

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Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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

## Citrus Agrichemical Regulatory Risk Assessment

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

Active	Chemical Group	Problem	Comment
Abamectin	6	Broad mite	APVMA: Nominated for spray drift label review Canada: Some uses amended, & use in greenhouse gown cut flowers cancelled EU: Use restricted to permanent greenhouses
		Brown citrus rust mite	
		Citrus red mite (PER13059)	
		Citrus rust (Maori) mite	
		Qfly, (Bait spray – spot treatment or strip spray)	
Acetamiprid	4A	Black (Brown olive) scale	<a href="#">APVMA: Under review</a> EU: Under review
Acetamiprid + pyriproxyfen	4A + 7C	Citrophilus mealybug	Acetamiprid <a href="#">APVMA: Under review</a> EU: Under review
		Citrus leafminer	
		Citrus mealybug	
		Cottony citrus scale	
		Fruit-spotting bugs	
		Kelly's citrus thrips	
		Lightbrown apple moth	
		Longtailed mealybug	
		Mealy bugs	
		Nigra scale	
		Pink wax scale	
		Pulvinaria scale/ Red scale	
		Soft brown scale	
		Fruit fly(Cover spray)	

### Citrus Agrichemical Regulatory Risk Assessment

Active	Chemical Group	Problem	Comment
Bifenthrin	3A	Citrus leaf eating weevil	Canada: Not authorised EU: Not authorised
Buprofezin	16	Jassids	EU: MRLs set to limit of quantification
		Mealy bugs	
		Red scale	
		White louse scale	
Cadusafos	1B	Citrus nematode	EU: No authorisation
		Stubby root nematode	
Carbaryl	1A	Bronze orange bug	Canada: Reviewed, large number of uses deleted Codex: Review scheduled, support uncertain EU: No Authorisation USA: Under review
		Citrus butterflies (larvae)	
		Citrus leaf eating weevil	
		Fruit piercing moth	
		Fuller's rose weevil	
		Lightbrown apple moth	
		Orange fruit borer	
		Pink wax scale	
		Spined citrus bug	
		White wax scale	
		Yellow peach moth	
Chlorpyrifos	1B	Ants	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
		Mealy bugs	
		Citrus leaf eating weevil	
		Citrus rust thrips	
		Fruit eating weevil	
		Qfly (Bait spray)	
		Fuller's rose weevil	
		Purple (Mussel) scale	
		Red scale	
		White louse scale	

### Citrus Agrichemical Regulatory Risk Assessment

Active	Chemical Group	Problem	Comment
Clofentezine	10A	Citrus red mite (PER13059)	EU: No authorisation
Clothianidin	4A	Citrus gall wasp	APVMA: <a href="#">Under review</a>
		Citrus leafminer	Canada: Field uses cancelled or amended
		Fuller's rose weevil	EU: Not authorised
		Red scale	USA: Re-registration with new risk mitigation measures
Cyantranilprole	28	Fuller's rose weevil	
		Kelly's citrus thrips	
		Lightbrown apple moth	
Cyflumetofen	25A	Citrus red mite	
		Oriental spider mite	
		Two-spotted mite	
Deltamethrin/MagMED	3A	Medfly (PER92548) WA only	
Diazinon	1B	Citrus leafminer	APVMA: <a href="#">Under review</a>
		Spined citrus bug	EU: No authorisation in place Codex: JMPR re-evaluation scheduled
Dimethoate	1B	Aphids	Codex: MRLs for Oranges and Mandarins recommended.
		Bronze orange bug	EU: Not authorised
		Bugs	
		Thrips	
		Fruit fly (Cover spray)	
		Fruit fly(PER13859–After harvest orchard clean-up treatment)	
		Fruit fly(PER87164–Post-harvest)	
Ethyl formate	8A	Bean thrips (exotic) (Post-harvest)	EU: No authorisation in place
		Fuller's rose weevil (Post-harvest)	
		Mealy bugs (Post-harvest)	
		Red scale (Post-harvest)	
		Lightbrown apple moth(Post-harvest)	
Etoxazole	10B	Oriental spider mite	EU: Only uses on greenhouse ornamentals approved & Candidate for substitution

