

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Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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

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<b>R1</b>	<b>Short-term: Critical concern over retaining access</b>		
<b>R2</b>	<b>Medium-term: Maintaining access of significant concern</b>		
<b>R3</b>	<b>Long-term: Potential issues associated with use: Monitoring required</b>		
Active Constituents	Chemical Group	Problem	Comment
<b>INSECT AND OTHER PESTS</b>			
Acetamiprid + pyriproxyfen	<b>4A + 7C</b>	Banana-spotting bug / Fruit-spotting bug	Acetamiprid <a href="#">APVMA: Under review</a>
		Mango scales	
		Mediterranean fruit fly	
		Pink wax scale	
		Queensland fruit fly	
Beta-cyfluthrin	<b>3A</b>	Banana-spotting bug / Fruit-spotting bug (PER80374)	EU: No authorisation in place
		Elephant/Rhinoceros beetle (PER80374)	
		Fig longicorn/ trunk borer (PER80374)	
		Flatid planthoppers (PER80374)	
		Green vegetable bug (PER80374)	
		Litchi stink bug (PER80374)	
		Macadamia nutborer (PER80374)	
		Mango shoot caterpillar (PER80374)	
		Red shouldered leaf beetle (PER80374)	
		Swarming leaf beetles (PER80374)	
Yellow peach moth (PER80374)			
Bifenthrin	<b>3A</b>	Termites (Tree establishment – non-fruit bearing)	Canada: Not authorised <sup>i</sup> EU: Not authorised
Buprofezin	<b>16</b>	Mango scales	EU: MRLs set to limit of quantification

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Active Constituents	Chemical Group	Problem	Comment
Carbaryl	1A	Fig leafhopper	Canada: Reviewed, large number of uses deleted Codex: Review scheduled, support uncertain EU: Authorisation not renewed USA: Under review
		Flatid planthoppers	
		Pink wax scale	
		White (Common) mango scale	
		Wingless grasshopper	
		Mango leafhopper(PER13484)	
Chlorpyrifos	1B	Green tree ant	APVMA: <a href="#">Under review</a> Codex: All MRLs revoked Canada: Cancellation of all uses. EU: No authorisation in place USA: EPA decision to cancel use on food crops
		White (Common) mango scale	
Clothianidin	4A	Mediterranean fruit fly	APVMA: <a href="#">Under review</a> Canada: Field uses cancelled or amended EU: Not authorised USA: Re-registration with new risk mitigation measures
		Queensland fruit fly	
		Fruit flies(PER83944)	
		Mango seed weevil(PER87799)	
Dimethoate	1B	Lesser Qld fruit fly (Cover spray)	APVMA: <b>Post-harvest use suspended</b> EU: Not authorised
		Mediterranean fruit fly (Cover spray)	
		NT fruit fly (Cover spray)	
		Queensland fruit fly(Cover spray)	
Etoazole	10B	Tea red spider mite(PER87232)	EU: Only uses on greenhouse ornamentals approved & Candidate for substitution
Fipronil	2B	Ants	APVMA: <a href="#">Under review</a> Codex: Re-evaluation completed, many MRLs withdrawn EU: No authorisation in place USA: Under review
		Giant termite(PER92765)	
		Fruit fly trap toxicant	
Flupyradifurone	4D	Banana-spotting bug / Fruit-spotting bug	EU: Under review
		Green plant hopper	
		Mango plant hopper	
Malathion/Maldison	1B	Mediterranean fruit fly(PER83998)	APVMA: <a href="#">Under review</a> Codex: Re-evaluation scheduled for 2023/24 EU: Restricted use to permanent greenhouses
		Queensland fruit fly(PER83998)	

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Active Constituents	Chemical Group	Problem	Comment
Methomyl	1A	Banana flower thrips (PER84427)	<a href="#">APVMA: nominated for review</a> Canada: Re-evaluation completed. Majority of uses removed EU: No authorisations in place USA: Under review
		Chilli thrips (PER84427)	
		Redbanded thrips (PER84427)	
		Tomato thrips (PER84427)	
Methoxyfenozide		Mango shoot looper (PER91798)	EU: Proposed restricted authorisation & Candidate for substitution
Paraffinic oil / petroleum oil	UNM	Mango seed weevil	
		Mango plant hopper	
		Mango scales	
		Mango tip borers	
		Pink wax scale	
		Scale insects	
Pyriproxyfen	7C	Mango scales	
		Pink wax scale	
		White (Common) mango scale	
Spinetoram	5	Flower eating caterpillars	
		Leafroller caterpillars	
		Loopers	
		Mango shoot caterpillar	
		Mango tip borers	
		Redbanded thrips	
		Sorghum head caterpillar	
		Yellow peach moth	
Spinosad	5	Flower eating caterpillars	
		Ivy leaf roller	
		Loopers	
		Mango tip borers	
		Redbanded thrips	
		Sorghum head caterpillar	
		Yellow peach moth	
		Fall armyworm (PER89870)	

