

Pear 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Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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 pears 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	European red mite	APVMA: Nominated for spray drift label review
		Two-spotted mites	Canada: Some uses amended, & use in greenhouse gown cut flowers cancelled EU: Use restricted to permanent greenhouses
Abamectin + chlorantraniliprole	6 + 28	European red mite	<u>Abamectin:</u>
		Oriental fruit moth	APVMA: Nominated for spray drift label review
		Codling moth	Canada: Some uses amended, & use in greenhouse gown cut flowers cancelled
		Helicoverpa species	EU: Use restricted to permanent greenhouses
		Lightbrown apple moth	
Acequinocyl	20B	Two-spotted mites	
Acetamiprid + novaluron	4A + 15	Codling moth	<u>Acetamiprid</u>
		Lightbrown apple moth	APVMA: Under review
		Longtailed mealybug	<u>Novaluron</u>
		Woolly apple aphid	EU: No authorisation
		San Jose scale	
		Tuber mealybug	

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Active Constituents	Chemical Group	Problem	Comment
Alpha-cypermethrin	3A	Apple weevil Garden weevil	EU: Withdrawal of approval, grace period expired December 2022 UK: No authorisation
<i>B thuringiensis</i>	11A	Armyworm Caterpillars Helicoverpa species Lightbrown apple moth Loopers Painted vine moth Vine moths	EU: Under review for renewal
Bifenazate	20D	Bryobia mite European red mite Two-spotted mites	Canada: Review initiated EU: Proposed restriction to non-edible crops and to permanent greenhouses.
Bifenthrin	3A	Caterpillars Longtailed mealybug Two-spotted mites	Canada: Not authorised EU: Not authorised
Buprofezin	16	Longtailed mealybug	EU: MRLs set to limit of quantification
Carbaryl	1A	Codling moth Helicoverpa species Lightbrown apple moth Pear and cherry slug Pear leaf blister mite Wingless grasshoppers	Canada: Reviewed, large number of uses deleted Codex: Review scheduled, support uncertain EU: Authorisation not renewed USA: Under review
Chlorantraniliprole	28	Codling moth Helicoverpa species Lightbrown apple moth Oriental fruit moth	

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Active Constituents	Chemical Group	Problem	Comment
Chlorpyrifos	1B	Lightbrown apple moth	APVMA: Under review Codex: MRLs revoked Canada: Cancellation of all uses. EU: No authorisation in place USA: EPA decision to cancel use on food crops
		Locusts	
		Mealybugs	
		Queensland fruit fly (Bait spray)	
		San Jose scale	
		Wingless grasshoppers	
		Woolly apple aphid	
Clofentezine	10A	Bryobia mite	EU: No authorisation
		European red mite	
		Two-spotted mites	
Clothianidin	4A	Codling moth	APVMA: Under review Canada: Field uses cancelled or amended EU: Not authorised USA: Re-registration with new risk mitigation measures
		Fruit flies	
		Longtailed mealybug	
		Tuber mealybug	
<i>Cydia pomonella</i> granulosis virus	31	Codling moth	
		Oriental fruit moth	
Cyflumetofen	25A	Bryobia mite	
		European red mite	
		Two-spotted mites	
Diazinon	1B	San Jose scale	APVMA: Under review EU: No authorisation in place Codex: Withdrawal of Codex MRLs recommended
Dimethoate	1B	Fruit flies(PER13895 Orchard clean-up)	Codex: No MRL. EU: Not authorised
Dodecadienol (pheromone)	-	Codling moth	

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Active Constituents	Chemical Group	Problem	Comment
Etoxazole	10B	Bryobia mite	EU: Only uses on greenhouse ornamentals approved & Candidate for substitution
		European red mite	
		Two-spotted mites	
Fenbutatin oxide	12B	Bryobia mite	APVMA: nominated for review Codex: To be reviewed by JMPR. No supporting registrant EU: No authorisation in place USA: Under review
		European red mite	
		Two-spotted mites	
Fenoxycarb	7B	Codling moth	Codex: No MRLs EU: No authorisation in place
		Lightbrown apple moth	
		San Jose scale	
Fenpyroximate	21A	European red mite	
		Two-spotted mites	
Fipronil	2B	Ants	APVMA: Under review Codex: Re-evaluation completed, many MRLs withdrawn EU: No authorisation in place USA: Under review
		Fruit fly trap toxicant	
Flonicamid	29	Longtailed mealybug	
Helicoverpa NPV	31	Helicoverpa species	
Hexythiazox	10A	European red mite	
		Two-spotted mites	
Indoxacarb	22A	Apple weevil	Canada: No authorisation EU: Authorisation not renewed. Grace period expired September 2022 UK: Proposed non-renewal
		Codling moth	
		Curculio beetle	
		Fuller's rose weevil	
		Garden weevil	
		Helicoverpa species	
		Lightbrown apple moth	
		Wingless grasshoppers	

