

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Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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

## Brassica vegetable regulatory risk assessment

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

Active Constituents	Chemical Group	Problem	Comments
<b>INSECT AND OTHER PESTS</b>			
Abamectin	<b>6</b>	Leafminers (PER81876)	APVMA: Nominated for spray drift label review Canada: Some uses amended, others cancelled EU: Use restricted to permanent greenhouses
Acephate	<b>1B</b>	Cabbage aphid	<a href="#">APVMA: nominated for review</a> Canada: Review completed continued use acceptable with risk mitigation EU: No authorisation in place USA: Under review
		Cabbage white butterfly	
		Diamondback moth	
		Helicoverpa	
Afidopyropen	<b>9D</b>	Cabbage aphid	EU: No authorisations
		Cotton aphid	
		Currant lettuce aphid	
		Green peach aphid	
		Silverleaf (Poinsettia) whitefly	
Alpha-cypermethrin	<b>3A</b>	Australian plague locust	EU: No authorisation UK: No authorisation
		Cabbage cluster caterpillar	
		Cabbage white butterfly	
		Diamondback moth	
		Helicoverpa	
		Spur-throated locust	
		Staphylinid beetles	
Amorphous silica	-	Helicoverpa	

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Active Constituents	Chemical Group	Problem	Comments
Beta-cyfluthrin	3A	Aphids	EU: No authorisation in place
		Australian plague locust	
		Bugs	
		Caterpillars	
		Diamondback moth	
		Garden weevil	
		Lace bugs	
		Mealybugs	
		Passionvine hopper	
		Spur-throated locust	
		Thrips	
Whiteflies			
Bifenthrin	3A	Silverleaf (Poinsettia) whitefly	Canada: Not authorised EU: Not authorised
		Symphylids	
<i>B thuringiensis</i>	11A	Cabbage centre grub	EU: Under review for renewal
		Cabbage cluster caterpillar	
		Cabbage white butterfly	
		Diamondback moth	
		Helicoverpa	
		Loopers	

### Brassica vegetable regulatory risk assessment

Active Constituents	Chemical Group	Problem	Comments
Chlorantraniliprole	28	Cabbage centre grub	
		Cabbage cluster caterpillar	
		Cabbage white butterfly	
		Diamondback moth	
		Helicoverpa	
		Soybean looper	
Chlorantraniliprole +thiamethoxam	28 + 4A	Brown sowthistle aphid (PER87809 Qld only)	<p><u>Thiamethoxam</u>  <a href="#">APVMA: Under review</a>                      Canada: Some field uses cancelled or amended                      EU: Not authorised                      USA: Re-registration with new risk mitigation measures</p>
		Cabbage aphid	
		Cabbage centre grub	
		Cabbage cluster caterpillar	
		Cabbage white butterfly	
		Diamondback moth	
		Green peach aphid	
		Green vegetable bug	
		Greenhouse whitefly	
		Helicoverpa	
		Leafhoppers (PER87809 Qld only)	
		Onion thrips	
		Psyllids (PER87809 Qld only)	
		Silverleaf (Poinsettia) whitefly	
		Soybean looper	
Western flower thrips			

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Active Constituents	Chemical Group	Problem	Comments
Chlorpyrifos	1B	African black beetle	<a href="#">APVMA: Under review.</a> Codex: All Codex MRLs deleted Canada: Cancellation of all uses. EU: No authorisation in place USA: EPA decision to cancel use on food crops
		Black Field crickets/Field Crickets	
		Blue oat mite	
		Cabbage aphid	
		Cabbage cluster caterpillar	
		Cabbage white butterfly	
		Cutworms	
		Diamondback moth	
		False wireworm	
		Helicoverpa	
		Mole crickets	
		Redlegged earth mite	
		Spur-throated locust	
		Wingless grasshopper	
		Australian plague locust(Cabbages)	
		Small plague grasshopper(Cabbages)	
		Spotted vegetable weevil(PER14596)	
		Vegetable beetle(PER14596)	
Cypermethrin	3A	Australian plague locust	EU: Candidate for substitution
		Cabbage cluster caterpillar	
		Cabbage white butterfly	
		Diamondback moth	
		Helicoverpa	
		Spur-throated locust	

