

Beetroot 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Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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 require the generation of new data. A consequence of which can be that many of these chemicals 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 farm chemicals 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 prohibiting the use in the exporting country to ensure compliance, as breaches of MRLs would adversely affect market access.

The effects of the above are greater pressure placed on the availability and use of individual chemicals 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 beetroot as well as current initiatives aimed at addressing identified pest management deficiencies.

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

Active Constituents	Chemical Group	Problem	Comment
INSECT AND OTHER PESTS			
Abamectin	6	Vegetable leafminer (PER81876)	APVMA: Nominated for spray drift label review Canada: Some uses amended EU: Use restricted to permanent greenhouses
Carbaryl	1A	Armyworm	Canada: Reviewed, large number of uses deleted Codex: Review scheduled, support uncertain EU: Authorisation not renewed USA: Under review
		Budworm/Helicoverpa	
		Cabbage white butterfly	
		Cutworms	
		Diamondback moth	
		Earwigs	
		Green vegetable bug	
		Leaf eating Ladybirds	
		Potato moth	
		Pumpkin beetle	
		Rutherglen bugs	
		Vegetable weevil	
Wingless grasshopper			
Cyromazine	17	Leafminer species (PER81867)	EU: No authorisation

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Active Constituents	Chemical Group	Problem	Comment
Chlorpyrifos	1B	Black field cricket	APVMA: Under review. Codex: All Codex MRLs deleted Canada: Cancellation of all uses. EU: No authorisation in place USA: EPA decision to cancel use on food crops
		Cutworms	
		Earwigs	
		False wire worm	
		Field crickets	
		Mole crickets	
		Spotted vegetable weevil	
		Vegetable weevil	
		Wingless grasshopper	
Diazinon	1B	Webworms	APVMA: Under review EU: No authorisation in place Codex: JMPR recommendation to delete all Codex MRLs
Dimethoate	1B	Leafminer flies	Codex: No MRL EU: Not authorised
		Aphids	
		Green vegetable bug	
		Jassids/Leafhoppers	
		Mites	
		Red-legged earth mite	
		Thrips	
		Wingless grasshopper	
Emamectin benzoate	6	Budworm/Helicoverpa	EU: Candidate for substitution
		Cabbage white butterfly	
		Cluster caterpillar	
		Diamondback moth	
		Loopers	
Flubendiamide	28	Budworm/Helicoverpa	
		Cabbage white butterfly	
		Cluster caterpillar	
		Diamondback moth	
		Potato moth	

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Active Constituents	Chemical Group	Problem	Comment
Imidacloprid	4A	Aphids(PER81260)	APVMA: Under review Canada: Field uses cancelled or amended EU: No authorisation in place, grace period expired June 2022 USA: Re-registration with new risk mitigation measures
		Thrips(PER81260)	
Lambda-cyhalothrin	3A	Thrips (PER11949)	EU: Candidate for substitution
		Rutherglen bug (PER11949)	
		Vegetable Loopers (PER11949)	
		Vegetable weevil (PER11949)	
Methomyl	1A	Helicoverpa sp. (PER82428)	APVMA: nominated for review Canada: Re-evaluation completed. Majority of uses removed EU: No authorisations in place USA: Under review
		Cluster caterpillar (PER82428)	
		Loopers (PER82428)	
		Webworm (PER82428)	
		Rutherglen bugs (PER82428)	
		Thrips (PER82428)	
Nucleopolyhedrovirus (NPV)	31	Fall armyworm (PER91477/PER90820)	
Paraffinic oil/ petroleum oil	UNM	Jassids/Leafhoppers	
		Mites	
		Thrips	
		Aphids	
Pirimicarb	1A	Green peach aphid	Codex: JMPR re-evaluation scheduled EU: Candidate for substitution
Propargite	12C	Mites	APVMA: nominated for review EU: No authorisations USA: Under review
Pyriproxyfen	7C	Ants	
Pymetrozine	9B	Green peach aphid	Canada: Restricted use to glasshouses only Codex: No registrant support EU: Not authorised
		Potato aphid	

