

Melon Agrichemical Regulatory Risk Assessment

March 2024

Regulatory pressures on farm chemicals are increasing globally, with many being either restricted or withdrawn from use. For older compounds 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 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 prohibit its use in the exporting country 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 chemicals or chemical groups. As a consequence it is possible that the ability to use of a number of currently approved farm chemicals could be adversely impacted.

To assist strategic planning with respect to future pest management needs the following tables have been developed to highlight the regulatory threats to the chemicals currently approved for the management of the pests and diseases in melons 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			
Abamectin	6	Root-knot nematodes	APVMA: Nominated for spray drift label review Canada: Some uses amended EU: Use restricted to permanent greenhouses
		Vegetable leafminer	
Afidopyropen	9D	Cabbage aphid	EU/UK: No authorisation in place
		Cotton aphid (Melon aphid)	
		Currant lettuce aphid	
		Green peach aphid	
		Silverleaf (Poinsettia) whitefly	
Alpha-cypermethrin	3A	Cucumber fly	EU/UK: No authorisation in place
<i>Bacillus thuringiensis</i>	11A	Armyworms	EU: Authorisation renewal under review
		Cabbage white butterfly	
		Helicoverpa	
		Loopers	
Beta-cyfluthrin	3A	Cucumber moth	EU/UK: No authorisation in place
		Helicoverpa	
Bifenazate	20D	Bryobia mite	Canada: Review initiated
		Two-spotted (Red spider) mite	EU: Use restricted to non-edible crops in permanent greenhouses.
Bifenthrin	3A	Cucumber moth	Canada: Not authorised EU/UK: No authorisation in place
		Helicoverpa	
		Silverleaf (Poinsettia) whitefly	

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Active Constituents	Chemical Group	Problem	Comments
Carbaryl	1A	28-spotted potato ladybird	Canada: Reviewed, large number of uses deleted Codex: Review scheduled, support uncertain EU/UK: No authorisation in place USA: Under review
		Armyworms	
		Cucurbit stem borer	
		Cutworms	
		European earwig	
		Green vegetable bug	
		Helicoverpa	
		Leaf eating ladybirds	
		Potato moth (Leafminer)	
		Pumpkin beetle	
		Pumpkin beetle	
		Rutherglen bug	
		Wingless grasshopper	
Chlorantraniliprole	28	Cucumber moth	
		Helicoverpa	
Chlorpyrifos	1B	Ants	APVMA: Proposed deletion of uses Codex: All MRLs revoked Canada: Cancellation of all uses. EU/UK: No authorisation in place USA: EPA decision to cancel use on food crops
		Australian plague locust	
		Field crickets	
		Mealybugs	
		Migratory locust	
		Mole crickets	
		Spur-throated locust	
Whiteflies			
Clothianidin	4A	Cucumber fly (PER80101)	APVMA: Under review Canada: Field uses cancelled or amended EU/UK: Not authorised USA: Re-registration with new risk mitigation measures

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Active Constituents	Chemical Group	Problem	Comments
Cyantraniliprole	28	Cotton aphid (Melon aphid)	
		Cucumber moth	
		Helicoverpa	
		Silverleaf (Poinsettia) whitefly	
		Western flower thrips	
Diafenthiuron + cyantraniliprole	12A + 24	Cluster caterpillar	Diafenthiuron Codex: No MRLs EU/UK: No authorisation in place
		Cotton aphid (Melon aphid)	
		Cucumber moth	
		Green peach aphid	
		Helicoverpa	
		Silverleaf (Poinsettia) whitefly	
		Thrips	
		Two-spotted (Red spider) mite	
Western flower thrips			
Diazinon	1B	Caterpillars	APVMA Proposed deletion of uses EU/UK: No authorisation in place Codex: MRLs revoked
		Cutworms	
		Thrips	
Dimethoate	1B	Aphids	Codex: No MRL. EU/UK: No authorisation in place
		Green vegetable bug	
		Jassids	
		Leafhoppers	
		Mites	
		Thrips	
		Wingless grasshopper	
		Banana fruit fly (PER87065)	
		Cucumber fly (PER87065)	
		Lesser Queensland fruit fly (PER87065)	
		Mango fly (PER87065)	
		Mediterranean fruit fly (PER87065)	
		Queensland fruit fly (PER87065)	

