



NATIONAL RESIDUE SURVEY

INFORMATION BULLETIN December 2007

Maximum Residue Limits (MRLs) for pesticides registered for use on Australian Macadamia Nuts

This information bulletin provides a list of maximum residue limits (MRLs) for pesticides registered¹ for use in Australian macadamia nuts. Listed in the table are MRLs for Australia as established in the Australia New Zealand Food Standards Code (FSC) and a number of countries to which Australian macadamia nuts are exported, as at December 2007. The main purpose of this bulletin is to inform growers, packers and marketers of the export requirements in regards to pesticide residues. **The critical element of this information is that Australian MRLs do not apply to other countries and even though a pesticide may be registered in Australia, it may not be the case in that overseas country.** If an MRL is ‘not set’, generally a zero tolerance applies (refer to end of table for full details).

Organisations marketing to overseas countries should be aware that the information provided below represents the official standards, but not necessarily the marketing requirements. Marketers should refer to the contractual arrangements concerning agreed residue limits.

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Active ingredient ¹	Maximum Residue Limit (MRL, in mg/kg) in Macadamia Nuts ²							
	Australia ³ (FSC)	Codex ^{3,5}	Japan ³	US ³	EU ³	Malaysia ³	Singapore ⁶	Taiwan ⁷
ORGANOPHOSPHATE INSECTICIDES								
Acephate	0.1 ⁸	not set	0.1	0.05	T 0.02	not set	0.1	not set
Azinphos-methyl	0.01 ⁸	not set	P (0.3)	not set	0.5	not set	not set	not set
Chlorpyrifos	not set	not set	0.2	0.2	0.05	not set	not set	not set
Diazinon	0.1	not set	P (0.1)	not set	0.01	not set	0.1	not set
Ethoprophos	not set	not set	P (0.005)	not set	not set	not set	not set	not set
Methidathion	0.01 ⁸	0.01 ⁸	P (0.05)	0.05	0.05	not set	not set	not set
Trichlorfon	0.1	not set	0.5	not set	0.5	not set	0.1	not set

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ORGANOCHLORINE INSECTICIDE								
Cyfluthrin (sum of isomers)	0.05	not set	P (0.04)	0.01	0.02	not set	not set	not set
Deltamethrin	not set	not set	0.5	0.1	0.05	not set	not set	not set
Endosulfan	T2.0; 0.05 (APVMA)	not set	P (0.5)	0.2	0.1	not set	not set	not set
Permethrin	not set	not set	0.05	not set	not set	not set	not set	not set
OTHER INSECTICIDES / MITICIDES								
Carbaryl	1.0	1.0	P (1.0)	not set	0.05	not set	1.0	not set
Spinosad	T 0.01 ⁸	not set	0.02	0.02	not set	not set	not set	not set
Tebufenozide	0.05	not set	P (0.08)	0.1	not set	not set	not set	not set
FUNGICIDES								
Benomyl	See Carbendazim	See Carbendazim	See Carbendazim	0.2 (reported as Benomyl and its metabolites)	See Carbendazim	not set	0.1 (expressed as Carbendazim)	not set
Carbendazim ¹⁰	0.1	0.1 ⁸	P (0.1)	not set	0.1	not set	0.1	not set
Difenoconazole	0.01 ⁸	not set	P (0.01)	not set	not set	not set	not set	not set
Dithiocarbamates	0.2 ⁸	not set	P (3.0)	not set ⁹	0.05	not set	not set	not set
Iprodione	0.01 ⁸	not set	10.0	not set	0.02	not set	not set	not set
Metalaxyl (incl M)	1.0	not set	P (1.0)	not set	0.05	not set	not set	not set
Prochloraz	not set	not set	P (0.3)	not set	0.1	not set	not set	not set
HERBICIDES								
Carfentrazone-ethyl	0.05 ⁸	not set	P (0.8)	0.1	0.01	not set	not set	not set
Diquat	0.05 ⁸	not set	P (0.03)	0.02	0.05	not set	not set	not set
Glufosinate-ammonium	0.1	0.1	0.1	0.1	not set	not set	not set	not set
Glyphosate	0.2	not set	1.0	1.0	0.1	not set	not set	not set
Haloxypop	0.05 ⁸	not set	P (0.05)	not set	not set	not set	not set	not set
Oryzalin	0.1	not set	P (0.08)	0.05	not set	not set	not set	not set
Oxyfluorfen	0.05	not set	P (0.05)	0.05	not set	not set	not set	not set
Paraquat	0.05 ⁸	0.05	P (0.05)	0.05	0.02	not set	not set	not set
Pendimethalin	0.05 ⁸	not set	0.05	0.1	0.05	not set	not set	not set

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Active ingredient ¹	Maximum Residue Limit (MRL, in mg/kg) in macadamia nuts ²							
	Australia ³	Codex ^{3,5}	Japan ³	US ³	EU ³	Malaysia ⁴	Singapore ⁶	Taiwan ⁷
OTHER CHEMICALS								
Coumatetralyl	not set	not set	not set	not set	not set	not set	not set	not set
Ethephon	0.1 ⁸	not set	P (0.2)	0.5	0.1	not set	not set	not set
Pyriproxyfen	not set	not set	P (0.02)	0.02	not set	not set	not set	not set
S-methoprene	not set	not set	not set	not set	not set	not set	not set	not set

