

Capsicum/Peppers 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Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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. Therefore, 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 capsicums 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	Comments
INSECT AND OTHER PESTS			
1,3-dichloropropene + chloropicrin	8B	Nematodes	EU: No authorisations
		Nematodes: cyst forming	
		Symphylids	
		Wireworms	
Abamectin	6	Root-knot nematodes	APVMA: Nominated for spray drift label review Canada: Some uses amended EU: Use restricted to permanent greenhouses
		Two-spotted (Red spider) mite	
		Tomato Red spider mite(PER14722)	
		Vegetable leafminer (Liriomyza spp.) (PER81876)	
		Tomato / potato psyllid(PER84229)	
Acephate	1B	Western flower thrips(PER12378)	APVMA: nominated for review Canada: Review completed continued use acceptable with risk mitigation EU: No authorisation in place USA: Under review
Afidopyropen	9D	Cabbage aphid	EU: No authorisations
		Currant lettuce aphid	
		Cotton/melon aphid(PER87852)	
		Green peach aphid(PER87852)	
		Silverleaf whiteflies(PER87852)	
Alpha-cypermethrin	3A	Queensland fruit fly & Lesser Queensland fruit fly(PER80099)	EU: No authorisations UK: No authorisations
Amorphous silica	-	Cluster caterpillar	
		Helicoverpa	

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Active Constituents	Chemical Group	Problem	Comments
<i>Bacillus thuringiensis</i>	11A	Fungus gnats(PER14694)	EU: Under review for renewal
<i>Beauveria bassiana</i> (Protected cropping)	UNF	Aphids	
		Mites	
		Thrips & whitefly	
Bifenazate	20D	Bryobia mite	Canada: Review initiated EU: Use restricted to non-edible crops in permanent greenhouses
		Tomato Red spider mite	
		Two-spotted (Red spider) mite	
Bifenthrin	3A	Fruit flies(PER13567)	Canada: Not authorised EU: Not authorised
		Queensland fruit fly & Lesser Queensland fruit fly(PER13567)	
		Tomato / potato psyllid(PER84229)	
Botanical oil	-	Silverleaf whiteflies(PER14077)	
Buprofezin	16	Greenhouse whitefly(PER82467)	EU: MRLs set to limit of quantification
		Silverleaf whiteflies(PER82467)	
Chlorantraniliprole	28	Eggfruit caterpillar	
		Helicoverpa	
		Lucerne leafroller	
		Potato moth (Leafminer)	
		Fall armyworm(PER89259)	
Chlorantraniliprole + thiamethoxam	28 + 4A	Cabbage aphid	Thiamethoxam: APVMA: Under review Canada: Field uses cancelled or amended EU: No authorisations USA: Re-registration with new risk mitigation measures
		Cabbage centre grub	
		Cluster caterpillar	
		Diamondback moth	
		Green peach aphid	
		Green vegetable bug	
		Greenhouse whitefly	
		Helicoverpa	
		Onion thrips	

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Chlorantraniliprole + thiamethoxam	28 + 4A	Potato moth (Leafminer)	
		Psyllids	
		Silverleaf whiteflies	
		Soybean looper	
		Tomato thrips	
		Vegetable leafhopper	
		Western flower thrips	
Chlorpyrifos	1B	Black field cricket	APVMA: Under review 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	
		Mole crickets	
		Spotted vegetable weevil	
		Vegetable weevil	
		Wingless grasshopper	
Clothianidin	4A	Mediterranean fruit fly	APVMA: Under review Canada: Field uses cancelled or amended EU: Not authorised USA: Re-registration with new risk mitigation measures
		Queensland fruit fly & Lesser Queensland fruit fly	
Cyantraniliprole	28	Green peach aphid	
		Helicoverpa	
		Potato moth (Leafminer)	
		Silverleaf whiteflies	
		Tomato thrips	
		Western flower thrips	
		Tomato / potato psyllid(PER84805)	
		Vegetable leafminer (Liriomyza spp.) (PER90387)	

