

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Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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

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<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>	Western flower thrips	APVMA: Nominated for spray drift label review 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 whiteflies	
Alpha-cypermethrin	<b>3A</b>	Helicoverpa	EU: No authorisation
		Australian plague locust(PER10927)	UK: No authorisation
		Spur-throated locust(PER10927)	
		Redlegged earth mite (PER13301)	
		Vegetable weevil(PER13301)	
<i>B thuringiensis (a/k)</i>	<b>11A</b>	Cabbage white butterfly	EU: Renewal underway
		Armyworm	
		Caterpillars	
		Diamondback (Cabbage) moth	
		Helicoverpa	
		Loopers	
		Soybean looper	
<i>B thuringiensis (i)</i>	<b>11A</b>	Fungus gnats(PER14694)	EU: Under review
Bifenazate	<b>20D</b>	Two-spotted (Red spider) mite(PER14210)	Canada: Review initiated EU: Use restricted to non-edible crops in permanent greenhouses.
Buprofezin	<b>16</b>	Greenhouse whitefly (PER82467)	EU: MRLs set to limit of quantification
		Jassids/Leafhoppers(PER82467)	

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Active Constituents	Chemical Group	Problem	Comments
Carbaryl	1A	Vegetable weevil	Canada: Reviewed, large number of uses deleted Codex: Review scheduled, support uncertain EU: Authorisation not renewed USA: Under review
Chlorantraniliprole	28	Helicoverpa	
Chlorantraniliprole + thiamethoxam	4A + 28	Brown sowthistle aphid	Thiamethoxam <a href="#">APVMA: Under review</a>
		Cluster caterpillar	Canada: Some field uses cancelled or amended
		Currant lettuce aphid	EU: Not authorised
		Green peach aphid	USA: Re-registration with new risk mitigation measures
		Helicoverpa	
		Loopers	
		Lucerne leafroller	
		Silverleaf whiteflies	
		Vegetable leafhopper	
		Western flower thrips	
		Leaf miners(PER91161)	
Chlorpyrifos	1B	Blue oat mite	<a href="#">APVMA: Under review.</a>
		Redlegged earth mite	Codex: All MRLs revoked
		Spotted vegetable weevil	Canada: Cancellation of all uses.
		Vegetable weevil	EU: No authorisation in place
		Australian plague locust(PER11843)	USA: EPA decision to cancel use on food crops
		Migratory locust(PER11843)	
		Spur-throated locust(PER11843)	
Diazinon	1B	Caterpillars	<a href="#">APVMA: Under review</a>
		Cutworms	EU: No authorisation in place Codex: Withdrawal of Codex MRLs recommended

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Active Constituents	Chemical Group	Problem	Comments
Dimpropridaz	36	Cabbage aphid	Codex: Evaluation for MRLs scheduled for 2025
		Green peach aphid	EU: Authorisation pending
Eco-Oil	-	Silverleaf whiteflies(PER14077)	
Emamectin benzoate	6	Cluster caterpillar	EU: Candidate for substitution
		Cucumber moth	
		Helicoverpa	
Fenitrothion	1B	Australian plague locust	<a href="#">APVMA: Under review</a> EU: No authorisation
		Migratory locust	
		Small plague locust	
		Spur-throated locust	
		Wingless grasshopper	
Fipronil	2B	Onion thrips(PER83203)	<a href="#">APVMA: Under review</a> Codex: Re-evaluation underway EU: No authorisation in place USA: Under review
		Western flower thrips(PER83203)	
Flubendiamide	28	Helicoverpa	
Helicoverpa NPV	-	Helicoverpa	
Imidacloprid	4A	Currant lettuce aphid	<a href="#">APVMA: Under review</a> Canada: Field uses cancelled or amended EU: No authorisation USA: Re-registration with new risk mitigation measures
		Greenhouse whitefly(PER10918)	
		Silverleaf whiteflies(PER12351)	
Indoxacarb	22	Helicoverpa	Canada: No authorisations EU: No authorisations. UK: Proposed non-renewal

