphid	
		Greenhouse whitefly	
		Potato aphid	
		Silverleaf (Poinsettia) whitefly	

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Active Constituents	Chemical Group	Problem	Comments
Pyrethrins	3A	Ants	Canada: 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	EU: Authorisation expires June 2024
		Caterpillars	
		Cucumber moth	
		Helicoverpa	
		Melon thrips	
		Western flower thrips	
Vegetable leafminer(PER91155)			
Spinosad	5	Cucumber moth	
		Helicoverpa	
		Western flower thrips	
		Fall armyworm(PER89870)	
		Vegetable leafminer(PER90928)	

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Active Constituents	Chemical Group	Problem	Comments
Spirotetramat	23	Cotton / melon aphid	EU: Authorisation expires April 2024
		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/UK: No authorisations in place USA: No MRLs



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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
<i>Aureobasidium pullulans</i>		Grey mould	
Azoxystrobin	<b>11</b>	Downy mildew Gummy stem blight Powdery mildew	Canada: Review proposed
Benalaxyl	<b>4</b>	Anthracnose Gummy stem blight Alternaria leaf blight Downy mildew	EU/UK: No authorisations in place
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 Anthracnose 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/UK: No authorisation in place USA: Under review
Copper	<b>M1</b>	Angular leaf spot Anthracnose Bacterial spot Downy mildew Gummy stem blight Late (Irish) blight Powdery mildew	EU: Candidates for substitution

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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/UK: No authorisations in place
		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
Dimethomorph	<b>40</b>	Alternaria leaf blight	EU: Under review
		Anthracnose	
		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/UK: No authorisations in place
		Pink mould rot	
		Rhizopus rot	
Hydrogen peroxide +peroxyacetic acid	<b>M</b>	Powdery mildew	
Imazalil	<b>3</b>	Fusarium fruit rot	EU: Under review -data gaps identified. Withdrawal of many EU MRLs proposed
		Pink mould rot	

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Active Constituents	Chemical Group	Problem	Comments
Iodine	<b>M</b>	Bactericide Fungi	
Mancozeb	<b>M3</b>	Alternaria leaf blight Anthracnose Downy mildew Gummy stem blight Powdery mildew Septoria spot	<a href="#">APVMA: nominated for review</a> Canada: Many uses cancelled Codex: To be reviewed EU/UK: No authorisations in place
Metalaxyl/Metalaxyl-M	<b>4</b>	Alternaria leaf blight Anthracnose Damping off Downy mildew Gummy stem blight Phytophthora soil fungus (Dieback)	<u>Metalaxyl</u> EU: Candidate for substitution <u>Metalaxyl-M</u> EU: Restricted use approval
Metiram	<b>M3</b>	Downy mildew Gummy stem blight	<a href="#">APVMA: nominated for review</a> Canada: Only foliar use on potato Codex: To be reviewed EU/UK: No authorisations in place
Metrafenone	<b>U8</b>	Powdery mildew	
Oxadixyl	<b>4</b>	Anthracnose Downy mildew Gummy stem blight	EU/UK: No authorisations in place
Oxathiapiprolin	<b>49</b>	Downy mildew	
Penthiopyrad	<b>7</b>	Grey mould Gummy stem blight Powdery mildew	
Phosphorous acid	<b>33</b>	Downy mildew	
Propamocarb HCl	<b>28</b>	Downy mildew	
Propineb	<b>M3</b>	Anthracnose Downy mildew Gummy stem blight	<a href="#">APVMA: nominated for review</a> EU/UK: No authorisations in place Codex: To be reviewed

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Active Constituents	Chemical Group	Problem	Comments
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/UK: No authorisations 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/UK: No authorisations in place USA: Registration cancelled
Zineb	<b>M3</b>	Anthracnose	<a href="#">APVMA: nominated for review</a>
		Downy mildew	Codex: To be reviewed EU/UK: No authorisations in place

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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/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.

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