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Cyromazine	17	Liriomyza species (PER81867)	EU: No authorisation in place
Dazomet	-	Nematodes: cyst forming	
Diafenthiuron + cyantraniliprole	12A + 28	Cluster caterpillar	Diafenthiuron Codex: No MRLs EU: No authorisation in place
		Green peach aphid	
		Helicoverpa	
		Plague thrips	
		Potato moth (Leafminer)	
		Silverleaf whiteflies	
		Tomato thrips	
		Two-spotted (Red spider) mite	
		Western flower thrips	
Diazinon	1B	Cutworms	APVMA: Under review EU: No authorisation in place Codex: JMPR recommend withdrawal of all Codex MRLs
Dimethoate	1B	Aphids	Codex: No relevant MRL EU: Not authorised
		Bugs	
		Cucumber fly	
		Fruit flies	
		Green vegetable bug	
		Jassids	
		Leafhoppers	
		Mites	
		Thrips	
		Tomato russet mite	
		Wingless grasshopper	
		Dimpropridaz	
Silverleaf whitefly	EU: Authorisation pending		

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Emamectin benzoate	6	Helicoverpa	EU: Candidate for substitution
		Cluster caterpillar	
		Fall armyworm(PER89263)	
Ethyl formate (Po)	8A	Western flower thrips	
Etoxazole	10B	Tomato Red spider mite	EU: Only uses on greenhouse ornamentals approved & Candidate for substitution
		Two-spotted (Red spider) mite	
Fatty acids: K salt	UN	Greenhouse whitefly(PER13920)	
		Silverleaf whiteflies(PER13920)	
Flonicamid	29	Green peach aphid(PER90346)	
Fluazaindolizine	N-UN	Root-knot nematodes	EU: No authorisation in place, pending
Flubendiamide	28	Helicoverpa	
		Potato moth (Leafminer)	
Fluensulfone	5	Root-knot nematodes	
Flupyradifurone	4D	Cotton/melon aphid	EU: Under review
		Green peach aphid	
		Greenhouse whitefly	
		Silverleaf whiteflies	
Helicoverpa NPV	31	Helicoverpa	
Hexythiazox	10A	Broad mite(PER14765-expires 30/9/23)	
		Tomato Red spider mite(PER14765-expires 30/9/23)	
		Tomato russet mite(PER14765-expires 30/9/23)	
		Two-spotted (Red spider) mite(PER14765-expires 30/9/23)	

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Imidacloprid	4A	Green peach aphid	APVMA: Under review Canada: Field uses cancelled or amended EU: No authorisation USA: Re-registration with new risk mitigation measures
		Pear and cherry slug	
		Greenhouse whitefly(PER12489)	
		Onion thrips(PER12489)	
		Plague thrips(PER12489)	
		Silverleaf whiteflies(PER88558–Chilli peppers)	
Indoxacarb	22A	Helicoverpa	Canada: No authorisations EU: No authorisation UK: No authorisation
		Potato moth (Tomato Leafminer)	
Isocycloseram	30	Two-spotted mite	EU: No authorisation
		Broad mite	
		Thrips (Suppression)	
		Heliothis spp. (Suppression)	
Malathion/Maldison	1B	Fruit flies	APVMA: Under review Codex: Re-evaluation scheduled EU: Restricted use to permanent greenhouses
Methomyl	1A	Cucumber moth	APVMA: nominated for review Canada: Re-evaluation completed. Majority of uses removed EU: No authorisations in place USA: Under review
		Fruit flies(PER13566)	
		Lesser Queensland fruit fly(PER13566)	
		Cluster caterpillar(PER82428)	
		Helicoverpa(PER82428)	
		Loopers(PER82428)	
		Rutherglen bug(PER82428)	
		Thrips(PER82428)	
		Webworm(PER82428)	
		Western flower thrips(PER82428)	
		Tomato / potato psyllid(PER84229)	