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Active Constituents	Chemical Group	Problem	Comments
Cyromazine	17	Leafminers (PER81867 Broccoli only)	EU: No authorisation in place
Deltamethrin	3A	Cabbage centre grub	
		Cabbage white butterfly	
		Diamondback moth	
Diazinon	1B	Cabbage aphid	<a href="#">APVMA: Under review</a> EU: No authorisation in place Codex: Withdrawal of Codex MRLs recommended
		Cabbage centre grub	
		Cabbage cluster caterpillar	
		Cabbage white butterfly	
		Diamondback moth	
		Green peach aphid	
		Loopers	
Dimpropridaz	36	Cabbage aphid	Codex: Evaluation for MRLs scheduled for 2025 EU: Authorisation pending
		Green peach aphid	
Emamectin benzoate	6	Cabbage cluster caterpillar	EU: Candidate for substitution
		Cabbage white butterfly	
		Diamondback moth	
		Helicoverpa	
		Loopers	
		Leafminers (PER87563)	
Esfenvalerate	3A	Cabbage centre grub	EU: Candidate for substitution
		Cabbage white butterfly	
		Diamondback moth	

### Brassica vegetable regulatory risk assessment

Active Constituents	Chemical Group	Problem	Comments
Fenitrothion	1B	Australian plague locust	<a href="#">APVMA: Under review</a> EU: No authorisation
		Migratory locust	
		Wingless grasshopper	
		Spur-throated locust (Cabbages)	
Fipronil	2B	Cabbage cluster caterpillar	<a href="#">APVMA: Under review</a> Codex: Re-evaluation completed, many MRLs withdrawn EU: No authorisation in place USA: Under review
		Cabbage white butterfly	
		Diamondback moth	
Flubendiamide	28	Cabbage cluster caterpillar	
		Cabbage white butterfly	
		Diamondback moth	
		Helicoverpa	
		Loopers	
		Soybean looper	
Gamma-cyhalothrin	3A	Australian plague locust	EU: Candidate for substitution
		Cabbage cluster caterpillar	
		Cabbage white butterfly	
		Diamondback moth	
		Spur-throated locust	
Helicoverpa NPV	-	Helicoverpa	
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
		Onion thrips	
		Silverleaf (Poinsettia) whitefly	
		Turnip aphid	
		Cabbage aphid(Broccoli)	

### Brassica vegetable regulatory risk assessment

Active Constituents	Chemical Group	Problem	Comments
Indoxacarb	22A	Cabbage centre grub	Canada: No authorisations EU: No authorisation UK: Proposed non-renewal
		Cabbage cluster caterpillar	
		Cabbage white butterfly	
		Diamondback moth	
		Helicoverpa	
Isocloseram	30	Diamondback moth	EU: No authorisation
		Cabbage white butterfly	
		Heliothis spp. (Suppression)	
Lambda-cyhalothrin	3A	Australian plague locust	EU: Candidate for substitution
		Cabbage cluster caterpillar	
		Cabbage white butterfly	
		Diamondback moth	
		Spur-throated locust	
Malathion/Maldison	1B	Australian plague locust	<a href="#">APVMA: Under review</a> Codex: Re-evaluation scheduled for 2025/26 EU: Restricted use to permanent greenhouses
		Redlegged earth mite	
		Thrips	
		28 spotted ladybird (Cabbages & cauliflower)	
		Aphids (Cabbages & cauliflower)	
		Green vegetable bug (Cabbages & cauliflower)	
		Jassids (Cabbages & cauliflower)	
		Leafhoppers (Cabbages & cauliflower)	
		Spur-throated locust (Cabbages & cauliflower)	
		Cabbage white butterfly (Cabbages)	

