

## Macadamia Agrichemical Regulatory Risk Assessment

September 2022

Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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

## Macadamia Agrichemical Regulatory Risk Assessment

<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	Comments
<b>INSECT AND OTHER PESTS</b>			
Abamectin	6	Broad mite (PER87510)	EU: Restricted use to permanent greenhouses
		Flat mites (PER87510)	
		Flower thrips (PER87510)	
Acephate	1B	Banana-spotting bug	<a href="#">APVMA: nominated for review</a> Canada: Reviewed, continued use with risk mitigation EU: No authorisation in place
		Flower thrips	
		Fruit-spotting bug	
		Macadamia flower caterpillar	
		Macadamia leafminer	
		Macadamia nutborer	
Acetamiprid + Pyriproxyfen	4A + 7C	Banana-spotting bug	<a href="#">Acetamiprid</a> <a href="#">APVMA: Under review</a> EU: Under review
		Citrus mealybug	
		Fruit-spotting bug	
		Longtailed mealybug	
		Pink wax scale	
<i>Bacillus thuringiensis</i>	11A	Caterpillars	EU: Under review for authorisation renewal
		Helicoverpa	
		Painted vine moth	
		Armyworms	
		Light brown apple moth	
		Looper caterpillars	

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Active Constituents	Chemical group	Problem	Comments
Beta-cyfluthrin	3A	Fruit-spotting bug	EU: No authorisation in place
		Macadamia nutborer	
		Yellow peach moth	
Chlorantraniliprole	2B	Fall armyworm (PER89353)	
Carbaryl	1A	Cornelian	Canada: Reviewed, large number of uses deleted Codex: Review scheduled, support uncertain EU: Authorisation not renewed USA: Under review
		Macadamia cup moth	
		Macadamia nutborer	
		Macadamia twig-girdler	
		Red shouldered leaf beetle	
		Wingless grasshopper	
		Yellow peach moth	
Chlorpyrifos	1B	Australian plague locust (PER13642)	APVMA: <a href="#">Under review</a> Codex: Scheduled for review by JMPR Canada: Cancellation of all uses. EU: No authorisation in place USA: EPA decision to cancel use on food crops
Diazinon	1B	Macadamia felted coccid	APVMA: <a href="#">Under review</a> EU: No authorisation in place Codex: Withdrawal of Codex MRLs recommended
		Macadamia leafminer	
		Macadamia lace bug (PER14276)	
Fatty acids - K salt	UNE	Spider mites	
Fipronil + S-methoprene	2B+7A	Yellow crazy ants	Fipronil <a href="#">APVMA: Under review</a> Codex: Re-evaluation underway EU: No authorisation in place S-methoprene EU: No authorisations in place
Flupyradifurone	4D	Banana-spotting bug	EU: Under review
		Fruit-spotting bug	
		Macadamia lace bug	
		Scirtothrips	

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Indoxacarb	<b>22A</b>	Fire ants	Canada: No authorisation EU: Authorisation not renewed. Grace period expires 19/9/2022
		Sigastus weevil /Macadamia seed weevil (PER86827)	
		Fall armyworm (PER89278)	
Malathion/Maldison	<b>1B</b>	Australian plague locust (PER13642)	<a href="#">APVMA: Under review</a> Codex: Re-evaluation scheduled for 2023/24 EU: Restricted use to permanent greenhouses
		Wingless grasshopper	
Methomyl	<b>1A</b>	Fall armyworm(PER89293)	<a href="#">APVMA: nominated for review</a> Canada: Re-evaluation completed. Majority of uses removed EU: No authorisations in place USA: Under review
		Banana fruit caterpillar (PER90592)	
Methoxyfenozide	<b>18</b>	Macadamia flower caterpillar	EU: Proposed restricted authorisation & Candidate for substitution
		Macadamia nutborer	
Petroleum oil	<b>UNM</b>	Macadamia felted coccid (PER11635)	
Pyriproxyfen	<b>7C</b>	Fire ants	
S-methoprene	<b>7A</b>	Fire ants	EU: No authorisations in place
Spinetoram	<b>5</b>	Macadamia nutborer	
		Macadamia twig-girdler	
		Yellow peach moth	
		Yellow peach moth	
		Fall armyworm (PER89241)	
Spinosad	<b>5</b>	Fruit fly bait (PER80719)	
Sulfoxaflor	<b>4C</b>	Aphids	USA: Pollinator concerns EU: Restricted to permanent glasshouses only
		Banana-spotting bug	
		Black citrus aphid	
		Fruit-spotting bug	
Tebufenozide	<b>18</b>	Macadamia flower caterpillar	
		Macadamia nutborer	

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Tetraniliprole	<b>28</b>	Sigastus weevil /Macadamia seed weevil	EU: No authorisations
Trichlorfon	<b>1B</b>	Macadamia flower caterpillar	<a href="#">APVMA: nominated for review</a>
		Macadamia lace bug	Codex: No MRLs
		Banana-spotting bug (PER13689)	EU: No authorisations
		Fruit-spotting bug (PER13689)	USA: No MRLs
		Green vegetable bug (PER13689)	
Cholecalciferol	Rodents		EU: No authorisation
Coumatetralyl			EU: No authorisation
Zinc phosphide			

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Azoxystrobin + Tebuconazole	<b>11 + 3</b>	Husk spot	<u>Azoxystrobin</u> Canada: Review proposed <u>Tebuconazole</u> <a href="#">APVMA: nominated for review</a> Canada: Under review EU: Candidate for substitution USA: Under review
Carbendazim	<b>1</b>	Husk spot	Codex: Periodic re-evaluation scheduled EU: No authorisation
Copper	<b>M1</b>	Anthracnose	EU: Candidates for substitution
		Husk spot	
		Phomopsis husk rot & canker	
		Phytophthora root rot	
		Phytophthora Stem rot	
Difenoconazole	<b>3</b>	Husk spot	<a href="#">APVMA: nominated for review</a> EU: Candidate for substitution USA: Under review
Iprodione	<b>2</b>	Botrytis blight	Canada: Majority of food crop uses deleted Codex: Review scheduled EU: No authorisation in place USA: Proposed deletion or restriction of uses
		Raceme blight (Grey mould)	
Mefentrifluconazole	<b>3</b>	Husk spot	
Metalaxyl / Metalaxyl-M	<b>4</b>	Trunk (stem) canker	Metalaxyl EU: Candidate for substitution Metalaxyl-M EU: Restricted use approval
Penthiopyrad	<b>7</b>	Husk spot	
Phosphorous acid (PER84766)	<b>33</b>	Trunk (stem) canker	
Pyraclostrobin	<b>11</b>	Husk spot	Canada: Review initiated
Pyraclostrobin + Fluxapyroxad	<b>11 + 7</b>	Husk spot	

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Active Constituents	Chemical Group	Comments
<b>WEEDS</b>		
Carfentrazone-methyl	<b>14</b>	
Diquat	<b>22</b>	<a href="#">APVMA: Currently under review</a> EU: No authorisation in place
Flumioxazin	<b>14</b>	EU: Candidate for substitution
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 in place
Isoxaben	<b>29</b>	
Oryzalin	<b>3</b>	EU: No authorisation in place
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 Rotterdam Convention - nomination
Pendimethalin	<b>3</b>	EU: Candidate for substitution
Ethephon (PER11462)	-	

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