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Methoxyfenozide	18	Cluster caterpillar	EU: Proposed restricted authorisation & Candidate for substitution
		Tomato grub	
Milbemectin	6	Two-spotted (Red spider) mite	
Oxamyl	1A	Root-knot nematodes	EU: No authorisations
Paraffinic / petroleum oil	UNM	Aphids	
		Leafhoppers	
		Mites	
		Thrips	
		Greenhouse whitefly(PER12221)	
		Silverleaf whiteflies(PER12221)	
Phorate	1B	Aphids(PER8930)	APVMA: nominated for review Canada: Under review EU: No authorisation in place
		Jassids(PER8930)	
		Mites(PER8930)	
		Onion seedling maggot(PER8930)	
		Thrips(PER8930)	
Pirimicarb	1A	Aphids	Codex: JMPR re-evaluation scheduled EU: Candidate for substitution
Pymetrozine	9B	Green peach aphid	Canada: Restricted use to glasshouses only Codex: No registrant support EU: Not authorised
		Greenhouse whitefly	
		Potato aphid	
		Silverleaf whiteflies	
Pyrethrins	3A	Fruit flies	Canada: Under review
		Rutherglen bug	Codex: Under review
Pyriproxyfen	7C	Greenhouse whitefly	
		Silverleaf whiteflies	

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Spinetoram	5	Helicoverpa	
		Potato moth (Leafminer)	
		Tomato grub	
		Western flower thrips	
		Vegetable leafminer (Liriomyza spp.) (PER91155)	
		Fall armyworm(PER89241)	
Spinosad	5	Helicoverpa	
		Potato moth (Leafminer)	
		Western flower thrips	
		Fall armyworm(PER89870)	
		Vegetable leafminer (Liriomyza spp.) (PER90928)	
Spirotetramat	23	Green peach aphid	
		Silverleaf whiteflies	
		Tomato / potato psyllid(PER84245)	
		Vegetable leafminer (Liriomyza spp.) (PER88640)	
Spodoptera (NPV)	31	Fall armyworm(PER90820)	
Sulfoxaflor	4C	Green peach aphid	USA: Pollinator concerns
		Greenhouse whitefly	EU: Restricted to permanent glasshouses only
Trichlorfon	1B	Fruit flies	APVMA: nominated for review
		Cabbage moth	Codex: No MRLs
		Green vegetable bug	EU: No authorisations USA: No MRLs

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1,3-dichloropropene +chloropicrin	8B	Fusarium wilt	EU: No authorisations
		Rhizoctonia	
		Verticillium wilt	
<i>Aureobasidium pullulans</i>	NC	Botrytis grey mould	
		Sclerotinia rot	
<i>Bacillus amyloliquefaciens</i>	BM02	Bacterial leaf spot	
Boscalid	7	Target spot (Early blight)	Canada: Review initiated
Bupirimate	8	Powdery mildew	
Captan	M4	Botrytis grey mould(PER14326)	EU: Under review proposed restriction to use in permanent greenhouses only USA: Under review
Chlorothalonil	M5	Anthracnose	APVMA: nominated for review Canada: Proposed cancellation of uses EU: No authorisation in place USA: Under review
		Botrytis grey mould	
Copper	M1	Bacterial canker	EU: Candidates for substitution
		Bacterial spot	
Dazomet		Damping off	
		Phytophthora soil fungus (Dieback)	
		Rhizoctonia	
		Sclerotinia rot	
Fenhexamid	17	Botrytis grey mould	