### Citrus Agrichemical Regulatory Risk Assessment

Active	Chemical Group	Problem	Comment
Fenbutatin oxide	12B	Brown citrus rust mite	<a href="#">APVMA: nominated for review</a>
		Citrus bud mite	Codex: To be reviewed. No supporting registrant
		Citrus rust (Maori) mite	EU: No authorisation in place USA: Under review
Imidacloprid	4A	Aphids	<a href="#">APVMA: Under review</a>
		Citrus gall wasp	Canada: Field uses cancelled or amended
		Citrus leafminer	EU: No authorisation. Grace period expired June 2022
		Pink wax scale	USA: Re-registration with new risk mitigation measures
		Red scale	
		White wax scale	
Kaolin clay	UN	Citrus gall wasp	
Lambda-cyhalothrin	3A	Fuller's rose weevil	EU: Candidate for substitution
		Queensland fruit fly (PER12961 – SA Biosecurity) (Soil drench)	
Malathion/maldison	1B	Aphids	<a href="#">APVMA: Under review</a>
		Bronze orange bug	Codex: Re-evaluation scheduled for 2025/26
		Citrus butterflies (larvae)	EU: Restricted use to permanent greenhouses
		Pink wax scale	
		Purple (Mussel) scale	
		Red scale	
		Rutherglen bug	
		Soft brown scale	
		Spined citrus bug	
		Thrips	
		Treehoppers	
		Fruit fly(cover spray and bait spray)	
Mancozeb	M3	Brown citrus rust mite	<a href="#">APVMA: nominated for review</a>
		Citrus bud mite	Canada: Many uses cancelled
		Citrus rust (Maori) mite	Codex: To be reviewed 2024/25 EU: Authorisation not renewed

### Citrus Agrichemical Regulatory Risk Assessment

Active	Chemical Group	Problem	Comment
Methomyl	1A	Bronze orange bug	<a href="#">APVMA: nominated for review</a> Canada: Re-evaluation completed. Majority of uses removed EU: No authorisations in place USA: Under review
		Large citrus butterfly	
		Lightbrown apple moth	
		Mealy bugs	
		Small citrus butterfly	
		Spined citrus bug	
Methoxyfenozide	18	Lightbrown apple moth	EU: Proposed restricted authorisation & Candidate for substitution
Omethoate	1B	Aphids	Canada: No approvals in place
		California red scale	EU: No authorisations in place USA: No approvals in place
Paraffinic/petroleum oil	UNM	Black (Brown olive) scale	
		Broad mite	
		Brown citrus rust mite	
		Circular black scale	
		Citrus red mite	
		Citrus rust (Maori) mite	
		Citrus thrips	
		Lightbrown apple moth	
		Mealy bugs	
		Pink wax scale	
		Red scale	
		Rose scale	
		Scale insects	
		Soft brown scale	
		Spider mites (Red spider),	
		White louse scale	
White wax scale			
Whiteflies			

### Citrus Agrichemical Regulatory Risk Assessment

Active	Chemical Group	Problem	Comment
Permethrin	3A	Citrus leafminer	Codex: Re-evaluation scheduled, support uncertain EU: No authorisation
Pheromone		Lightbrown apple moth	
Pirimicarb	1A	Aphids	Codex: JMPR re-evaluation scheduled EU: Candidate for substitution
Propineb	M3	Citrus rust (Maori) mite	<a href="#">APVMA: nominated for review</a> EU: No authorisation in place Codex: To be reviewed 2024/25
Pyrethrins	3A	Ants	Canada: Under review
		Aphids	
		Black (Brown olive) scale	
		Bronze orange bug	
		Circular black scale	
		Citrus leafminer	
		Diamondback moth	
		Greenhouse thrips	
		Leafhoppers	
		Mealy bugs	
		Pink wax scale	
		Purple (Mussel) scale	
		Red scale	
		Scale insects	
		Soft brown scale	
		Thrips	
Two-spotted (Red spider) mite			
White wax scale			
Whiteflies			
Fruit fly (Cover spray)			