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Active Constituents	Chemical Group	Problem	Comments
Emamectin benzoate	6	Cluster caterpillar	EU: Candidate for substitution
		Cucumber moth	
		Helicoverpa	
		Tomato grub	
Etoxazole	10B	Two-spotted (Red spider) mite (PER14650)	EU: Only uses on greenhouse ornamentals approved & Candidate for substitution
Flonicamid	29	Cotton aphid (Melon aphid)	
		Green peach aphid	
		Silverleaf (Poinsettia) whitefly	
Fluazaindolizine	N-UN	Root-knot nematodes	EU: Authorisation pending
Flubendiamide	28	Cluster caterpillar	EU: Authorisation expires August 2024
		Helicoverpa	
Fluensulfone		Root-knot nematodes	EU/UK: No authorisation in place
Flupyradifurone	4D	Cotton aphid (Melon aphid)	EU: Under review
		Green peach aphid	
		Greenhouse whitefly	
		Silverleaf (Poinsettia) whitefly	
Helicoverpa NPV	31	Helicoverpa	
Hexythiazox	10A	Broad mite(PER14765)	
		Tomato russet mite(PER14765)	
		Two-spotted (Red spider) mite(PER14765)	
Isocycloseram		Cucumber moth	Codex: MRL of 0.15 mg/kg proposed by 2023 JMPR EU/UK: No authorisation in place
		Helicoverpa spp.	
		Two-spotted mites	
		Thrips(Suppression)	
Imidacloprid	4A	Green peach aphid	APVMA: Under review Canada: Field uses cancelled or amended EU/UK: No authorisation in place USA: Re-registration with new risk mitigation measures
		Silverleaf (Poinsettia) whitefly	

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Active Constituents	Chemical Group	Problem	Comments
Malathion/Maldison	1B	28-spotted potato ladybird	APVMA: Under review Codex: Re-evaluation scheduled for 2025/26 EU: Restricted use to permanent greenhouses
		Aphids	
		Australian plague locust	
		Green vegetable bug	
		Jassids	
		Leafhoppers	
		Migratory locust	
		Pumpkin beetle	
		Pumpkin beetle	
		Redlegged earth mite	
		Rutherglen bug	
		Spur-throated locust	
Methomyl	1A	Cluster caterpillar (PER82428)	APVMA: nominated for review Canada: Re-evaluation completed. Majority of uses removed EU/UK: No authorisation in place USA: Under review
		Cucumber moth (PER82428)	
		Helicoverpa (PER82428)	
		Loopers (PER82428)	
		Rutherglen bug (PER82428)	
		Thrips (PER82428)	
		Webworms (PER82428)	
		Western flower thrips (PER82428)	
Paraffinic oil	UN	Thrips(PER88171)	
		Aphids	
		Leafhoppers	
		Mites	
		Thrips	
		Greenhouse whitefly(PER12221)	
		Silverleaf (Poinsettia) whitefly(PER12221)	
Pirimicarb	1A	Aphids	Codex: JMPR re-evaluation scheduled EU: Candidate for substitution

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Active Constituents	Chemical Group	Problem	Comments
Pymetrozine	9B	Cotton aphid (Melon aphid)	Canada: Restricted use to glasshouses only Codex: No registrant support EU/UK: No authorisation in place
		Cowpea aphid	
		Green peach aphid	
		Greenhouse whitefly	
		Potato aphid	
		Silverleaf (Poinsettia) whitefly	
Pyrethrins	3A	Ants	Canada: Under review
		Aphids	
		Cabbage white butterfly	
		Caterpillars	
		Diamondback (Cabbage) moth	
		Flies	
		Leafhoppers	
		Mealybugs	
		Scale insects	
		Thrips	
		Two-spotted (Red spider) mite	
		Whiteflies	
Pyriproxyfen	7C	Ants	
		Greenhouse whitefly	
		Silverleaf (Poinsettia) whitefly	
Spinetoram	5	Caterpillars	EU: Authorisation expires June 2024
		Cucumber moth	
		Helicoverpa	
		Western flower thrips	
		Vegetable leafminer (PER91155)	
Spinosad	5	Cucumber moth	
		Helicoverpa	
		Western flower thrips	
		Fall armyworm (PER89870)	
		Vegetable leafminer (PER90928)	

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Active Constituents	Chemical Group	Problem	Comments
Spirotetramat	23	Cotton aphid (Melon aphid)	EU: Authorisation expires April 2024
		Green peach aphid	
		Silverleaf (Poinsettia) whitefly	
Sulfoxaflor	4C	Cotton aphid (Melon aphid)	USA: Pollinator concerns
		Green peach aphid	EU: Restricted to permanent glasshouses only
		Greenhouse whitefly	
Trichlorfon	1B	Cutworms	APVMA: nominated for review Codex: No MRLs EU/UK: No authorisation in place USA: No MRLs

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Active Constituents	Chemical Group	Problem	Comments
DISEASES			
Ametoctradin + dimethomorph	45 + 40	Downy mildew	<u>Dimethomorph</u> EU: Under review
Azoxystrobin	11	Downy mildew	Canada: Review proposed
		Gummy stem blight	
		Powdery mildew	
		Fungal post-harvest rots (PER91493)	
Benalaxyl	4	Anthracnose	EU/UK: No authorisation in place (benalaxyl-M approved)
		Gummy stem blight	
		Alternaria leaf blight	
		Downy mildew	
Boscalid + Kresoxim-methyl	7 + 11	Powdery mildew	<u>Boscalid</u> Canada: Under review
Bupirimate	8	Powdery mildew	
Chlorothalonil	M5	Alternaria leaf blight	APVMA: Nominated for review Canada: Proposed cancellation of use EU/UK: No authorisation in place USA: Under review
		Anthracnose	
		Downy mildew	
		Gummy stem blight	
		Powdery mildew	
		Rhizoctonia ground rot	
		Target leafspot	
Copper	M1	Angular leaf spot	EU: Candidates for substitution
		Anthracnose	
		Bacterial spot	
		Downy mildew	
		Gummy stem blight	
		Late (Irish) blight	
		Leaf diseases/spots	
		Powdery mildew	