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Fludioxonil + cyprodinil		Botrytis rot	<u>Fludioxonil</u> EU: Under review, & candidate for substitution <u>Cyprodinil</u> Canada: Under review EU: Candidate for substitution
		Sclerotinia rot	
Florylpicoxamid	21	Powdery mildew	EU: Authorisation pending
		Target spot (Early blight)	
Fluopyram + tebuconazole	7 + 3	Powdery mildew	<u>Tebuconazole</u> APVMA: nominated for review Canada: Under review EU: Under review. Candidate for substitution ⁱ USA: Under review
Hydrogen peroxide + peroxyacetic acid	M	Powdery mildew	
Iodine	M	Bactericide	
Iodine (Post-harvest)	M	Fungi	
Iprodione	2	Sclerotinia rot(PER14353)	Canada: Majority of food crop uses deleted Codex: Under review EU: No authorisation in place USA: Proposed deletion or restriction of uses
Mancozeb	M3	Alternaria leaf spots	<u>Mancozeb</u> APVMA: nominated for review Canada: Many uses cancelled Codex: To be reviewed 2024/25 EU: No authorisations
		Anthracoise	
		Downy mildew	
		Target spot (Early blight)	
		Powdery mildew	
Mancozeb + Copper	M3 + M1	Target spot (Early blight)	<u>Copper</u> : EU: Candidates for substitution
Mancozeb + sulfur	M3 + M2	Target spot (Early blight)	<u>Metalaxyl-M</u>
Mancozeb + metalaxyl-M	M3 + 4	Downy mildew(PER82456)	EU: Restricted use approval
Melaleuca oil	BM01	Powdery mildew	

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Active Constituents	Chemical Group	Problem	Comments
Metalaxyl	4	Damping off	EU: Candidate for substitution
		Phytophthora soil fungus (Dieback)	
Metiram	M3	Alternaria leaf spots	<u>Metiram</u> APVMA: nominated for review Canada: Proposed cancelling of foliar uses other than potato Codex: To be reviewed 2024/25 EU: Under review
		Cercospora leaf spot	
Metiram + pyraclostrobin	M3 + 11	Target spot (Early blight)	
Penthiopyrad	7	Powdery mildew	
		Target spot (Early blight)	
		Botrytis grey mould	
Phosphorous acid	33	Phytophthora soil fungus (Dieback) (PER81408)	
Potassium bicarbonate	M2	Powdery mildew	
Procymidone	2	Sclerotinia rot(PER11440)	APVMA: Review in progress Codex: No MRLs EU: No authorisations
Proquinazid	13	Powdery mildew	
Pydiflumetofen + difenoconazole	7 + 3	Cercospora leaf spot	<u>Difenoconazole:</u> APVMA: nominated for review EU: Candidate for substitution USA: Under review <u>Pydiflumetofen:</u> EU: Authorisation pending
		Early blight	
		Powdery mildew	
Pyraclostrobin + fluxapyroxad	11 + 7	Powdery mildew	<u>Pyraclostrobin</u> Canada: Review initiated
		Target spot	
Pyrimethanil	9	Botrytis grey mould(PER12565)	Canada: Under review
Triadimenol	3	Powdery mildew	APVMA: nominated for review Canada: No authorisation in place EU: No authorisation in place USA: Registration cancelled

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Active Constituents	Chemical Group	Problem	Comments
Trifloxystrobin	11	Powdery mildew(PER14050)	Canada: Review initiated
Zineb	M3	Late (Irish) blight	APVMA: nominated for review
		Target spot (Early blight)	Codex: To be reviewed 2024/25 EU: No authorisation in place

Active Constituents	Chemical Group	Comment
WEEDS		
Fluazifop-P	1	APVMA: Nominated for spray drift label review
Diquat	22	APVMA: Currently under review EU: No authorisation in place
Glufosinate (PER88349)	9	EU: No authorisation in place
Glyphosate (PER13901)	10	Ongoing issues internationally EU: Under review
Trifluralin	3	EU: No authorisation in place
Plant Growth Regulators		
Paclobutrazol (Compactness)		

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Communications Manager

Hort Innovation

Level 7, 141 Walker Street

North Sydney NSW 2060

Australia

Email: communications@horticulture.com.au

Phone: 02 8295 2300