### Citrus Agrichemical Regulatory Risk Assessment

Active	Chemical Group	Problem	Comment
Pyriproxyfen	7C	Ants	
		Black (Brown olive) scale	
		Cottony citrus scale	
		Red scale	
		Scale insects	
		White louse scale	
Spinetoram	5	Citrus leafminer	
		Helicoverpa species	
		Lightbrown apple moth	
Spinosad	5	Citrus leafminer	
		Helicoverpa species	
		Lightbrown apple moth	
		Fruit fly (Bait spray)	
Spirotetramat	23	Kelly's citrus thrips	
		Mealy bugs	
		Pink wax scale	
		Purple (Mussel) scale	
		Red scale	
		Soft brown scale	
		White louse scale	
Sulfoxaflor	4C	Citricola scale	USA: Pollinator concerns EU: Restricted to permanent glasshouses only
		Citrus mealybug	
		Fruit-spotting bugs	
		Kelly's citrus thrips	
		Pink wax scale	
		Red scale	
		White louse scale	



### Citrus Agrichemical Regulatory Risk Assessment

Active	Chemical Group	Problem	Comment
Sulfur	UN	Brown citrus rust mite	
		Citrus bud mite	
		Citrus rust (Maori) mite	
		White louse scale	
Tebufenozide	18	Lightbrown apple moth	
Zineb	M3	Brown citrus rust mite	<a href="#">APVMA: nominated for review</a>
		Citrus bud mite	Codex: To be reviewed 2024/25
		Citrus rust (Maori) mite	EU: No authorisation in place
<b>OTHER</b>			
Methiocarb	1A	Snails and slugs	EU: No authorisations

### Citrus Agrichemical Regulatory Risk Assessment

Active	Chemical Group	Problem	Comment
<b>DISEASES</b>			
Azoxystrobin	<b>11</b>	Black spot Brown spot/rot	Canada: Review proposed
Captan	<b>M4</b>	Emperor brown spot (PER82043-Mandarins)	EU: Under review proposed restriction to use in permanent greenhouses only USA: Under review
Copper	<b>M1</b>	Black spot Citrus canker Emperor brown spot Melanose Phytophthora Pink disease Scab Septoria spot Sooty blotch	EU: Candidates for substitution
Fludioxonil	<b>12</b>	Blue mould Diplodia fruit rot Green mould Stem-end rot	EU: Under review, & candidate for substitution
Fludioxonil + propiconazole	<b>12 + 3</b>	Blue mould Green mould Sour rot	Fludioxonil EU: Under review, Candidate for substitution Propiconazole <a href="#">APVMA: nominated for review</a> EU: Approval not renewed
Fluopyram + tebuconazole	<b>7 + 3</b>	Black spot Botrytis Brown spot (Alternaria)	Tebuconazole <a href="#">APVMA: nominated for review</a> Canada: Under review EU: Under review. Candidate for substitution USA: Under review