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Active Constituents	Chemical Group	Problem	Comments
Methomyl	1A	Australian cabbage looper	<a href="#">APVMA: nominated for review</a> Canada: Re-evaluation completed. Majority of uses removed EU: No authorisations in place USA: Under review
		Cabbage centre grub	
		Cabbage cluster caterpillar	
		Cabbage white butterfly	
		Helicoverpa	
		Loopers	
		Green vegetable bug	
Permethrin	3A	Cabbage cluster caterpillar	Codex: Re-evaluation scheduled. Support uncertain EU: No authorisation
		Cabbage white butterfly	
		Diamondback moth	
Petroleum oil	UNM	Green mirid	
		Mites	
		Thrips	
Phorate	1B	Aphids	<a href="#">APVMA: nominated for review</a> Canada: Under review EU: No authorisation in place
		Jassids	
		Thrips	
		Two spotted mite	
Pirimicarb	1A	Cabbage aphid	Codex: JMPR re-evaluation scheduled EU: Candidate for substitution
		Green peach aphid	
Prothiofos	1B	Cabbage centre grub (not cauliflower)	Codex: No MRLs EU: No authorisation in place
		Cabbage cluster caterpillar(not cauliflower)	
		Cabbage white butterfly(not cauliflower)	
		Diamondback moth(not cauliflower)	
		Helicoverpa(not cauliflower)	

### Brassica vegetable regulatory risk assessment

Active Constituents	Chemical Group	Problem	Comments
Pymetrozine	9B	Cabbage aphid	Canada: Restricted use to glasshouses only Codex: No registrant support EU: Not authorised
		Green peach aphid	
		Silverleaf (Poinsettia) whitefly	
Pyrethrin	3A	Mealybugs	Canada: Under review Codex: Under review
		Scale insects	
		Whiteflies	
		Ants	
		Caterpillars	
		Diamondback moth	
		Earwig	
		Leafhoppers	
		Thrips	
		Two spotted mite	
Pyriproxyfen	7C	Silverleaf (Poinsettia) whitefly (PER84261)	EU: Authorisation renewed
Spinosad	5	Fall armyworm (PER89870)	
		Leafminers (PER90928)	
Spinetoram	5	Cabbage centre grub	
		Cabbage cluster caterpillar	
		Cabbage white butterfly	
		Diamondback moth	
		Helicoverpa	
		Leafminers (PER91155)	
		Loopers	
		Melon thrips	
Western flower thrips			

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Active Constituents	Chemical Group	Problem	Comments
Spirotetramat	23	Cabbage aphid	
		Diamondback moth	
		Green peach aphid	
		Silverleaf (Poinsettia) whitefly	
Sulfoxaflor	4C	Aphids	USA: Pollinator concerns EU: Restricted to permanent glasshouses only
		Cabbage aphid	
		Green peach aphid	
		Greenhouse whitefly	
		Turnip aphid	
Tau-fluvalinate	3A	Cabbage white butterfly (Cauliflower)	
		Diamondback moth (Cauliflower)	
		Helicoverpa (Cauliflower)	
Thiodicarb	1A	Cabbage cluster caterpillar (Cauliflower)	EU: No authorisations
Trichlorfon	1B	Cutworms	<a href="#">APVMA: nominated for review</a> Codex: No MRLs EU: No authorisations USA: No MRLs
Zeta-cypermethrin	3A	Cabbage cluster caterpillar	EU: No authorisations
		Cabbage white butterfly	
		Diamondback moth	
		Helicoverpa	

### Brassica vegetable regulatory risk assessment

Active Constituents	Chemical Group	Problem	Comments
<b>DISEASES</b>			
Amisulbrom + Copper	<b>21 + M1</b>	Downy mildew	<u>Copper</u> EU: Candidates for substitution
		White blister	
Azoxystrobin	<b>11</b>	Alternaria leaf spots	Canada: Review proposed
		Sclerotinia rot (white rot)	
		White blister	
Azoxystrobin + oxathiapiprolin	<b>11 + 49</b>	Alternaria leaf spots	
		Downy mildew	
		Sclerotinia rot (white rot)	
		White blister	
Boscalid	<b>7</b>	Sclerotinia rot (white rot)	Canada: Review initiated
Chlorothalonil	<b>M5</b>	Ring spot	<a href="#">APVMA: nominated for review</a> Canada: Cancellation of uses proposed EU: No authorisation in place USA: Under review
Copper	<b>M1</b>	Alternaria leaf spots	EU: Candidates for substitution
		Black rot	
		Downy mildew	
		Papery leaf spot	
		Ring spot	
		White blister	
Cyazofamid	<b>21</b>	White blister (Broccoli)	Canada: Review initiated
Fluazinam	<b>29</b>	Club root	Canada: Under review

