

Squash Agrichemical Regulatory Risk Assessment

March 2024

Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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 squash production, 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	Comments
INSECT AND OTHER PESTS			
Abamectin	6	Root-knot nematodes	APVMA: Nominated for spray drift label review
		Tomato red spider mite (PER14722)	Canada: Some uses amended, others cancelled
		Vegetable leafminer (PER81876)	EU: Use restricted to permanent greenhouses
Afidopyropen	9D	Cabbage aphid	EU/UK: No authorisations in place
		Cotton / melon aphid	
		Currant lettuce aphid	
		Green peach aphid	
		Silverleaf (Poinsettia) whitefly	
Alpha-cypermethrin	3A	Cucumber fly (PER80138)	EU/UK: No authorisations in place
<i>Bacillus thuringiensis</i>	11A	Armyworms	EU: Under review for renewal
		Cabbage white butterfly	
		Helicoverpa	
		Loopers	
Beta-cyfluthrin	3A	Cucumber moth	EU/UK: No authorisations in place
		Helicoverpa	
Bifenazate	20D	Bryobia mite	Canada: Under review
		Two-spotted (Red spider) mite	EU: Use restricted to non-edible crops in permanent greenhouses
Bifenthrin	3A	Caterpillars	Canada: Not authorised EU/UK: No authorisations in place
		Cucumber moth	
		Helicoverpa	
		Mites	
		Moths	
		Silverleaf (Poinsettia) whitefly	
		Whitefly	

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Active Constituents	Chemical Group	Problem	Comments
Buprofezin	16	Cotton (Sweet Potato) whitefly (PER82467)	EU: MRLs set to limit of quantification
		Greenhouse whitefly (PER82467)	
		Silverleaf (Poinsettia) whitefly (PER82467)	
Carbaryl	1A	28-spotted potato ladybird	Canada: Reviewed, large number of uses deleted Codex: Review scheduled, support uncertain EU/UK: No authorisations in place USA: Under review
		Armyworms	
		Cucurbit stem borer	
		Cutworms	
		European earwig	
		Green vegetable bug	
		Helicoverpa	
		Leaf eating ladybirds	
		Potato moth (Leafminer)	
		Pumpkin beetle	
		Rutherglen bug	
		Wingless grasshopper	
Chlorantraniliprole	28	Cucumber moth	
		Helicoverpa	
		Lucerne leaf roller	
Chlorantraniliprole + thiamethoxam	4A + 28	Diamondback (Cabbage) moth	<u>Thiamethoxam</u> APVMA: Under review Canada: Some field uses cancelled or amended EU/UK: No authorisations in place USA: Re-registration with new risk mitigation measures
		Green vegetable bug	
		Greenhouse whitefly	
		Leafhoppers	
		Onion (Cotton seedling) thrips	
		Potato moth (Leafminer)	
		Psyllids (Lerps)	
		Silverleaf (Poinsettia) whitefly	
		Soybean looper	
		Tomato thrips	
		Western flower thrips	
		Vegetable leafhopper	
		Brown sowthistle aphid	
Cabbage cluster caterpillar			

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Active Constituents	Chemical Group	Problem	Comments
Chlorantraniliprole + thiamethoxam	4A + 28	Cabbage white butterfly	
		Cabbage-centre grub	
		Cluster caterpillar	
		Green peach aphid	
		Cabbage aphid	
Chlorpyrifos	1B	Ants	APVMA: Proposed deletion of uses Codex: All MRLs revoked Canada: Cancellation of all uses. EU/UK: No authorisation in place USA: EPA decision to cancel use on food crops
		Field crickets	
		Mealybugs	
		Mole crickets	
		Whitefly	
		Australian plague locust (PER11843)	
		Migratory locust (PER11843)	
		Spur-throated locust(PER11843)	
Clothianidin	4A	Cucumber fly (PER80101)	APVMA: Under review Canada: Field uses cancelled or amended EU/UK: No authorisations in place USA: Re-registration with new risk mitigation measures
Cyantraniliprole	28	Cotton / melon aphid	
		Cucumber moth	
		Helicoverpa	
		Silverleaf (Poinsettia) whitefly	
		Western flower thrips	
Cyromazine	17	Vegetable leafminer(PER81867)	EU/UK: No authorisations in place
Diafenthiuron + cyantraniliprole	12A + 28	Cluster caterpillar	Diafenthiuron: EU/UK: No authorisations in place
		Cotton / melon aphid	
		Cucumber moth	
		Green peach aphid	
		Helicoverpa	
		Plague thrips	
		Silverleaf (Poinsettia) whitefly	
		Tomato thrips	
		Two-spotted (Red spider) mite	
Western flower thrips			

