Proposed Maximum Residue Limit PMRL2015-13

# Deltamethrin

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Under the authority of the *Pest Control Products Act*, Health Canada's Pest Management Regulatory Agency (PMRA) is proposing to establish maximum residue limits (MRLs) for deltamethrin on various commodities to permit the import and sale of foods containing such residues.

Deltamethrin is an insecticide and acaricide currently registered in Canada for use on various commodities.

The PMRA must determine the quantity of residues that are likely to remain in or on the imported food commodities when deltamethrin is used according to label directions in the exporting country, and that such residues will not be a concern to human health. This quantity is then legally established as an MRL on the corresponding imported commodity. An MRL applies to the identified raw agricultural food commodity as well as to any processed food product that contains it, except where separate MRLs are specified for the raw agricultural commodity and a processed product made from it.

Consultation on the proposed MRLs for deltamethrin is being conducted via this document (see Next Steps, the last section of this document). A summary of the field trial data used to support the proposed MRLs can be found in Appendix I.

To comply with Canada's international trade obligations, consultation on the proposed MRLs is also being conducted internationally by notifying the World Trade Organization, as coordinated by Canada's Notification Authority and Enquiry Point.

The proposed MRLs, to be added to the MRLs already established for deltamethrin, are as follows.

**Table 1 Proposed Maximum Residue Limits for Deltamethrin**

| Common Name | Residue Definition | MRL (ppm)[1] | Food Commodity |
|---|---|---|---|
| Deltamethrin | Cyclopropanecarboxylic acid, 3-(2,2-dibromoethenyl)-2,2-dimethyl-, (S)-cyano(3-phenoxyphenyl)methyl ester, (1R,3R)-, including the isomers cyclopropanecarboxylic acid, 3-(2,2-dibromoethenyl)-2,2-dimethyl-, (S)-cyano(3-phenoxyphenyl)methyl ester, (1R,3S)- and cyclopropanecarboxylic acid, 3-(2,2-dibromoethenyl)-2,2-dimethyl-, (R)-cyano(3-phenoxyphenyl)methyl ester, (1R,3R)- | 7.0 | Tea (dried leaves) |
| | | 0.4 | Pome fruits (CG 11-09) |
| | | 0.3 | Leeks; sweet cherries, tart cherries |
| | | 0.2 | Cucurbit vegetables (CG 9); fuzzy kiwifruit; grapes; strawberries |
| | | 0.01 | Figs |

[1] ppm = parts per million

MRLs are proposed for each commodity included in the listed crop groupings in accordance with the Residue Chemistry Crop Groups webpage in the Pesticides and Pest Management section of Health Canada's website.

MRLs established in Canada may be found using the Maximum Residue Limit Database on the Maximum Residue Limits for Pesticides webpage. The database allows users to search for established MRLs, regulated under the *Pest Control Products Act*, both for pesticides or for food commodities.

## International Situation and Trade Implications

The MRL proposed for deltamethrin on cucurbit vegetables (CG 9) in Canada is the same as the corresponding American tolerance and Codex MRL.[1] Table 2 compares the MRLs proposed for deltamethrin on figs, fuzzy kiwifruit, grapes, leeks, strawberries, sweet or tart cherries and tea (dried leaves) in Canada with corresponding American tolerances and Codex MRLs. American tolerances are listed in the Electronic Code of Federal Regulations, 40 CFR Part 180, by pesticide. A listing of established Codex MRLs is available on the Codex Alimentarius Pesticide Residues in Food website, by pesticide or commodity.

**Table 2 Comparison of Canadian MRLs, American Tolerances and Codex MRLs (Where Different)**

| Food Commodity | Canadian MRL (ppm) | American Tolerance (ppm) | Codex MRL (ppm) |
|---|---|---|---|
| Figs | 0.01 | Not established | Not established |
| Fuzzy kiwifruit | 0.2 | Not established | Not established |
| Grapes | 0.2 | Not established | 0.2 |
| Leeks | 0.3 | Not established | 0.2 |
| Pome fruits (CG 11-09) | 0.4 | 0.2 | 0.2 (apple) |
| Strawberries | 0.2 | Not established | 0.2 |
| Sweet cherries, tart cherries | 0.3 | Not established | Not established |
| Tea (dried leaves) | 7.0 | Not established | 5.0 |

[1] The Codex Alimentarius Commission is an international organization under the auspices of the United Nations that develops international food standards, including MRLs.

