

Trade Advice Note
on
Thiamethoxam
in the product
Actara Insecticide
(APVMA Product Number 56499)

Australian Pesticides and Veterinary Medicines Authority

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Trade Advice Note on the Product

Actara Insecticide

The Australian Pesticides and Veterinary Medicines Authority (APVMA) has before it an application from Syngenta Crop Protection Pty Limited to extend the label of the registered product Actara Insecticide, containing 250 g/kg thiamethoxam. Syngenta wish to include control of Kelly's citrus thrips in citrus crops.

Nine trials were conducted across Australia to determine residues of thiamethoxam and its metabolite CGA 322704 in citrus fruits. Residues of thiamethoxam in citrus 42-43 days after 1 or 2 applications of product at 7.5-10 g ai/100 L (1-1.3× proposed spray concentration) were <0.02 (n = 6), 0.02, 0.05, 0.06 and 0.55 mg/kg. These results support the applicants proposed MRL of 1 mg/kg for thiamethoxam on citrus, with a 7 week withholding period.

For samples harvested 153-175 days after application, levels of thiamethoxam were all below the limit of quantitation (0.02 mg/kg). These results support a 22 week withholding period for citrus fruit destined for export to markets where a lower MRL or no MRL has been established.

Oranges from European trials were processed into juice and marmalade. Initial residues of thiamethoxam were 0.04 mg/kg in whole fruit. Residues of thiamethoxam in juice and marmalade were <0.02 and 0.02 mg/kg respectively, suggesting that there is no concentration of residues during processing.

As the peel is the largest component of citrus pulp and will have the largest residue, it is appropriate to use the residue in peel to calculate a concentration factor for processing of whole fruit to citrus pulp, which may be used as a livestock feed. In the European trials, a whole fruit residue of 0.04 mg/kg corresponded to a residue of 0.09 mg/kg in peel, giving a concentration factor of 2.25. Applying the concentration factor of 2.25 to the maximum Australian residue of 0.55 mg/kg in whole orange, gives an estimated residue of 1.24 mg/kg (wet weight) in the pulp. For citrus pulp consisting of 20% dry matter, this corresponds to a maximum residue of 6.19 mg/kg on a dry weight basis. Therefore it is appropriate to establish an MRL of 7 mg/kg for thiamethoxam in citrus pulp, dry.

Animal Commodities

Citrus pulp is considered a feed component for livestock. Based on an animal transfer study and the expected residue levels in citrus fruit, animal exposure to treated citrus pulp is unlikely to result in detectable residues in meat and milk commodities. The current animal commodity MRLs for thiamethoxam are therefore acceptable with respect to the proposed use.

1. Commodities exported

Citrus fruit and animal commodities derived from livestock fed on treated citrus pulp are the commodities exported.

2. Destination and Value of Exports

Citrus

In the 2002/03 season Australia exported 167,426 tonnes of citrus fruit valued at \$201.9 million.¹ The 10 largest export markets for Australian citrus fruit by value are shown below.

Importing Country	Tonnes	\$'000
USA	23,199	49,248
Hong Kong	39,932	44,377
Malaysia	32,029	25,802
Japan	11,369	18,467
Singapore	16,057	15,215
Indonesia	11,928	13,158
Canada	4,857	7,158
New Zealand	7,336	6,665
Taiwan	6,562	6,252
Korea	2,031	3,648
Other	12,126	11,866

3. Proposed Australian use-pattern

Actara Insecticide (250 g/kg Thiamethoxam)

Crop	Pest	Rate	Critical Comments
Citrus	Kelly's Citrus Thrips (<i>Pezothrips kellyanus</i>)	20-30 g/100 L of water + summer oil at 0.5% v/v (equivalent to 5-7.5 g ai/100 L)	Apply as a foliar spray when thrips larvae incidence is $\geq 5\%$ fruit infested, typically just prior to calyx closure (BBCH GS 69-71). Apply in up to 5000 L water/ha (refer to sections on dilute and concentrate spraying). Use the upper label rate where thrips incidence is high, such as in lemons, or where extended residual control is desired. DO NOT exceed 1.5 kg/ha. Spray oils can cause crop phytotoxicity and fruit spotting under certain adverse environmental conditions. Use a registered summer oil and refer to label restrictions of manufacturer.