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Active Constituents	Chemical Group	Problem	Comments
Diazinon	1B	Caterpillars	APVMA: Proposed deletion of uses EU/UK: No authorisation in place Codex: Codex MRLs deleted
		Cutworms	
		Thrips	
Dimpropridaz	36	Cotton/melon aphid	Codex: Evaluation for MRLs scheduled for 2025 EU: Authorisation pending
		Greenhouse whitefly	
		Silverleaf whitefly	
Emamectin benzoate	6	Cluster caterpillar	EU: Candidate for substitution
		Cucumber moth	
		Helicoverpa	
		Tomato grub	
Etoxazole	10B	Tomato red spider mite (PER82460)	EU: Only uses on greenhouse ornamentals approved & Candidate for substitution
		Two-spotted (Red spider) mite (PER82460)	
Fonicamid	29	Cotton / melon aphid	
		Green peach aphid	
		Silverleaf (Poinsettia) whitefly	
Fluazaindolizine	N-UN	Root-knot nematodes	EU: Pending
Flubendiamide	28	Cluster caterpillar	EU: Authorisation expires August 2024
		Helicoverpa	
Flupyradifurone	4D	Cotton / melon aphid	EU: Under review
		Green peach aphid	
		Greenhouse whitefly	
		Silverleaf (Poinsettia) whitefly	
Helicoverpa NPV	31	Helicoverpa	
Imidacloprid	4A	Green peach aphid	APVMA: Under review Canada: Field uses cancelled or amended EU/UK: No authorisations in place USA: Re-registration with new risk mitigation measures
		Pear and cherry slug	
		Silverleaf (Poinsettia) whitefly	

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Active Constituents	Chemical Group	Problem	Comments
Malathion/Maldison	1B	28-spotted potato ladybird	APVMA: Under review Codex: Re-evaluation scheduled for 2025/26 EU: Restricted use to permanent greenhouses USA: Under review, label use patterns amended
		Aphids	
		Green vegetable bug	
		Jassids	
		Leafhoppers	
		Pumpkin beetle	
		Redlegged earth mite	
		Rutherglen bug	
		Australian plague locust (PER11843)	
		Migratory locust (PER11843)	
		Spur throated locusts(PER11843)	
Methomyl	1A	Cluster caterpillar (PER82428)	APVMA: nominated for review Canada: Re-evaluation completed. Majority of uses removed EU/UK: No authorisations in place USA: Under review
		Cucumber moth (PER82428)	
		Helicoverpa (PER82428)	
		Loopers (PER82428)	
		Rutherglen bug (PER82428)	
		Thrips (PER82428)	
		Webworms (PER82428)	
		Western flower thrips (PER82428)	
NPVirus	31	Helicoverpa spp.	
Orange oil	UNE	Silverleaf whitefly	
		Two-spotted mite	
Paraffinic / Petroleum oil	UNM	Aphids	
		Leafhoppers	
		Greenhouse whitefly	
		Mites	
		Silverleaf (Poinsettia) whitefly	
		Thrips	
Pirimicarb	1A	Aphids	Codex: JMPR re-evaluation scheduled EU: Candidate for substitution
Pymetrozine	9B	Cotton / melon aphid	Canada: Restricted use to glasshouses only Codex: No registrant support EU/UK: No authorisations in place
		Cowpea aphid	
		Green peach aphid	
		Greenhouse whitefly	
		Potato aphid	
		Silverleaf (Poinsettia) whitefly	

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Active Constituents	Chemical Group	Problem	Comments
Pyrethrins	3A	Ants	Canada: Under review
		Aphids	
		Cabbage white butterfly	
		Caterpillars	
		Diamondback (Cabbage) moth	
		Earwig	
		Leafhoppers	
		Mealybugs	
		Scale insects	
		Thrips	
		Whitefly	
Pyriproxyfen	7C	Silverleaf (Poinsettia) whitefly	
Spinetoram	5	Caterpillars	EU: Authorisation expires June 2024
		Cucumber moth	
		Helicoverpa	
		Western flower thrips	
		Vegetable leafminer (PER91155)	
Spinosad	5	Cucumber moth	
		Helicoverpa	
		Western flower thrips	
		Fall armyworm (PER89870)	
		Vegetable leafminer (PER90928)	
Spirotetramat	23	Cotton / melon aphid	EU: Authorisation expires April 2024
		Green peach aphid	
		Silverleaf (Poinsettia) whitefly	
Spodoptera (NPV)	31	Fall armyworm(PER90820)	
Sulfoxaflor	4C	Cotton / melon aphid	USA: Pollinator concerns EU: Restricted to permanent glasshouses only
		Green peach aphid	
		Greenhouse whitefly	
Trichlorfon	1B	Cutworms	APVMA: nominated for review Codex: No MRLs EU/UK: No authorisations in place USA: No MRLs