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Notes to the Table:

1 The registration status of the chemicals listed may vary for each commodity and in each State. This list includes registered chemicals where an off-label use has been permitted by APVMA and some chemicals that are included in the NRS program which are no longer registered for use on macadamia nuts. Prior to using any chemical, consult the label and/or regulatory authority in your State. Please refer to product label for chemical name or active ingredient. Please check the AVPMA website for further details (Pubcris Registered Product) <http://services.apvma.gov.au/PubcrisWebClient/welcome.do;jsessionid=vskyFtjLZKvxGrbpnfpZXLRLqj9Z390Z9Gk5JWF2nQBccpBXFfw!546591743>

2 Unless indicated the MRL applies to the whole kernel after the removal of the shell.

3 AUSTRALIA, CODEX, JAPAN, US and EU: In the absence of a set MRL, a zero tolerance applies.

4 MALAYSIA: In the absence of a set MRL, a maximum residue limit of 0.01 mg/kg applies.

5 Many countries default to maximum residue limits established by CODEX including ALGIERS, ANGOLA, BAHAMAS, BANGLADESH, BARBADOS, COLOMBIA, DOMINICAN REPUBLIC, HONDURAS, HONG KONG, JORDAN, LEBANON, NICARAGUA, PAKISTAN, PANAMA, PERU, PHILIPPINES, THAILAND, TRINIDAD & TOBAGO, TUNISIA AND VENEZUELA.

6 SINGAPORE: In the absence of a set MRL, default to the Codex level.

7 TAIWAN: Pesticides not listed in the table, except for those import tolerances developed, shall not be detected.

8 The maximum residue limit or the extraneous residue limit is set at or about the limit of determination.

9 US – ‘Dithiocarbamates’ was previously reported as 3.0 ppm in this Information Bulletin – NRS is currently confirming this with USFDA.

10 Carbenazim and Benomyl (sum of Benomyl & Carbendazim) expressed as Carbendazim.

'not set' denotes that no MRL has been established, refer to details above for each countries default value.

'not required' denotes that no MRL has been established, and any detection is permissible.

'T' denotes that the MRL residue definition or use is temporary to enable further experimental work to be carried out in Australia or overseas, and will be reconsidered at some further date. This symbol is also used in cases where the MRL is being phased out.

'P' – Provisional MRL

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Sources of Information

This table has been compiled with reference to the information obtained from the following Food/Agricultural Authorities or publications:

Australia - *Australia New Zealand Food Standards Code (FSC) Standards 1.4.1 (MLs) for Contaminants and Natural Toxins and 1.4.2 (MRLs) for Residues (Australia only), up to Amendment 94, as of October 2007, which is available on the FSANZ website.*

[<http://www.foodstandards.gov.au/thecode/foodstandardscode.cfm>].

The MRLs set in the FSC are based on those established by the APVMA in the MRL Standard [<http://www.apvma.gov.au/>], and may vary slightly due to delays in the legislative process.

Codex - FAO/WHO Food Standards Codex Alimentarius Pesticide Residues in Food - MRLs & Extraneous MRLs - (updated 20 June 2007) available on the Codex website [http://www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp].

Japan - Specifications and Standards for Foods, Food additives, etc. Under the Food Sanitation Law (Abstracts), MRLs list updated August 2006, website: [<http://www.mhlw.go.jp/english/topics/foodsafety/positivelist060228/>]

US - United States Food and Drug Administration, Code of Federal Regulations Tolerances and exemptions from tolerances for pesticide chemicals in food [http://www.access.gpo.gov/nara/cfr/waisidx_07/40cfr180_07.html] dated 1 July 2007. The EPA Pesticides and Food . For information on new tolerances or changes to tolerances since July 2007, search EPA's Federal Register site [<http://www.epa.gov/pesticides/food/viewtols.htm>].

European Union - European Directives 76/895/EEC, 86/362/EEC, 86/363/EEC, 90/642/EEC and amending legislation from the Europa website. Draft Annexes to Regulation 396/2005 : Annex I, II, III and IV updated 23/10/2007. [http://ec.europa.eu/food/plant/protection/pesticides/index_en.htm]. Note that not all MRLs established by the EU are recognised by all Member States, although the process of harmonising MRLs is continuing.

Malaysia - *Laws of Malaysia. Food Act and Regulations 1985 Sixteenth Schedule (Regulation 41) - Pesticide Residue (All amendments up to 20 May 2004) from the Ministry of Health Malaysia website* [<http://www1.moh.gov.my/fsq/warta/2004/warta8-html/wartabi8.htm>]. Also amendment of regulation 41, sixteenth schedule dated 29 September 2005 [<http://www1.moh.gov.my/fsq/warta/2005/wartaBI.pdf>]

Singapore - *Revised Edition of Subsidiary Legislation - The Sale of Food Act (Chapter 283)*, 1990 edition and amendments up to June 2005.

Taiwan - Department of Health, Taiwan, ROC. Food Sanitation - Pesticide Residue Limits in Foods, from the Department of Health website [http://www.doh.gov.tw/EN2006/DM/DM1_p01.aspx?class_no=248&now_fod_list_no=7972&level_no=1&doc_no=43853] updated 5 July 2007.