

## Carrot Agrichemical 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Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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 carrots 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>	Vegetable leafminer	APVMA: Nominated for spray drift label review Canada: Some uses amended and cancelled EU: Use restricted to permanent greenhouses
Afidopyropen	<b>9D</b>	Aphids (PER88430)	EU: No authorisations
		Carrot aphid (PER88430)	
		Green peach aphid (PER88430)	
<i>B. thuringiensis</i>	<b>11A</b>	Caterpillars	EU: Under review for renewal
Chlorpyrifos	<b>1B</b>	Black field cricket	<a href="#">APVMA: Under review.</a> Codex: All Codex MRLs revoked Canada: Cancellation of all uses. EU: No authorisation in place USA: EPA decision to cancel use on food crops
		Cutworms	
		Field crickets	
		Lightbrown apple moth	
		Mole crickets	
		Spotted vegetable weevil	
		Spur-throated locust	
		Vegetable weevil	
		Wingless grasshopper	
		Australian plague locust	
		Migratory locust	
		Cyromazine	

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Active Constituents	Chemical Group	Problem	Comments
Diazinon	1B	Caterpillars	<a href="#">APVMA: Under review</a>
		Cutworms	EU: No authorisation in place Codex: Withdrawal of Codex MRLs recommended
Emamectin benzoate	6	Cabbage white butterfly	EU: Candidate for substitution
		Cluster caterpillar	
		Diamondback (Cabbage) moth	
		Helicoverpa	
		Loopers	
Fipronil	2B	Symphylids	<a href="#">APVMA: Under review</a>
	2B	White fringed weevil (PER86665)	Codex: Re-evaluation underway EU: No authorisation in place USA: Under review
Fluazaindolizine	N-UN	Root knot nematode	EU: Authorisation pending
Flubendiamide	28	Cabbage white butterfly	
		Cluster caterpillar	
		Diamondback (Cabbage) moth	
		Helicoverpa	
		Potato moth (Leafminer)	
Fluensulfone		Root knot nematode	EU: No authorisations
Imidacloprid	4A	Aphids (PER10918)	<a href="#">APVMA: Under review</a>
		Carrot aphid (PER10918)	Canada: Field uses cancelled or amended
		Fennel aphid (PER10918)	EU: No authorisation
		Green peach aphid (PER10918)	USA: Re-registration with new risk mitigation measures

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Active Constituents	Chemical Group	Problem	Comments
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
		Aphids	
		Australian plague locust	
		Cabbage white butterfly	
		Diamondback (Cabbage) moth	
		Green vegetable bug	
		Jassids	
		Leafhoppers	
		Migratory locust	
		Redlegged earth mite	
		Rutherglen bug	
		Spur-throated locust	
		Thrips	
Methomyl	1A	Cluster caterpillar	APVMA: nominated for review Canada: Re-evaluation completed. Majority of uses removed EU: No authorisations in place USA: Under review
		Cucumber moth	
		Helicoverpa	
		Loopers	
		Rutherglen bug	
		Thrips	
		Webworms	
		Western flower thrips	
Phorate	1B	Aphids	<a href="#">APVMA: nominated for review</a> Canada: Under review EU: No authorisation in place
		Carrot aphid	
		Jassids	
		Thrips	

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Propargite	12C	Two-spotted mites	<a href="#">APVMA: nominated for review</a>
		Spider mites	EU: No authorisations USA: Under review
Pyrethrins	3A	Caterpillars	Canada: Under review
		Leafhoppers	Codex: Under review
		Thrips	
Pyriproxyfen	7C	Ants	
Spinetoram	5	Caterpillars	
		Helicoverpa	
		Lightbrown apple moth	
		Loopers	
		Potato moth (Leafminer)	
Spinetoram	5	Tomato potato psyllid (PER84757)	
		Vegetable leafminer (PER91155)	
Spinosad	5	Helicoverpa	
		Lightbrown apple moth	
		Loopers	
		Potato moth (Leafminer)	
		Vegetable leafminer (PER90928)	
Spodoptera (NPV)	31	Fall armyworm (PER90820)	
Spodoptera (MNPV)	31	Fall armyworm (PER91477)	
Sulfoxaflor	4C	Green peach aphid	USA: Pollinator concerns EU: Restricted to permanent glasshouses only
Trichlorfon	1B	Cabbage white butterfly	<a href="#">APVMA: nominated for review</a>
		Cabbage moth	Codex: No MRLs
		Green vegetable bug	EU: No authorisations
		Rutherglen bug	USA: No MRLs