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Active Constituents	Chemical Group	Problem	Comments
DISEASES			
Ametoctradin + dimethomorph	45 + 40	Downy mildew	<u>Dimethomorph</u> EU: Under review
<i>Aureobasidium pullulans</i>	NC	Grey mould Sclerotinia rot	
Azoxystrobin	11	Downy mildew Gummy stem blight Powdery mildew	Canada: Review proposed
Azoxystrobin + oxathiapiprolin	11 + 49	Gummy stem blight Sclerotinia rot	
Benalaxyl	4	Alternaria leaf blight Downy mildew Gummy stem blight	EU/UK: No authorisations in place (Benalaxyl-M approved)
Boscalid + kresoxim-methyl	7 + 11	Powdery mildew	<u>Boscalid</u> Canada: Under review
Bupirimate	8	Powdery mildew	
Chlorothalonil	M5	Alternaria leaf blight Anthracnose Downy mildew Gummy stem blight Powdery mildew Rhizoctonia ground rot Target leafspot	APVMA: nominated for review Canada: Cancellation of uses proposed EU/UK: No authorisations in place USA: Under review
Copper	M1	Angular leaf spot Anthracnose Bacterial spot Downy mildew Gummy stem blight Leaf diseases/spots Powdery mildew	EU: Candidate for substitution

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Active Constituents	Chemical Group	Problem	Comments
Cyflufenamid	U6	Powdery mildew	
Dimethomorph	40	Alternaria leaf blight	EU: Under review
		Anthracnose	
		Downy mildew	
		Gummy stem blight	
		Septoria spot	
Fluopicolide + propamocarb HCl	28 + 43	Downy mildew	Fluopicolide: EU: Candidate for substitution
Florylpicoxamid	21	Powdery mildew	EU: Authorisation pending
Hydrogen peroxide + peroxyacetic acid	M	Powdery mildew	
Iodine	M	Bactericide	
		Fungi	
Mancozeb	M3	Angular leaf spot	APVMA: Nominated for review Canada: Many uses cancelled Codex: To be reviewed EU/UK: No authorisations in place
		Anthracnose	
		Downy mildew	
		Gummy stem blight	
		Septoria spot	
		Alternaria leaf blight	
		Powdery mildew	
Melaleuca oil	46	Powdery mildew	
Metalaxyl/ Metalaxyl-M	4	Phytophthora soil fungus (Dieback)	<u>Metalaxyl</u> EU: Candidate for substitution
		Damping off	
		Downy mildew	<u>Metalaxyl-M</u> EU: Restricted use approval
		Gummy stem blight	
		Alternaria leaf blight	
Metiram	M3	Downy mildew	APVMA: Nominated for review Canada: Only foliar use on potato Codex: To be reviewed EU/UK: No authorisations in place
		Gummy stem blight	
Metrafenone	U8	Powdery mildew	
Oxadixyl	4	Gummy stem blight	EU/UK: No authorisations in place
		Downy mildew	
Oxathiapiprolin	49	Downy mildew	

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Active Constituents	Chemical Group	Problem	Comments
Penthiopyrad	7	Grey mould	
		Gummy stem blight	
		Powdery mildew	
Phosphorous acid	33	Downy mildew	
Propineb	M3	Anthracnose	APVMA: Nominated for review EU/UK: No authorisations in place Codex: To be reviewed
		Downy mildew	
		Gummy stem blight	
Proquinazid	13	Powdery mildew	
Pydiflumetofen + difenoconazole	7 + 3	Alternaria leaf spot	Pydiflumetofen: EU: Authorisation pending Difenoconazole: APVMA: nominated for review EU: Candidate for substitution USA: Under review
		Gummy stem blight	
		Powdery mildew	
Pyriofenone	50	Powdery mildew	
<i>Streptomyces lydicus</i>	BM02	Powdery mildew	
Triadimenol	3	Powdery mildew	APVMA: nominated for review Canada : No authorisation in place EU/UK: No authorisations in place USA: Registration cancelled
Zineb	M3	Anthracnose	APVMA: Nominated for review Codex: To be reviewed EU/UK: No authorisations in place
		Downy mildew	

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Active Constituents	Chemical Group	Comment
WEEDS		
Clomazone	13	
Dimethenamid-P (Kabocho)	15	
Fluazifop-P	1	

Plant growth regulator		
Paclobutrazol Compactness (seedlings)		EU: Candidate for substitution

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Communications Manager

Hort Innovation

Level 7, 141 Walker Street

North Sydney NSW 2060

Australia

Email: communications@horticulture.com.au

Phone: 02 8295 2300