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Pyrethrins	3A	Ants	Canada: Under review Codex: Under review
		Aphids	
		Caterpillars	
		Leaf hoppers	
		Whitefly	
Spinetoram	5	Budworm/Helicoverpa	
		Lightbrown apple moth	
		Loopers	
		Potato moth	
		Tomato/potato psyllid (PER84757)	
		Vegetable leafminer (PER91155)	
Spinosad	5	Budworm/Helicoverpa	
		Cabbage centre grub	
		Cabbage white butterfly	
		Cluster caterpillar	
		Cucumber moth	
		Lightbrown apple moth	
		Loopers	
		Potato moth	
		Western flower thrips	
		Fall armyworm (PER89870)	
		Vegetable leafminer (PER90928)	
Sulfoxaflor	4C	Green peach aphid	USA: Pollinator concerns EU: Restricted to permanent glasshouses only
		Tomato/potato psyllid	
OTHER PESTS			
Chloropicrin + 1,3-dichloropropene	8B+-		EU: No authorisations
Fluazaindolizine		Root Knot nematodes	EU: Pending
Iron EDTA complex	-	Slugs and snails	
Metaldehyde	-	Slugs and snails	UK: Not authorised

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Active Constituents	Chemical Group	Problem	Comment
DISEASES			
Ametoctradin + dimethomorph	45 + 40	Downy mildew	<u>Dimethomorph</u> EU: Under review
Azoxystrobin + metalaxyl-M	11+ 4	Damping off / Pythium(PER90595)	<u>Azoxystrobin</u> Canada: Review proposed <u>Metalaxyl-M</u> EU: Restricted use approval
		Rhizoctonia(PER90595)	
Boscalid	7	Sclerotinia rot	Canada: Under review
Chlorothalonil	M5	Alternaria leaf spot(PER82895)	APVMA: nominated for review Canada: Cancellation of uses proposed EU: No authorisation in place USA: Under review
		Botrytis grey mould(PER82895)	
		Cercospora leaf spot(PER82895)	
		Phoma leaf spot(PER82895)	
Copper	M1	Downy mildew	EU: Candidates for substitution
		Rust	
Difenoconazole	3	Alternaria leaf spot	APVMA: nominated for review EU: Candidate for substitution USA: Under review
		Leaf spot	
Difenoconazole + pydiflumetofen	3 + 7	Early blight	<u>Difenoconazole:</u> APVMA: nominated for review EU: Candidate for substitution USA: Under review <u>Pydiflumetofen:</u> EU: Authorisation pending
		Powdery mildew	
		Cercospora leaf spot	
Dimethomorph	40	Alternaria leaf spot(PER14958)	EU: Under review
		Downy mildew(PER14958)	
Fludioxonil + sedaxane	12 + 7	Rhizoctonia	<u>Fludioxonil:</u> EU: Under review, & candidate for substitution
Iprodione	2	Alternaria leaf spot (PER81589)	Canada: Majority of food crop uses deleted Codex: Under review EU: No authorisation in place USA: Proposed deletion or restriction of uses
		Botrytis grey mould (PER81589)	
		Sclerotinia rot (PER81589)	

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Active Constituents	Chemical Group	Problem	Comment
Mancozeb	M3	Alternaria leaf spot	APVMA: nominated for review Canada: Many uses cancelled Codex: To be reviewed 2024/25 EU: Authorisation not renewed
		Cercospora leaf spot	
		Downy mildew	
		Leaf spot	
		Powdery mildew	
		Rust	
Metalaxyl/metalaxyl-M	4	Damping off / Pythium	Metalaxyl EU: Candidate for substitution Metalaxyl-M EU: Restricted use approval
		Downy mildew	
Penthiopyrad	7	Alternaria leaf spot	
		Powdery mildew	
Phosphorous acid	33	Damping off / Pythium (PER14184)	
Propiconazole	3	Cercospora leaf spot (PER14479)	APVMA: nominated for review EU: No authorisations USA: Under review
Tebuconazole	3	Sclerotinia rot	APVMA: nominated for review Canada: Under review EU: Candidate for substitution USA: Under review
Tolclofos-methyl	14	Rhizoctonia	EU: Proposed restricted authorisation
Trifloxystrobin	11	Alternaria leaf spot	Canada: Under review
		Leaf spot(PER14891)	
Zineb	M3	Leaf spot	APVMA: nominated for review Codex: To be reviewed 2024/25 EU: No authorisation in place

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Active Constituents	Chemical Group	Comment
WEEDS		
Chloridazon (PER92389)	5	EU: No authorisation in place
Clethodim	1	Codex: MRLs proposed for deletion
Ethofumesate	15	
Haloxypop-P	1	EU: No authorisation
Phenmedipham	5	EU: Review outcome not positive
Propachlor	15	EU: No authorisation in place
Quizalofop-P	1	Canada: Under re-evaluation EU: Candidate for substitution
Sethoxydim	1	EU: No authorisation in place

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