

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Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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

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<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	APVMA: Nominated for spray drift label review
		Leafminers (PER81876)	Canada: Some uses amended, others cancelled EU: Use restricted to permanent greenhouses
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>	Plague thrips	EU: No authorisation
		Redlegged earth mite	UK: No authorisation
		Vegetable weevil	
<i>B thuringiensis</i> aizawai	<b>11A</b>	Cabbage white butterfly(PER87670)	EU: Under review for renewal
		Diamondback (Cabbage) moth(PER87670)	
		Helicoverpa(PER87670)	
		Soybean looper(PER87670)	
		Vegetable looper(PER87670)	

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

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Active Constituents	Chemical Group	Problem	Comments
Chlorantraniliprole + thiamethoxam		Soybean looper	
		Vegetable leafhopper	
		Western flower thrips	
		Leafminers including Vegetable, Serpentine and American leafminer(PER91161)	
Chlorpyrifos	<b>1B</b>	Blue oat mite	<a href="#">APVMA: Under review.</a> Codex: All Codex MRLs deleted Canada: Cancellation of all uses. EU: No authorisation in place USA: Cancellation of uses
		Field crickets	
		Mole crickets	
		Redlegged earth mite	
		Vegetable weevil	
		African black beetle(PER14583)	
		False wireworm(PER14583)	
		Wireworm(PER14583)	
Dimpropridaz	<b>36</b>	Cabbage aphid	Codex: Evaluation for MRLs scheduled for 2025
		Green peach aphid	EU: Authorisation pending
Emamectin benzoate	<b>6</b>	Cabbage white butterfly(PER14907)	EU: Candidate for substitution
		Cluster caterpillar(PER14907)	
		Diamondback (Cabbage) moth(PER14907)	
		Helicoverpa(PER14907)	
		Loopers(PER14907)	
		Vegetable looper(PER14907)	

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Active Constituents	Chemical Group	Problem	Comments
Flubendiamide	28	Cabbage white butterfly	
		Cluster caterpillar	
		Diamondback (Cabbage) moth	
		Helicoverpa	
		Soybean looper	
Helicoverpa NPV	31	Helicoverpa	
Imidacloprid	4A	Aphids(PER14584)	<a href="#">APVMA: Under review</a> Canada: Field uses cancelled or amended EU: No authorisation USA: Re-registration with new risk mitigation measures
		Whiteflies(PER14584)	
		Thrips(PER14584) (Except Western flower thrips)	
Indoxacarb	22A	Helicoverpa	Canada: No authorisations EU: No authorisation UK: Proposed non-renewal
		Fall armyworm(Chinese leafy vegetables) (PER89278)	
Methomyl	1A	Fall armyworm(PER89293)	<a href="#">APVMA: nominated for review</a> Canada: Re-evaluation completed. Majority of uses removed EU: No authorisations in place USA: Under review
Isocloseram	30	Diamondback moth	EU: No authorisation
		Cabbage white butterfly	
		Heliothis spp. (Suppression)	
Petroleum oil	-	Aphids	
		Green mirid	
		Green vegetable bug	
		Grey cluster bug	
		Leafhoppers	
		Mites	
		Rutherglen bug	
Thrips			

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Pirimicarb	1A	Cabbage aphid	Codex: JMPR re-evaluation scheduled EU: Candidate for substitution
		Green peach aphid	
Pymetrozine	9B	Cotton aphid	Canada: Restricted use to glasshouses only Codex: No registrant support EU: Not authorised
		Potato aphid	
Pyrethrins	3A	Ants	Canada: Under review
		Caterpillars	Codex: Under review
		Diamondback (Cabbage) moth	
		Earwig	
		Leafhoppers	
		Thrips	
		Two-spotted (Red spider) mite	
Whitefly			
Spinetoram	5	Cabbage cluster caterpillar	
		Cabbage white butterfly	
		Cabbage-centre grub	
		Caterpillars	
		Cluster caterpillar	
		Diamondback (Cabbage) moth	
		Helicoverpa	
		Loopers	
		Western flower thrips	
		Leafminers (PER91155)	

