

Papaya 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Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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 with changed data requirements. A consequence of which can be that many agrichemicals are not meeting contemporary risk assessment standards as the necessary data is unavailable, or where data is available, the refined 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 papaya 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	Two-spotted (Red spider) mite (PER14097)	EU: Use restricted to permanent greenhouses
Acetamiprid + pyriproxyfen	4A + 7C	Banana-spotting bug/Fruit spotting bug (PER89943)	<u>Acetamiprid</u> APVMA: Under review
		Mealybugs and scale (PER89943)	EU: Under review
		Mediterranean fruit fly (PER89943)	
		Plant hoppers/Leaf hoppers (PER89943)	
		Queensland fruit fly (PER89943)	
<i>B thuringiensis</i>	11A	Helicoverpa species	EU: Under review for renewal
		Loopers	
Beta-cyfluthrin	3A	Banana-spotting bug/Fruit spotting bug (PER13671)	EU: No authorisation
Bifenazate	20D	Two-spotted (Red spider) mite	Canada: Under review EU: Use restricted to non-edible crops in permanent greenhouses
Dichlorvos	1B	Mediterranean fruit fly (PER6338 Fruit fly trap toxicant)	EU: No authorisation
Dimethoate	1B	Orchard clean-up following harvest (PER13859)	Codex: No MRL. EU: Not authorised

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Active Constituents	Chemical group	Problem	Comment
Etoxazole	10B	Two-spotted (Red spider) mite (PER14098)	EU: Only uses on greenhouse ornamentals approved & Candidate for substitution
Fenbutatin oxide	12B	Two-spotted (Red spider) mite (PER14097)	APVMA: nominated for review Codex: To be reviewed by JMPR. No supporting registrant EU: No authorisation in place USA: Under review
Fipronil	2B	Queensland fruit fly (Trap toxicant)	APVMA: Under review Codex: Re-evaluation completed, many MRLs withdrawn EU: No authorisation in place USA: Under review
Flupyradifurone	4D	Banana-spotting bug/Fruit spotting bug	EU: Under review
		Green plant hopper	
		Mango plant hopper	
Indoxacarb	22A	Tropical fire ant	Canada: No authorisation EU: No authorisation UK: Proposed non-renewal
Malathion/maldison	1B	Queensland fruit fly	APVMA: Under review Codex: Re-evaluation scheduled for 2023/24 EU: Restricted use to permanent greenhouses
		Papaya fruit fly (PER1205 Qld only)	
		Papaya fruit fly (PER80877 SA only)	
		Queensland fruit fly (PER80877 SA only)	
		Fruit flies (attractant)	
Pyrethrins	3A	Ants	Canada: Under review
		Aphids	
		Caterpillars	
		Leafhoppers	
		Thrips	
		Whiteflies	

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Active Constituents	Chemical group	Problem	Comment
Pyriproxyfen	7C	Ants	
		Red imported fire ant (PER87728 Qld only)	
Spinetoram	5	Flower eating caterpillars	
		Leafroller moths	
		Loopers	
		Red banded thrips	
		Sorghum head caterpillar	
		Yellow peach moth	
Spinosad	5	Flower eating caterpillars	
		Fruit flies	
		Leafroller moths	
		Loopers	
		Mediterranean fruit fly	
		Queensland fruit fly	
		Red banded thrips	
		Sorghum head caterpillar	
		Yellow peach moth	
		Fall armyworm(PER89870)	
Sulfoxaflor	4C	Banana-spotting bug/Fruit spotting bug (PER85397)	USA: Pollinator concerns EU: Restricted to permanent glasshouses only
Trichlorfon	1B	Banana-spotting bug/Fruit spotting bug	APVMA: nominated for review
		Fruit flies	Codex: No MRLs
		Mediterranean fruit fly (PER12450)	EU: No authorisations
		Queensland fruit fly (PER12450)	USA: No MRLs

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Active Constituents	Chemical group	Problem	Comment
DISEASES			
<i>Bacillus amyloliquefaciens</i>	BM02	Anthracnose Stem end rot	
Bupirimate	8	Powdery mildew (Non-bearing)	
Chlorothalonil	M5	Black spot (PER12592) Brown spot (Corynespora leafspot) (PER12592)	APVMA: nominated for review Canada: Proposed cancellation of all uses EU: No authorisation in place USA: Under review
Copper	M1	Phytophthora stem/root rot Phytophthora fruit rot (PER14417)	EU: Candidates for substitution
Difenoconazole	3	Black spot (PER12592) Brown spot (Corynespora leafspot) (PER12592)	APVMA: nominated for review EU: Candidate for substitution USA: Under review
Fludioxonil	9	Anthracnose (PER89170) Stem end rot (PER89170)	EU: Under review, & candidate for substitution
Fluopyram + trifloxystrobin	7 + 11	Anthracnose Stem end rot	<u>Trifloxystrobin</u> Canada: Under review
Iodine	M	Bactericide	
Mancozeb	M3	Black spot	APVMA: nominated for review Canada: Many uses cancelled Codex: To be reviewed 2024/25 EU: Authorisation not renewed
Metalaxyl-M/Metalaxyl	4	Phytophthora stem/root rot (PER14490) Pythium (PER14490)	<u>Metalaxyl</u> EU: Candidate for substitution <u>Metalaxyl-M</u> EU: Restricted use approval
Phosphorous acid	33	Phytophthora stem/root rot (PER14490) Pythium (PER14490)	
Prochloraz (Post-harvest)	3	Anthracnose Stem end rot	Codex: Periodic re-evaluation scheduled EU: No authorisation

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Active Constituents	Chemical group	Problem	Comment
Propamocarb HCl	28	Pythium (PER91912)	
Sulfur	M2	Powdery mildew	
Tebuconazole	3	Black spot	APVMA: nominated for review Canada: Under review EU: Candidate for substitution USA: Under review
Triadimenol	3	Powdery mildew	APVMA: nominated for review Canada: No authorisation in place EU: No authorisation in place USA: Registration cancelled

Active Constituents	Chemical Group	Comment
WEEDS		
Carfentrazone-ethyl	14	
Diquat	22	APVMA: Currently under review EU: No authorisation in place
Fluazifop-P	1	
Glufosinate-ammonium	10	Canada: Review proposed EU: No authorisation in place
Glyphosate	9	Ongoing issues internationally EU: Under review
Haloxyfop	1	EU: No authorisation in place
Oryzalin (non-bearing)	3	EU: No authorisation in place
Oxyfluorfen	14	EU: Candidate for substitution USA: Interim review decision Label amendments proposed
Paraquat	22	APVMA: Currently under review Canada: Review initiated EU: No authorisation in place Rotterdam Convention - nomination

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Active Constituents	Chemical Group	Comment
Plant growth regulators		
Ethephon (PER80746 Ripening)		
1-methylcyclopropene (Post-harvest)		

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