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Active Constituents	Chemical Group	Problem	Comments
Malathion/Maldison	<b>1B</b>	28-spotted potato ladybird	<a href="#">APVMA: Under review</a>
		Aphids	Codex: Re-evaluation scheduled for 2025/26
		Cabbage white butterfly	EU: Restricted use to permanent greenhouses
		Diamondback (Cabbage) moth	
		Green vegetable bug	
		Jassids/Leafhoppers	
		Redlegged earth mite	
		Rutherglen bug	
		Thrips	
		Australian plague locust(PER11843)	
		Migratory locust(PER11843)	
		Spur-throated locust(PER11843)	
Methomyl	<b>1A</b>	Cluster caterpillar	<a href="#">APVMA: nominated for review</a>
		Helicoverpa	Canada: Re-evaluation completed. Majority of uses removed
		Western flower thrips	EU: No authorisations in place USA: Under review
Permethrin	<b>3A</b>	Cluster caterpillar	Codex: Re-evaluation scheduled. Support uncertain EU: No authorisation
Petroleum oil	<b>UNM</b>	Aphids (PER12221)	
		Green mirid (PER12221)	
		Green vegetable bug (PER12221)	
		Greenhouse whitefly (PER12221)	
		Grey cluster bug (PER12221)	
		Jassids/Leafhoppers (PER12221)	
		Mites (PER12221)	
		Rutherglen bug (PER12221)	
Silverleaf whiteflies (PER12221)			
Thrips (PER12221)			
Pirimicarb	<b>1A</b>	Aphids	Codex: JMPR re-evaluation scheduled EU: Candidate for substitution
Potassium salts	<b>UN</b>	Greenhouse whitefly(PER13920)	
		Silverleaf whiteflies(PER13920)	

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Active Constituents	Chemical Group	Problem	Comments
Pymetrozine	9B	Brown sowthistle aphid	Canada: Restricted use to glasshouses only Codex: No registrant support EU: Not authorised
		Cotton aphid	
		Currant lettuce aphid	
		Green peach aphid	
		Potato aphid	
		Silverleaf whiteflies	
Pyrethrins	3A	Ants	Canada: Under review Codex: Under review
		Cabbage aphid	
		Cabbage white butterfly	
		Caterpillars	
		Diamondback (Cabbage) moth	
		Earwig	
		Greenhouse whitefly	
		Jassids/Leafhoppers	
		Plague thrips	
		Rutherglen bug	
		Thrips	
		Two-spotted (Red spider) mite	
		Whitefly	
Pyriproxyfen	7C	Silverleaf whiteflies	
Spinetoram	5	Caterpillars	
		Helicoverpa	
		Loopers	
		Western flower thrips	
		Leaf miners(PER91155)	
Spinosad	5	Helicoverpa	
		Loopers	
		Western flower thrips	
		Fall armyworm(PER89870)	
		Leaf miners(PER90928)	

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Spirotetramat	23	Brown sowthistle aphid	
		Currant lettuce aphid	
		Green peach aphid	
		Silverleaf whiteflies	
		Leaf miners(PER88640)	
Spodoptera (NPV)	31	Fall armyworm(PER90820)	
Sulfoxaflor	4C	Brown sowthistle 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

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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>	Sclerotinia rot Base rot/Bottom rot	Canada: Review proposed
Azoxystrobin + oxathiapiprolin	<b>11 + 49</b>	Alternaria leaf spots	
	<b>11 + 49</b>	Downy mildew	
	<b>11 + 49</b>	Sclerotinia rot	
<i>B. amyloliquefaciens</i>	<b>BM02</b>	Bacterial spot(PER87630)	Canada: Review completed. Continued use
Boscalid	<b>7</b>	Sclerotinia rot	Canada: Review initiated
Captan		Botrytis/Grey mould(PER14326)	EU: Under review proposed restriction to use in permanent greenhouses only USA: Under review
Chlorothalonil	<b>M5</b>	Anthraco-nose(PER14964)	<a href="#">APVMA: nominated for review</a> Canada: Cancellation of uses proposed EU: No authorisation in place USA: Under review
Copper	<b>M1</b>	Anthraco-nose	EU: Candidates for substitution
		Bacterial spot	
		Downy mildew	
		Dry leaf spot	
Cyprodinil + fludioxonil	<b>9 + 12</b>	Anthraco-nose	<u>Cyprodinil:</u> Canada: under reviewed EU: Candidate for substitution <u>Fludioxonil:</u> EU: Under reviewed & Candidate for substitution
		Botrytis/Grey mould	
		Sclerotinia rot	
Dimethomorph	<b>40</b>	Anthraco-nose	EU: Under review
		Septoria leaf spot	
		Downy mildew(PER14958)	
Fenhexamid	<b>17</b>	Botrytis/Grey mould	