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Spinosad	5	Cabbage cluster caterpillar	
		Cabbage white butterfly	
		Cabbage-centre grub	
		Diamondback (Cabbage) moth	
		Helicoverpa	
		Loopers	
		Western flower thrips	
		Fall armyworm(PER89870)	
		Leafminers (PER90928)	
Spirotetramat	23	Cabbage aphid	
		Green peach aphid	
		Silverleaf (Poinsettia) whitefly	
Spodoptera Nucleopolyhedrovirus (NPV)	31	Fall armyworm(PER90820)	
Sulfoxaflor	4C	Brown sowthistle aphid	USA: Pollinator concerns
		Green peach aphid	EU: Restricted to permanent glasshouses only
		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	<b>11</b>	Alternaria leaf spots	Canada: Review proposed
		Sclerotinia rot	
		White blister	
Azoxystrobin + oxathiapiprolin	<b>11 + 49</b>	Alternaria leaf spots	
		Downy mildew	
		Sclerotinia rot	
<i>B. amyloliquefaciens</i>	<b>BM02</b>	Bacterial spot(PER87630)	Canada: Review complete. Continued use
Boscalid	<b>7</b>	Sclerotinia rot	Canada: Review initiated
Chlorothalonil	<b>M5</b>	Grey mould	<a href="#">APVMA: nominated for review</a>
		Alternaria spot/blight(PER82895)	Canada: Cancellation of uses proposed
		Downy mildew(PER82895)	EU: No authorisation USA: Under review
Copper	<b>M1</b>	Anthracnose	EU: Candidates for substitution
		Downy mildew	
Cyprodinil +fludioxonil	<b>9 + 12</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>	Ring spot(PER87973)	<a href="#">APVMA: nominated for review</a>
		Alternaria leaf spots(PER87973)	EU: Candidate for substitution USA: Under review



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Active Constituents	Chemical Group	Problem	Comments
Dimethomorph + mancozeb	40 + M3	Downy mildew (PER14958)	<u>Dimethomorph</u> EU: Under review <u>Mancozeb:</u> <a href="#">APVMA: nominated for review</a> Canada: Many uses cancelled Codex: To be reviewed 2024/25 EU: No Authorisation
		White blister (PER14958)	
Fludioxonil + pydiflumetofen	12 + 7	Grey mould	<u>Fludioxonil:</u> EU: Currently under reviewed & Candidate for substitution <u>Pydiflumetofen</u> EU: Authorisation pending
		Sclerotinia rot	
Fluopicolide +propamocarb HCl	28 + 43	Downy mildew	<u>Fluopicolide:</u> EU: Candidate for substitution
Iodine	M	Bactericide	
Iprodione	2	Grey mould	Canada: Majority of food crop uses deleted Codex: Under review EU: No authorisation in place USA: Proposed deletion or restriction of uses
		Sclerotinia rot	
Mancozeb	M3	Downy mildew	<a href="#">APVMA: nominated for review</a> Canada: Many uses cancelled Codex: To be reviewed 2024/25 EU: No authorisation
		Septoria leaf spot	
		Anthracoise(PER80538)	
Mandipropamid	40	Downy mildew	
Metalaxyl/metalaxyl-M	4	Downy mildew	<u>Metalaxyl</u> EU: Candidate for substitution <u>Metalaxyl-M</u> EU: Restricted use approval
Oxathiapiprolin	49	Downy mildew	
Penthiopyrad	7	Grey mould	
		Powdery mildew	
		Sclerotinia rot	

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Active Constituents	Chemical Group	Problem	Comments
Phosphorous acid	33	Damping off(PER14184)	
		Downy mildew(PER14184)	
Potassium bicarbonate	M2	Powdery mildew (PER13695)	EU: No authorisation in place
Zineb	M3	Cercospora leaf spot(PER10845)	<a href="#">APVMA: nominated for review</a>
		Downy mildew (PER10845)	Codex: To be reviewed 2024/25 EU: No authorisation in place

Active Constituents	Chemical Group	Comment
<b>WEEDS</b>		
Chlorthal-dimethyl	3	EU: No authorisation in place
Clethodim (PER82459)	1	Codex: MRLs proposed for deletion
Fluazifop-P (PER81244)	1	
Pendimethalin	3	EU: Candidate for substitution
Propachlor (PER12008)	15	EU: No authorisation in place
S-metolachlor	15	EU: Proposed non-renewal

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