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Active Constituents	Chemical Group	Problem	Comments
Copper		Rust	EU: Candidates for substitution
		Septoria leaf spot	
		Target spot (Early blight)	
Cyanogen (ethanedinitrile)	-	Fungal diseases: Fusarium	EU/UK: No authorisation in place
		Fungal diseases: Rhizoctonia	
		Fusarium wilt	
		Phytophthora trunk/collar rot	
		Pythium diseases: soil borne	
		Rhizoctonia rot	
		Root and collar rot	
		Sclerotium crown rot	
		Spot blotch	
Cyflufenamid	U6	Powdery mildew	
Dimethomorph	40	Alternaria leaf blight	EU: Under review
		Anthracnose	
		Downy mildew	
		Gummy stem blight	
		Septoria leaf spot	
Florylpicoxamid	21	Powdery mildew	EU: Pending
Fluopicolide + propamocarb HCl	43 + 28	Downy mildew	
Guazatine acetate	M7	Alternaria fruit rot	EU/UK: No authorisation in place
		Fusarium fruit rot	
		Geotrichum fruit rot (Sour rot)	
		Pink mould rot	
		Rhizopus rot	
Hydrogen peroxide +peroxyacetic acid	M	Powdery mildew	
Imazalil	3	Alternaria fruit rot	EU: Withdrawal of many EU MRLs proposed
		Fusarium fruit rot	
		Geotrichum fruit rot (Sour rot)	
		Pink mould rot	

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Active Constituents	Chemical Group	Problem	Comments
Iodine	M	Bactericide Fungi	
Mancozeb	M3	Alternaria leaf blight Anthracnose Downy mildew Gummy stem blight Powdery mildew Septoria leaf spot	APVMA: Nominated for review Canada: Many uses cancelled Codex: To be reviewed EU/UK: No authorisation in place
Metalaxyl Metalaxyl/Metalaxyl-M	4 4	Phytophthora soil fungus (Dieback) Alternaria leaf blight Anthracnose Damping off Downy mildew Gummy stem blight	<u>Metalaxyl</u> EU: Candidate for substitution <u>Metalaxyl-M</u> EU: Restricted use approval
Metiram	M3	Downy mildew Gummy stem blight	APVMA: Nominated for review Canada: Only foliar use on potato Codex: To be reviewed EU/UK: No authorisation in place
Metrafenone	50	Powdery mildew	
Oxadixyl + Propineb	4 + M3	Downy mildew Anthracnose Gummy stem blight	<u>Oxadixyl</u> EU/UK: No authorisation in place <u>Propineb</u> APVMA: Nominated for review Codex: To be reviewed EU/UK: No authorisation in place
Oxathiapiprolin	49	Downy mildew	
Penthiopyrad	7	Grey mould Gummy stem blight Powdery mildew	

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Active Constituents	Chemical Group	Problem	Comments
Phosphorous acid	33	Downy mildew	
Propineb	M3	Anthracnose	APVMA: Nominated for review
		Downy mildew	Codex: To be reviewed
		Gummy stem blight	EU/UK: No authorisation in place
Proquinazid	13	Powdery mildew	
Pydiflumetofen + difenoconazole	7 + 3	Alternaria leaf spot	Difenoconazole:
		Gummy stem blight	APVMA: nominated for review
		Cercospora leaf spot	EU: Candidate for substitution
		Powdery mildew	USA: Under review
Pyriofenone	50	Powdery mildew	
<i>Streptomyces lydicus</i>	BM2	Powdery mildew	
Sulfur	M2	Anthracnose	
		Downy mildew	
		Gummy stem blight	
		Rust	
		Septoria leaf spot	
		Target spot (Early blight)	
Triadimefon	3	Powdery mildew	APVMA: nominated for review EU/UK: No authorisation in place USA: Under review. Proposed use restrictions on turf and ornamentals
Triadimenol	3	Powdery mildew	APVMA: nominated for review Canada: No authorisation in place EU/UK: No authorisation in place USA: Registration cancelled
Zineb	M3	Anthracnose	APVMA: Nominated for review
		Downy mildew	Codex: To be reviewed EU/UK: No authorisation in place

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Active Constituents	Chemical Group	Comment
WEEDS		
Clomazone	13	
Diquat	22	APVMA: nominated for review EU/UK: No authorisation in place
Fluazifop-P	1	
Paraquat	22	APVMA: Currently under review Canada: Review initiated EU/UK: No authorisation in place Rotterdam Convention - nomination
Pyraflufen-ethyl	14	
Quizalofop-P	1	Canada: Under re-evaluation EU/UK: No authorisation in place
Sethoxydim	1	EU/UK: No authorisation in place
PGRs		
1-Methylcyclopropene		

Funding statement: MT20007 - Regulatory Support & Response Co-ordination. This *multi-industry* project has been funded by Hort Innovation, using *industry research and development levies* and contributions from the Australian Government. Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture.

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