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Active Constituents	Chemical Group	Problem	Comments
Fludioxonil + pydiflumetofen	12 + 7	Botrytis/Grey mould	<u>Fludioxonil</u> : EU: Under reviewed & Candidate for substitution
		Sclerotinia rot	<u>Pydiflumetofen</u> : EU: Authorisation pending
Fluopicolide +propamocarb HCl	28 + 43	Downy mildew	<u>Fluopicolide</u> EU: Candidate for substitution
Fluopyram + trifloxystrobin	7 + 11	Sclerotinia rot	
Iprodione	2	Botrytis/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	Anthracnose	<a href="#">APVMA: nominated for review</a>
		Downy mildew	Canada: Many uses cancelled Codex: To be reviewed 2024/25
		Septoria leaf spot	EU: Authorisation not renewed
Mandestrobin	11	Sclerotinia rot	
Mandipropamid	40	Downy mildew	
Metalaxyl/metalaxyl-M Metalaxyl-M	4	Downy mildew	<u>Metalaxyl</u> EU: Candidate for substitution
	4	Damping off	<u>Metalaxyl-M</u> EU: Restricted use approval
Metiram	M3	Downy mildew(PER14318)	<a href="#">APVMA: nominated for review</a>
		Septoria leaf spot	Canada: All foliar uses, except on potato, cancelled Codex: To be reviewed 2024/25 EU: Under review
Oxadixyl +propineb	4 + M3	Downy mildew	<u>Oxadixyl</u> : EU: No authorisations
			<u>Propineb</u> <a href="#">APVMA: nominated for review</a> Codex : To be reviewed 2024/25 EU: No authorisation
Oxathiapiprolin	49	Downy mildew	

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Active Constituents	Chemical Group	Problem	Comments
Penthiopyrad	7	Powdery mildew	
		Sclerotinia rot	
Phosphorous acid	33	Downy mildew(PER13698)	
Potassium bicarbonate	M2	Powdery mildew(PER13695)	
Prochloraz	3	Anthrachnose(PER81131) (field only)	Codex: Periodic re-evaluation scheduled EU: No authorisation
Propineb	M3	Downy mildew	<a href="#">APVMA: nominated for review</a> Codex : To be reviewed 2024/25 EU: No authorisation
Pyrimethanil	9	Botrytis/Grey mould(PER12565)	Canada: review initiated
Tebuconazole	3	Sclerotinia rot	<a href="#">APVMA: nominated for review</a> Canada: Under review EU: Candidate for substitution USA: Under review
Thiram	M3	Botrytis/Grey mould	<a href="#">APVMA: nominated for review</a> Canada: Cancelled all foliar uses (2021) Codex: To be reviewed 2024/25 EU: No authorisation in place
		Septoria leaf spot	
		Anthrachnose	

## Leafy Lettuce Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical Group	Comment
<b>WEEDS</b>		
Chloridazon	<b>5</b>	EU: No authorisation in place
Chlorthal-dimethyl	<b>3</b>	EU: No authorisation in place
Clethodim	<b>1</b>	Codex: MRLs proposed for deletion
Fluazifop-P	<b>1</b>	
Haloxyfop-P (PER14959)	<b>1</b>	EU: No authorisation in place
Pendimethalin (PER81241)	<b>3</b>	EU: Candidate for substitution
Phenmedipham	<b>5</b>	EU: Currently under review
Propyzamide	<b>3</b>	EU: Under review
Sethoxydim	<b>1</b>	EU: No authorisation in place
<b>PLANT GROWTH REGULATORS</b>		
1-Methylcyclopropene		
Indole butyric acid (IBA)		

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