### Brassica vegetable regulatory risk assessment

Active Constituents	Chemical Group	Problem	Comments
Fludioxonil +metalaxyl-M	12 + 4	Rhizoctonia	<u>Fludioxonil</u> EU: Under review, & candidate for substitution <u>Metalaxyl-M</u> EU: Restricted use approval
		Damping off(PER14352)	
Fluopicolide +propamocarb HCl	28 + 43	Downy mildew	<u>Fluopicolide</u> EU: Candidate for substitution
		White blister	
Hydrogen peroxide +peroxyacetic acid	M	Downy mildew	
		White blister	
Iprodione	2	Rhizoctonia(PER14051–Broccoli)	Canada: Majority of food crop uses deleted Codex: Review scheduled EU: No authorisation in place USA: Proposed deletion or restriction of uses
Mancozeb	M3	Alternaria leaf spots	<a href="#">APVMA: nominated for review</a> Canada: Many uses cancelled Codex: To be reviewed 2024/25 EU: Authorisation not renewed
		Downy mildew	
		Papery leaf spot	
		Ring spot	
Mancozeb +metalaxyl-M	M3 + 4	Downy mildew	<u>Mancozeb</u> <a href="#">APVMA: nominated for review</a> Canada: Many uses cancelled Codex: To be reviewed 2024/25 EU: Authorisation not renewed <u>Metalaxyl</u> EU: Candidate for substitution
		White blister(PER14045)	
Metalaxyl/metalaxyl-M	4	Phytophthora	<u>Metalaxyl</u> EU: Candidate for substitution <u>Metalaxyl-M</u> EU: Restricted use approval
		Damping off	
Metiram	M3	Downy mildew	<a href="#">APVMA: nominated for review</a> Canada: Only foliar use on potato Codex: To be reviewed 2024/25 EU: Under review
		Ring spot	

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Active Constituents	Chemical Group	Problem	Comments
Oxathiapiprolin	49	Downy mildew	
Penconazole	3	Ring spot (Brussels sprouts)	<a href="#">APVMA: nominated for review</a>
Penthiopyrad	7	Grey mould	
		Powdery mildew	
		Sclerotinia rot (white rot)	
Phosphorous acid	33	Downy mildew(PER11951)	
Triadimenol	3	Ring spot	<a href="#">APVMA: nominated for review</a> <a href="#">Canada:</a> No authorisation in place EU: No authorisation in place USA: Registration cancelled
Zineb	M3	Cercospora leaf spot (Cabbages & cauliflower)	<a href="#">APVMA: nominated for review</a> Codex: To be reviewed 2024/25
		Downy mildew (Cabbages & cauliflower)	EU: No authorisation in place

## Brassica vegetable regulatory risk assessment

Active Constituents	Chemical Group	Comment
<b>WEEDS</b>		
Chlorthal-dimethyl	<b>3</b>	EU: No authorisation in place
Clethodim (PER82459)	<b>1</b>	Codex: MRLs proposed for deletion
Fluazifop-P	<b>1</b>	
Metolachlor/S-metolachlor	<b>15</b>	EU: Proposed non-renewal
Oxyfluorfen	<b>14</b>	
Pendimethalin	<b>3</b>	EU: Candidate for substitution
Propachlor	<b>15</b>	EU: No authorisation in place
Quizalofop P (Cabbages)	<b>1</b>	Canada: Under re-evaluation. EU: Candidate for substitution
Sethoxydim	<b>1</b>	EU: No authorisation in place
Trifluralin	<b>3</b>	EU: No authorisation in place
<b>Plant growth regulators</b>		
1-methylcyclopropene (Broccoli & Cabbages)		Post-harvest

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