Restrains:

DO NOT apply more than 2 applications per crop.

Withholding periods:

Citrus: Do not harvest for 7 weeks after application.

¹ The Australian Horticulture Statistics Handbook 2004

Export trade advice:

Citrus destined for export may require extra time being allowed between application and harvest. Fruit destined for countries where a lower MRL or no MRL have been set require a withholding period of 22 weeks.²

4. Overseas registration and approved label instructions

The applicant has not provided any details regarding overseas registration and approved label instructions for the product.

5. Codex Alimentarius Commission and overseas MRLs

Codex MRLs have not been established for thiamethoxam on citrus.

The following overseas residue MRLs/ tolerances have been established:

Country	Commodity	Tolerance, mg/kg
Japan	Lemon	0.5 (provisional)
	Orange (including navel orange)	0.5 (provisional)
	Grapefruit	0.5 (provisional)
	Lime	0.5 (provisional)
	Other Citrus fruits	0.5 (provisional)
Korea	Mandarin	1.0

6. Proposed Australian MRLs for thiamethoxam:

The following changes to the Australian MRL standard are proposed for thiamethoxam:

Table 1

Compound	Food	MRL (mg/kg)
Thiamethoxam		
DELETE:		
	FC 0001 Citrus fruits	T0.2
ADD:		
	FC 0001 Citrus fruits	1

Table 4

Compound	Animal feed commodity	MRL (mg/kg)
ADD:		
Thiamethoxam	AB 0001 Citrus pulp, dry	7

² The approximate growth stage at 22 weeks before harvest corresponds to BBCH 72-73 (green fruit surrounded by sepal crown to beginning of physiological fruit drop).

For full details of thiamethoxam MRLs, please refer to the APVMA website <http://www.apvma.gov.au> and follow the Residues link.

7. Potential Risk to Trade

Export of treated produce containing finite (measurable) residues of thiamethoxam may pose a risk to Australian trade in situations where (i) no residue tolerance (import tolerance) is established in the importing country or (ii) where residues in Australian produce are likely to exceed a residue tolerance (import tolerance) established in the importing country.

The main export market for Australian citrus fruit is the USA, where relevant MRLs for thiamethoxam have not been established. Of the other export markets, Japan has established provisional MRLs for a range of citrus fruits. However, these are lower than the proposed Australian MRL. Export of citrus fruit to New Zealand will not be affected, as New Zealand will recognise any Australian MRL under the Trans-Tasman Mutual Recognition Agreement.

In order to mitigate the risk to trade in citrus fruit with countries where a lower MRL or no MRL has been set, an export trade advice statement has been included on the label requiring a 22 week harvest withholding period. This would allow application of product up to the crop growth stage BBCH 72-73 to ensure that no detectable residues are present in citrus fruit for export.

The overall risk to export trade in animal commodities derived from livestock fed citrus pulp from treated crops is considered to be negligible, as detectable residues are not expected to occur.

8. Conclusions

Detectable residues of thiamethoxam are likely to occur in harvested citrus fruit when Actara Insecticide is used as directed. Of the main export markets for Australian citrus, only Japan and Korea have established relevant MRLs. However, the Japanese MRLs for thiamethoxam on citrus are lower than those proposed for Australia. The applicant proposes to mitigate the risk to trade in citrus by the inclusion of an export advice statement on the label requiring a 22 week withholding period for fruit destined for export to countries with lower or no established MRLs. This will ensure no detectable residues are present.

The overall risk to export trade in animal commodities derived from livestock fed citrus pulp from treated crops is considered to be negligible, as detectable residues are not expected to occur.

Comments are sought on the potential for Actara Insecticide to unduly prejudice Australian export trade when it is used on citrus fruit to control Kelly's citrus thrips.