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Spirotetramat	23	Citrus mealybug	
		Pink wax scale	
		White (Common) mango scale	
Sulfoxaflor	4C	Banana-spotting bug / Fruit-spotting bug	USA: Pollinator concerns EU: Restricted to permanent glasshouses only
Tetraniliprole	28	Mango seed weevil	EU: Not authorised
		Mango shoot looper (PER92133)	
Trichlorfon	1B	Mediterranean fruit fly PER12450)	<a href="#">APVMA: nominated for review</a>
		Queensland fruit fly PER12450)	Codex: No MRLs
		Banana-spotting bug / Fruit-spotting bug (PER14743)	EU: No authorisations
		Flatid planthoppers (PER14743)	USA: No MRLs
		Flower eating caterpillars (PER14743)	
		Green vegetable bug (PER14743)	
		Litchi stink bug (PER14743)	
		Loopers (PER14743)	
Yellow peach moth (PER14743)			

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Active Constituents	Chemical Group	Problem	Comment
<b>DISEASES</b>			
Azoxystrobin	<b>11</b>	Anthracnose Stem-end rot	Canada: Review proposed
<i>Bacillus amyloliquefaciens</i>	<b>BM02</b>	Anthracnose Stem-end rot	
Chlorothalonil	<b>M5</b>	Anthracnose (PER14830)	<a href="#">APVMA: nominated for review</a> Canada: Proposed cancellation of all uses EU: No authorisation in place USA: Under review
Copper	<b>M1</b>	Anthracnose Bacterial black spot	EU: Candidates for substitution
DDAC		Sanitizer	EU: No authorisation
Fludioxonil	<b>12</b>	Anthracnose Dendritic spot Stem-end rot	EU: Under review & candidate for substitution
Fluopyram + trifloxystrobin	<b>7 + 11</b>	Anthracnose Stem-end rot	<a href="#">Trifloxystrobin</a> Canada: Under review
Iodine	<b>M</b>	Bactericide	
Mancozeb	<b>M3</b>	Anthracnose	<a href="#">APVMA: nominated for review</a> Canada: Many uses cancelled Codex: To be reviewed 2024/25 EU: No authorisation
Metiram	<b>M3</b>	Anthracnose Powdery mildew	<a href="#">APVMA: nominated for review</a> Canada: All foliar uses, except potato, cancelled Codex: To be reviewed 2024/25 EU: No authorisation

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Prochloraz	3	Alternaria rot	Codex: Periodic re-evaluation scheduled EU: No authorisation
		Anthracnose	
		Blossom blight	
Pyraclostrobin + Metiram	11 + M3	Anthracnose	<u>Pyraclostrobin</u> Canada: Under review <u>Metiram</u> <a href="#">APVMA: nominated for review</a> Canada: All foliar uses, except potato, cancelled Codex: To be reviewed 2024/25 EU: No authorisation
		Powdery mildew	
		Stem-end rot	
Thiram	M3	Anthracnose	<a href="#">APVMA: nominated for review</a> Canada: Cancelled all foliar uses (2021) Codex: To be reviewed 2024/25 EU: No authorisation in place

## Mango Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical Group	Comment
<b>WEEDS</b>		
Carfentrazone-ethyl	<b>14</b>	
Clethodim (non-bearing)	<b>1</b>	Codex: MRLs proposed for deletion
Diquat	<b>22</b>	<a href="#">APVMA: Currently under review</a> EU: No authorisation
Fluazifop	<b>1</b>	
Glufosinate	<b>10</b>	Canada: Review proposed EU: No authorisation in place
Glyphosate	<b>9</b>	Ongoing issues internationally EU: Under review
Haloxyfop-P	<b>1</b>	EU: No authorisation
Isoxaben (non-bearing)	<b>29</b>	
Oryzalin	<b>3</b>	EU: No authorisation
Oxyfluorfen	<b>14</b>	EU: Candidate for substitution USA: Interim review decision Label amendments proposed
Paraquat	<b>22</b>	<a href="#">APVMA: Currently under review</a> Canada: Review initiated EU: No authorisation in place Rotterdam Convention - nomination
Pendimethalin	<b>3</b>	EU: Candidate for substitution
<b>PLANT GROWTH REGULATORS</b>		
Ethephon (PER91560)		
Chlorflurenol-Methyl		EU: No authorisation
1-methylcyclopropene		
Paclobutrazol		EU: Candidate for substitution

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Communications Manager

Hort Innovation

Level 7, 141 Walker Street

North Sydney NSW 2060

Australia

Email: [communications@horticulture.com.au](mailto:communications@horticulture.com.au)

Phone: 02 8295 2300