## Next Steps

The PMRA invites the public to submit written comments on the proposed MRLs for deltamethrin up to 75 days from the date of publication of this document. Please forward your comments to Publications (see the contact information on the cover page of this document). The PMRA will consider all comments received before making a final decision on the proposed MRLs. Comments received will be addressed in a separate document linked to this PMRL. The established MRLs will be legally in effect as of the date that they are entered into the Maximum Residue Limit Database.

# Appendix I

## Summary of Field Trial Data Used to Support the Proposed MRLs

Residue data for deltamethrin in tea, grapes, figs, strawberries, kiwifruit, leeks and cherries were submitted to support the maximum residue limits (MRLs) on imported pome fruits (CG 11-09), cucurbit vegetables (CG 9), tea (dried leaves), grapes, figs, strawberries, kiwifruit, leeks and cherries. Previously reviewed residue data from field trials conducted on apple, pear, cucumber, cantaloupe and summer squash were reassessed in the framework of this petition. In addition, processing studies in treated grapes and tea were reviewed and a processing study in treated apples was also reassessed to determine the potential for concentration of residues of deltamethrin into processed commodities.

## Maximum Residue Limit(s)

The recommendation for MRLs for deltamethrin was based upon the residues observed in crop commodities treated according to 0.8- to four-fold rates in the exporting countries, and the guidance provided in the OECD MRL Calculator. Table A1 summarizes the residue data used to calculate the proposed MRLs for imported pome fruits (CG 11-09), cucurbit vegetables (CG 9), tea (dried leaves), grapes, figs, strawberries, kiwifruit, leeks and cherries.

**Table A1 Summary of Field Trial and Processing Data Used to Support Maximum Residue Limits**

| Commodity | Application Method; Total Application Rate (g a.i./ha)[1] | Preharvest Interval (Days) | Residues (ppm) | | Experimental Processing Factor |
|---|---|---|---|---|---|
| | | | Minimum | Maximum | |
| Apple | Spray; 108-126 | 21 | < 0.15 | 0.23 | 0.24 (apple juice) |
| Pear | Spray; 107-112 | 20-21 | < 0.15 | 0.18 | |
| Cucumber | Foliar; 183.9-193.4 | 3 | < 0.03 | 0.05 | N/A |
| Cantaloupe | Foliar; 185.7-190.1 | 3 | < 0.15 | 0.16 | |
| Summer squash | Foliar; 180.9-190.9 | 3 | < 0.06 | 0.08 | |
| Tea, fresh leaves | Spray; 40.4 | 3 | 0.64 | 1.8 | 1.7 (black tea leaves) |
| Grapes | Spray; 42.5 | 7 | 0.01 | 0.11 | 0.2 (wine) |
| | | 14 | 0.02 | 0.06 | |
| Figs | Spray; 3.75 g a.i./100 L | 14 | < 0.01 | < 0.01 | N/A |
| | Spray; 7.50 g a.i./100 L | 14 | 0.01 | 0.01 | |
| Strawberries | Spray; 37.5 | 3 | 0.010 | 0.097 | N/A |
| Fuzzy kiwifruit | Spray; 37.5-39 | 14 | 0.02 | 0.07 | N/A |
| Leeks | Spray; 50.0 | 7 | < 0.02 | 0.13 | N/A |
| Cherries | Spray; 37.5 | 7 | < 0.018 | 0.15 | N/A |

[1] g a.i./ha = grams of active ingredient per hectare

Following the review of all available data, MRLs as proposed in Table 1 are recommended to cover residues of deltamethrin. Residues of deltamethrin in these imported crop commodities at the proposed MRLs will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.