

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Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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

Macadamia nut Agrichemical Regulatory Risk Assessment

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	Broad mite (PER87510)	APVMA: Nominated for spray drift label review Canada: Some uses amended, others cancelled EU: Restricted use to permanent greenhouses
		Flat mites (PER87510)	
		Flower thrips (PER87510)	
Acephate	1B	Banana-spotting bug	APVMA: nominated for review Canada: Reviewed, continued use with risk mitigation EU: No authorisation in place USA: Under review
		Flower thrips	
		Fruit-spotting bug	
		Macadamia flower caterpillar	
		Macadamia leafminer	
		Macadamia nutborer	
		Red shouldered leaf beetle	
Acetamiprid + pyriproxyfen	4A + 7C	Banana-spotting bug	Acetamiprid APVMA: Under review 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	

Macadamia nut Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical group	Problem	Comments
Beta-cyfluthrin	3A	Fruit-spotting bug	EU: No authorisation in place
		Macadamia nutborer	
		Yellow peach moth	
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: Under review Codex: All MRLs revoked 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: Under review 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 APVMA: Under review 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	

Macadamia nut Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical group	Problem	Comments
Indoxacarb	22A	Fire ants	Canada: No authorisation EU: No authorisation
		Sigastus weevil /Macadamia seed weevil (PER86827)	
Malathion/Maldison	1B	Australian plague locust (PER13642)	APVMA: Under review Codex: Re-evaluation scheduled for 2025/26 EU: Restricted use to permanent greenhouses
		Wingless grasshopper	
Methomyl	1A	Banana fruit caterpillar(PER90592)	APVMA: nominated for review Canada: Re-evaluation completed. Majority of uses removed EU: No authorisations in place USA: Under review
Methoxyfenozide	18	Macadamia flower caterpillar	EU: Proposed restricted authorisation & Candidate for substitution
		Macadamia nutborer	
Petroleum oil	UNM	Macadamia felted coccid(PER11635)	
Pyriproxyfen	7C	Fire ants	
S-methoprene	7A	Fire ants	EU: No authorisations in place
Spinetoram	5	Macadamia nutborer	
		Macadamia twig-girdler	
		Yellow peach moth	
		Yellow peach moth	
Sulfoxaflor	4C	Aphids	USA: Pollinator concerns EU: Restricted to permanent glasshouses only
		Banana-spotting bug	
		Black citrus aphid	
		Fruit-spotting bug	
Tebufenozide	18	Macadamia flower caterpillar	
		Macadamia nutborer	

Macadamia nut Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical group	Problem	Comments
Tetraniliprole	28	Sigastus weevil /Macadamia seed weevil	EU: No authorisations
Trichlorfon	1B	Macadamia flower caterpillar	APVMA: nominated for review
		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			

Macadamia nut Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical group	Problem	Comments
Azoxystrobin + tebuconazole	11 + 3	Husk spot	<u>Azoxystrobin</u> Canada: Review proposed <u>Tebuconazole</u> APVMA: nominated for review Canada: Under review EU: Candidate for substitution USA: Under review
Carbendazim	1	Husk spot	Codex: Periodic re-evaluation scheduled EU: No authorisation
Copper	M1	Anthracnose	EU: Candidates for substitution
		Husk spot	
		Phomopsis husk rot & canker	
		Phytophthora root rot	
		Phytophthora Stem rot	
Difenoconazole	3	Husk spot	APVMA: nominated for review EU: Candidate for substitution USA: Under review
Iprodione	2	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	3	Husk spot	
Metalaxyl/ metalaxyl-M	4	Trunk (stem) canker	Metalaxyl EU: Candidate for substitution Metalaxyl-M EU: Restricted use approval
Penthiopyrad	7	Husk spot	
Phosphorous acid (PER84766)	33	Trunk (stem) canker	
Pyraclostrobin	11	Husk spot	Canada: Review initiated
Pyraclostrobin + fluxapyroxad	11 + 7	Husk spot	

Macadamia nut Agrichemical Regulatory Risk Assessment

Active Constituents	Chemical Group	Comments
WEEDS		
Carfentrazone-methyl	14	
Diquat	22	APVMA: Currently under review EU: No authorisation in place
Flumioxazin	14	EU: Candidate for substitution
Glufosinate	10	Canada: Review proposed EU: No authorisation in place
Glyphosate	9	Ongoing issues internationally EU: Under review
Haloxyfop-P	1	EU: No authorisation in place
Isoxaben	29	
Oryzalin	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 Rotterdam Convention - nomination
Pendimethalin	3	EU: Candidate for substitution
Ethephon (PER11462)	-	

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.

Macadamia nut Agrichemical Regulatory Risk Assessment

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

Phone: 02 8295 2300