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Active Constituents	Chemical Group	Problem	Comment
Lambda-cyhalothrin	3A	Fruit flies(PER12961 – SA Biosecurity) (Soil drench)	EU: Candidate for substitution
Malathion	1B	Apple leafhopper	APVMA: Under review Codex: Re-evaluation scheduled EU: Restricted use to permanent greenhouses
		Caterpillars	
		Codling moth	
		European red mite	
		Locusts	
		Scale insects	
		Spider mites	
		Thrips	
		Wingless grasshoppers	
		Woolly apple aphid	
		Fruit flies(lures)	
Methomyl	1A	Lightbrown apple moth	APVMA: nominated for review Canada: Re-evaluation completed. Majority of uses removed EU: No authorisations in place USA: Under review
Methoxyfenozide	18	Lightbrown apple moth	EU: Proposed restricted authorisation & Candidate for substitution
		Loopers	
Milbemectin	6	European red mite	Codex: No MRLs
		Two-spotted mites	
NPV	31	Helicoverpa spp.	
Omethoate	1B	European red mite	Codex: MRLs at or near LOQ Canada: No approvals in place EU: No authorisations in place USA: No approvals in place
		Two-spotted mite	
		Woolly aphid	

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Active Constituents	Chemical Group	Problem	Comment
Paraffinic oil/ petroleum oil	UNM	Spider mites	
		Two-spotted mites	
		Bryobia mite	
		European red mite	
		Frosted scale	
		Oyster shell scale	
		Pear leaf blister mite	
		San Jose scale	
		Scale insects	
		Pear rust mite	
Propargite	12C	Two-spotted mites	APVMA: nominated for review EU: No authorisations
Prothiofos	1B	Longtailed mealybug	Codex: No MRLs
		Mealybugs	EU: No authorisation
Pyrethrins	3A	Aphids	Canada: Under review
		Apple leafhopper	
		Caterpillars	
		Thrips	
Pyridaben	21A	Two-spotted mites	

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Active Constituents	Chemical Group	Problem	Comment
Pyriproxyfen	7C	Ants	
		Red imported fire ant (PER87728)	
S-methoprene	7A	Red imported fire ant (PER90213)	EU: No authorisations in place
Spinetoram	5	Caterpillars	
		Codling moth	
		Helicoverpa species	
		Lightbrown apple moth	
		Loopers	
		Oriental fruit moth	
		Pear and cherry slug	
		Western flower thrips	
		Fruit flies (PER12590)	
Spinosad	5	Helicoverpa species	
		Lightbrown apple moth	
		Loopers	
		Western flower thrips	
		Pear and cherry slug	
		Fruit flies (PER80719) (Lures)	
		Fall armyworm (PER89870)	
Spirotetramat	23	Longtailed mealybug	
		San Jose scale	
		Tuber mealybug	
		Woolly apple aphid	

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Active Constituents	Chemical Group	Problem	Comment
Sulfoxaflor	4C	Apple dimpling bug(Yellow mirid)	USA: Pollinator concerns EU: Restricted use to permanent glasshouses only
		Longtailed mealybug	
		San Jose scale	
		Tuber mealybug	
		Woolly apple aphid	
Sulfur	M2	European red mite	
		Mites	
		Pear leaf blister mite	
Tebufenozide	18	Codling moth	
		Lightbrown apple moth	
		Loopers	
Tebufenpyrad	21A	European red mite	EU: Candidate for substitution
		Two-spotted mites	
Tetraniliprole	28	Apple weevil	EU: Not authorised
		Fuller's rose weevil	
		Garden weevil	
Thiacloprid	4A	Codling moth	APVMA: Under review EU: No authorisation in place USA: No authorisation
		Oriental fruit moth	
		Woolly apple aphid	
		Mediterranean fruit fly (PER14562)	
Trichlorfon	1B	Rutherglen bug	APVMA: nominated for review Codex: No MRLs EU: No authorisations USA: No MRLs
		Fruit flies	