### Citrus Agrichemical Regulatory Risk Assessment

Active	Chemical Group	Problem	Comment
Guazatine	<b>M7</b>	Sour rot	EU: No authorisation in place
		Blue mould	
		Green mould	
Imazalil	<b>3</b>	Blue mould	Codex: Oranges and lemon MRLs only EU: Under review
		Green mould	
Imazalil + pyrimethanil	<b>3 + 9</b>	Green mould	<u>Imazalil</u> Codex: Oranges and lemon MRLs only EU: Under review
Iodine	<b>M</b>	Citrus canker	
		Fungi	
Iprodione		Emperor brown spot (PER14772) Mandarins & tangelos	Canada: Majority of food crop uses deleted Codex: Review scheduled EU: No authorisation in place USA: Proposed deletion or restriction of uses
Mancozeb	<b>M3</b>	Black spot	<a href="#">APVMA: nominated for review</a> Canada: Many uses cancelled Codex: To be reviewed 2024/25 EU: Authorisation not renewed
Paraffinic/petroleum oil	<b>UNM-</b>	Black spot	
		Brown rot/collar rot/root rot	
		Melanose	
		Scab	
		Sooty blotch	
		Sooty mould	
Phosphorous acid	<b>33</b>	Brown rot/collar rot/root rot	
Propineb	<b>M3</b>	Black spot	<a href="#">APVMA: nominated for review</a> EU: No authorisation in place Codex: To be reviewed 2024/25
Pyrimethanil	<b>9</b>	Blue mould	Canada: Under review
		Green mould	
SOPP (orthophenylphenol)	-	Blue mould Citrus canker	

## Citrus Agrichemical Regulatory Risk Assessment

Active	Chemical Group	Problem	Comment
Sulfur	M2	Melanose	
		Sooty blotch	
Thiabendazole	1	Blue mould	
		Green mould	
		Stem-end rot	
Zineb	M3	Black spot	<a href="#">APVMA: nominated for review</a> Codex: To be reviewed 2024/25 EU: No authorisation in place
		Scab	

## Citrus Agrichemical Regulatory Risk Assessment

Active	Chemical Group	Comment
<b>WEEDS</b>		
2,2-DPA as Na salt	<b>0</b>	
Bromacil	<b>5</b>	EU: Not authorised
Diquat	<b>22</b>	<a href="#">APVMA: Currently under review</a> EU: Not authorised
Carfentrazone-ethyl	<b>14</b>	
Dichlobenil	<b>29</b>	EU: No authorisation in place
Fluazifop-P	<b>1</b>	
Flumioxazin	<b>14</b>	EU: Candidates for substitution
Glufosinate	<b>9</b>	Canada: Review proposed EU: No authorisation in place
Glyphosate	<b>10</b>	Ongoing issues internationally EU: Under review
Haloxyfop	<b>1</b>	EU: No authorisation in place
Norflurazon	<b>12</b>	EU: Not authorised
Oryzalin	<b>3</b>	EU: No authorisation in place
Paraquat	<b>22</b>	<a href="#">APVMA: Currently under review</a> Canada: Under review EU: Not authorised Rotterdam Convention: nomination
Pendimethalin	<b>3</b>	EU: Candidates for substitution
Saflufenacil	<b>14</b>	EU: No authorisation in place
Simazine	<b>5</b>	<a href="#">APVMA: nominated for review</a> EU: No authorisation in place
<b>PLANT GROWTH REGULATORS</b>		
2,4-D		
Dichlorprop-P		
Ethephon		
Gibberellic acid		
Triclopyr		

## Citrus Agrichemical Regulatory Risk Assessment

**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.

**Disclaimer:**

Horticulture Innovation Australia Limited (Hort Innovation) makes no representations and expressly disclaims all warranties (to the extent permitted by law) about the accuracy, completeness, or currency of information in MT20007 – Regulatory Support & Response Co-ordination. Reliance on any information provided by Hort Innovation is entirely at your own risk. Hort Innovation is not responsible for, and will not be liable for, any loss, damage, claim, expense, cost (including legal costs) or other liability arising in any way, including from any Hort Innovation or other person's negligence or otherwise from your use or non-use of MT20007 – Regulatory Support & Response Co-ordination, or from reliance on information contained in the material or that Hort Innovation provides to you by any other means.

**Legal notice**

Copyright © Horticulture Innovation Australia Limited 2023

Copyright subsists in Ag-Chemical Update. Horticulture Innovation Australia Limited (Hort Innovation) owns the copyright, other than as permitted under the Copyright ACT 1968 (Cth). The Ag-Chemical Update (in part or as a whole) cannot be reproduced, published, communicated or adapted without the prior written consent of Hort Innovation. Any request or enquiry to use the Ag-Chemical Update should be addressed to:

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