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Active Constituents	Chemical Group	Problem	Comments
<b>DISEASES</b>			
Azoxystrobin	<b>11</b>	Black rot	Canada: Review proposed
		Powdery mildew	
		Sclerotinia rot	
		Alternaria leaf spot	
		Leaf spot	
Azoxystrobin + difenoconazole	<b>11 + 3</b>	Leaf blight	<u>Difenoconazole</u> <a href="#">APVMA: nominated for review</a> EU: Candidate for substitution USA: Under review
		Powdery mildew	
Boscalid	<b>7</b>	Sclerotinia rot	Canada: Review initiated
Chlorothalonil	<b>M5</b>	Alternaria leaf 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 spot	EU: Candidates for substitution
		Cercospora leaf spot	
		Leaf diseases/spots	
		Leaf spot	
		Septoria leaf spot	
Difenoconazole	<b>3</b>	Alternaria leaf spot	<a href="#">APVMA: nominated for review</a> EU: Candidate for substitution USA: Under review
		Leaf spot	
		Powdery mildew	
Difenoconazole + pydiflumetofen	<b>3 + 7</b>	Early blight	<u>Difenoconazole:</u> <a href="#">APVMA: nominated for review</a> EU: Candidate for substitution USA: Under review <u>Pydiflumetofen:</u> EU: Authorisation pending
		Powdery mildew	
		Cercospora leaf spot	

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Active Constituents	Chemical Group	Problem	Comments
Iodine	<b>M</b>	Bactericide	
		Fungi	
Iprodione	<b>2</b>	Black rot (PER84955)	Canada: Majority of food crop uses deleted Codex: Under review EU: No authorisation in place USA: Proposed deletion or restriction of uses
Mancozeb	<b>M3</b>	Alternaria leaf spot	<a href="#">APVMA: nominated for review</a> Canada: Many uses cancelled Codex: To be reviewed 2024/25 EU: Authorisation not renewed
		Cercospora leaf spot	
		Leaf diseases/spots	
		Leaf spot	
		Septoria leaf spot	
		Powdery mildew	
Metalaxyl	<b>4</b>	Damping off	EU: Candidate for substitution
		Phytophthora soil fungus (Dieback)	
Metalaxyl/metalaxyl-M	<b>4</b>	Pythium diseases: soil borne	<u>Metalaxyl</u> EU: Candidate for substitution <u>Metalaxyl-M</u> EU: Restricted use approval
Metalaxyl /metalaxyl-M + Mancozeb	<b>4 + M3</b>	Phytophthora soil fungus (Dieback) (PER14045)	<u>Metalaxyl</u> EU: Candidate for substitution <u>Metalaxyl-M</u> EU: Restricted use approval <u>Mancozeb</u> <a href="#">APVMA: nominated for review</a> Canada: Many uses cancelled Codex: To be reviewed 2024/25 EU: Authorisation not renewed
		Pythium diseases: soil borne (PER14045)	

### Carrot Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical Group	Problem	Comments
Metiram	M3	Alternaria leaf spot	<a href="#">APVMA: nominated for review</a> Canada: Proposed cancelling of foliar uses other than potato Codex: To be reviewed 2024/25 EU: Under review
		Leaf spot	
Penthiopyrad	7	Alternaria leaf spot	
		Powdery mildew	
Phosphorous acid	33	Damping off (PER14184)	
		Downy mildew (PER14184)	
<i>Streptomyces lydicus</i> WYEC 108	BM02	Powdery mildew	
Tebuconazole	3	Powdery mildew (PER82461)	<a href="#">APVMA: nominated for review</a> Canada: Under review EU: Candidate for substitution USA: Under review
Thiram	M3	Damping off	<a href="#">APVMA: nominated for review</a> Canada: Cancelled all foliar uses (2021) Codex: To be reviewed 2024/25 EU: No authorisation in place
Zineb	M3	Alternaria leaf spot	<a href="#">APVMA: nominated for review</a> Codex: To be reviewed 2024/25 EU: No authorisation in place
		Cercospora leaf spot	



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Active Constituents	Chemical Group	Comment
<b>WEEDS</b>		
Chlorthal-dimethyl	<b>3</b>	EU: No authorisation in place
Clethodim	<b>1</b>	Codex: MRLs proposed for deletion(PER82459)
Fluazifop-P as butyl	<b>1</b>	
Glyphosate	<b>9</b>	Ongoing issues internationally(PER13305) EU: Under review
Linuron	<b>5</b>	Canada: Cancellation of many uses EU: No authorisation in place
Metribuzin	<b>5</b>	EU: Candidate for substitution(PER80169)
Pendimethalin	<b>3</b>	EU: Candidate for substitution
Prometryn	<b>5</b>	EU: No authorisation (PER12048)
Quizalofop-P	<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 REGULATOR</b>		
1-Methylcyclopropene		

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