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Active Constituents	Chemical Group	Problem	Comment
DISEASES			
BCDMH		Surface sterilisation	EU: Under assessment
Boscalid + pyraclostrobin	7 + 11	Black spot	<u>Boscalid</u> Canada: Under review <u>Pyraclostrobin</u> Canada: Under review
Captan	M4	Black spot	EU: Under review proposed restriction to use in permanent greenhouses only USA: Under review
Chlorine	M	Surface moulds	
Copper	M1	Bitter rot	EU: Candidates for substitution
		Black spot	
		Fly speck	
		Ripe fruit rot/spot	
		Sooty blotch	
Cyprodinil	9	Black spot	Canada: Under review EU: Candidate for substitution
Difenoconazole	3	Black spot	APVMA: nominated for review EU: Candidate for substitution USA: Under review
		Powdery mildew	
Dithianon	M9	Black spot	EU: Restricted use to non-edible crops
Dodine	U12	Black spot	
Fludioxonil	12	Blue mould	EU: Under review, & candidate for substitution
		Grey mould	
Fluopyram + trifloxystrobin	7 + 11	Black spot	
Fluxapyroxad	7	Black spot	
Hexaconazole	3	Black spot	APVMA: nominated for review EU: No authorisation
Imazalil	3	Blue mould	EU: Under review, withdrawal of many EU MRLs proposed.
Iodine (Po)	M	Bactericide/fungicide	

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Active Constituents	Chemical Group	Problem	Comment
Iprodione	2	Blue & green moulds	Canada: Majority of food crop uses deleted Codex: Review scheduled EU: No authorisation in place USA: Proposed deletion or restriction of uses
		Blue mould	
		Botrytis blight	
		Ripe fruit rot/spot	
		Storage rot	
Isopyrazam	7	Black spot	EU: Authorisation not renewed
Kresoxim-methyl	11	Black spot	Canada: Reduced number of applications
Mancozeb	M3	Bitter rot	APVMA: nominated for review Canada: Many uses cancelled Codex: To be reviewed 2024/25 EU: Authorisation not renewed
		Black spot	
		Fly speck	
		Powdery mildew	
		Ripe fruit rot/spot	
		Sooty blotch	
		Target spot (Early blight)	
Metiram	M3	Bitter rot	APVMA: nominated for review Canada: All foliar uses, except potato, cancelled Codex: To be reviewed 2024/25 EU: Under review
		Black spot	
		Sooty blotch	
Myclobutanil	3	Black spot	APVMA: nominated for review EU: No authorisation in place
Penconazole	3	Black spot	APVMA: nominated for review
Penthiopyrad	7	Black spot	
		Powdery mildew	
Petroleum oil/paraffinic oil	-	Powdery mildew	
Proquinazid	13	Powdery mildew	
Pyrimethanil	9	Blue mould	Canada: Review initiated
		Grey mould	
		Ripe fruit rot/spot	

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Active Constituents	Chemical Group	Problem	Comment
Sulfur	M2	Black spot	
		Powdery mildew	
Thiabendazole	1	Blue mould	
		Grey mould	
		Ripe fruit rot/spot	
Thiram	M3	Black spot	APVMA: nominated for review Canada: All foliar uses cancelled Codex: To be reviewed 2024/25 EU: No authorisation in place
Triadimenol	3	Myrtle rust (Non-bearing trees)	APVMA: nominated for review Canada: No authorisation in place EU: No authorisation in place USA: Registration cancelled
Trifloxystrobin	11	Black spot	Canada: Under review
		Powdery mildew	
Zineb	M3	Bitter rot	APVMA: nominated for review Codex: To be reviewed 2024/25 EU: No authorisation in place
		Black spot	
		Sooty blotch	
		Black spot	
Ziram	M3	Black spot	APVMA: nominated for review Codex: To be reviewed 2024/25 EU: No authorisation in place

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Active Constituents	Chemical Group	Comment
BROADLEAF WEEDS AND GRASSES		
2,2-DPA as Na salt	0	
Carfentrazone-ethyl	14	
Clethodim	1	
Dichlobenil	29	EU: No authorisation in place
Diquat	22	APVMA: Currently under review EU: No authorisation in place
Fluazifop	1	
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 (non-bearing)	29	
Norflurazon	12	EU: No authorisation in place
Oryzalin	3	EU: No authorisation in place
Oxyfluorfen	14	EU: Candidate for substitution
Paraquat	22	APVMA: Currently under review Canada: Review initiated EU: No authorisation in place Rotterdam Convention - nomination
Saflufenacil	14	EU: No authorisation in place
Simazine	5	APVMA: nominated for review EU: No authorisation in place

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Active Constituents	Chemical Group	Comment
PLANT GROWTH REGULATORS		
1-methyl-cyclopropene	-	
2,4-D	-	
6-benzyladenine	-	
DPA	-	EU: No authorisation
Gibberellins	-	
NAA	-	

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