



NATIONAL RESIDUE SURVEY

INFORMATION BULLETIN January 2010

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

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 September 2009. 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	Codex ⁴	EU ⁵	Japan ⁶	Malaysia ⁷	Singapore ⁸	Taiwan ³	USA ³
ORGANOPHOSPHATE INSECTICIDES								
acephate	0.10	not set	0.02	0.1	not set	0.1	not set	0.05
azinphos-methyl	0.01	not set	0.5	P(0.3)	not set	not set	not set	not set
chlorpyrifos	not set	not set	0.05	0.2	not set	not set	not set	not set
diazinon	0.10	not set	0.05	P(0.1)	not set	0.1	not set	not set
ethoprophos	not set	not set	0.02	P(0.005)	not set	not set	not set	not set
methidathion	0.01	0.01	0.05	P(0.05)	not set	not set	not set	0.05
trichlorfon	0.10	not set	0.5	0.5	not set	0.1	not set	not set
ORGANOCHLORINE INSECTICIDES								
endosulfan	0.05	0.02	0.1	P(0.5)	not set	not set	not set	0.2
SYNTHETIC PYRETHROID INSECTICIDES								
cyfluthrin (beta)	0.05	not set	0.02	P (0.04)	not set	not set	not set	0.01
deltamethrin	not set	not set	0.05	0.5	not set	not set	not set	0.10
permethrin	not set	not set	0.05	0.05	not set	not set	not set	not set

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	Australia ³	Codex ⁴	EU ⁵	Japan ⁶	Malaysia ⁷	Singapore ⁸	Taiwan ³	USA ³
OTHER INSECTICIDES / MITICIDES								
carbaryl	1.00	1.0	0.05	P(1.0)	not set	1.0	not set	0.10
methoxyfenozide	not set	0.1	0.02	0.1	not set	not set	not set	0.10
spinosad	0.01	not set	0.05	0.02	not set	not set	not set	0.10
tebufenozide	0.05	not set	0.05	P(0.08)	not set	not set	not set	0.10
FUNGICIDES								
benomyl	0.10	0.1	0.1	P (0.1)	not set	0.1	not set	0.2
carbendazim	0.10	0.1	0.1	P (0.1)	not set	0.1	not set	not set
difenoconazole	0.01	not set	0.05	P (0.01)	not set	not set	not set	not set
dithiocarbamates (thiram)	0.20	not set	0.05	P (3.0)	not set	not set	not set	3.0 ⁹
iprodione	0.01	not set	0.02	10.0	not set	not set	not set	not set
metalaxyl (incl M)	0.01	not set	0.05	P (1.0)	not set	not set	not set	not set
prochloraz	not set	not set	0.10	P (0.3)	not set	not set	not set	not set
HERBICIDES								
carfentrazone-ethyl	0.05	not set	0.01	P (0.08)	not set	not set	not set	0.10
diquat	0.05	not set	0.05	P(0.03)	not set	not set	not set	0.02
glufosinate-ammonium	0.1	0.1	0.10	0.1	not set	not set	not set	0.10
glyphosate	0.2	not set	0.10	1.0	not set	not set	not set	1.00
haloxyfop	0.05	not set	0.05	P(0.05)	not set	not set	not set	not set
oryzalin	0.1	not set	0.01	P (0.08)	not set	not set	not set	0.05
oxyfluorfen	0.05	not set	0.05	P (0.05)	not set	not set	not set	0.05
paraquat	0.05	0.05	0.02	P(0.05)	not set	0.05	not set	0.05
pendimethalin	0.05	not set	0.05	0.05	not set	not set	not set	0.10
OTHER CHEMICALS								
coumatetralyl	not set	not set	not set	not set	not set	not set	not set	not set
ethephon	0.1	not set	0.10	P(0.2)	not set	not set	not set	0.50
pyriproxyfen	not set	not set	0.05	P(0.02)	not set	not set	not set	0.02
S-methoprene	not set	not set	0.05 (methoprene)	not set	not set	not set	not set	not set
METALS (Maximum Limits)								
arsenic	not set	not set	not set	not set	not set	1	not set	not set
cadmium	not set	not set	not set	not set	not set	0.2	not set	not set
copper	not set	not set	not set	not set	not set	20	not set	not set
lead	not set	not set	not set	not set	not set	2	not set	not set
mercury	not set	not set	not set	not set	not set	0.05	not set	not set

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)-

services.apvma.gov.au/PubcrisWebClient/welcome.do

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

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

4 Many countries default to maximum residue limits established by **CODEX** including Algiers, Angola, Bahamas, Bangladesh, Barbados, Colombia, Dominican Republic, Egypt, Honduras, Hong Kong, Jordan, Lebanon, Nicaragua, Pakistan, Panama, Peru, Philippines, Thailand, Trinidad & Tobago, Tunisia and Venezuela

5 EU - In the absence of a set MRL, a maximum residue limit of 0.01 mg/kg applies.

6 Japan - in the absence of an MRL a default MRL of 0.01 mg/kg applies.

7 Malaysia - For those values listed as 'not set', refer to the corresponding Codex value. If no Codex MRL exists, a default MRL of 0.01 mg/kg then applies. (Reg 41)

8 Singapore - If no MRL exists, Codex MRLs may apply.

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) usually 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 (Japan) MRLs appearing in the Provisional MRLs List have been provisionally established without passing through the full legal procedure due to time restrictions and to enable the smooth implementation of the new system.

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 113, as of November 2010, 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 09 April 2008) available on the Codex website .

http://www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp

European Union - In the EU, as from 1 September 2008, a new legislative framework (Regulation (EC) No 396/2005 of the European Parliament and of the Council) on pesticide residues is applicable. This Regulation completes the **harmonisation** and **simplification** of pesticide MRLs, whilst ensuring better consumer protection throughout the EU.

<http://ec.europa.eu/food/plant/protection/pest>

Japan - Specifications and Standards for Foods, Food additives, etc. Under the Food Sanitation Law (Abstracts), MRLs list updated February 2007, website:

<http://www.mhlw.go.jp/english/topics/foodsafety/positivelist060228/>

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 []

Contact NRS for copy.

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

<http://www.ava.gov.sg/NR/rdonlyres/0CA18578-7610-4917-BB67-C7DF4B96504B/11405/FoodRegulations1.pdf>

Then scroll down to page 93-94 for the ninth schedule- "Food with Maximum Amounts of Pesticides"

Taiwan - Department of Health, Taiwan, ROC. Standards for Pesticide Residue Limits in Foods No. 0980461580 Amended, October 7, 2009

<http://food.doh.gov.tw/chinese/ruler/殘留農藥安全容許量英文版.doc>

USA - United States Food and Drug Administration, Code of Federal Regulations Tolerances - e-CFR Data - CHAPTER I--ENVIRONMENTAL PROTECTION AGENCY SUBCHAPTER E--PESTICIDE PROGRAMS PART 180--TOLERANCES AND EXEMPTIONS FOR PESTICIDE CHEMICAL RESIDUES IN FOOD; is current as of January 21, 2010

http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=2bfde6952266d018c52f77953f6287b9&tpl=/ecfrbrowse/Title40/40cfr180_main_02.tpl