



**Economic and Social  
Council**

Distr.  
GENERAL

ECE/TRADE/C/WP.7/2008/19  
22 August 2008

Original: ENGLISH

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**ECONOMIC COMMISSION FOR EUROPE**  
COMMITTEE ON TRADE

Working Party on Agricultural Quality Standards

Sixty-fourth session  
Geneva, 3-6 November 2008  
Item 5(c) of the provisional agenda

**TEXTS FOR ADOPTION/EXTENSION AS UNECE RECOMMENDATIONS**

**Inshell Macadamia Nuts**

Note by the secretariat

This text is submitted to the Working Party for approval as a recommendation for a new Standard for Inshell Macadamia Nuts.

It is based on document ECE/TRADE/C/WP.7/GE.2/2008/2, the text of which was agreed upon at the June 2008 session of the Specialized Section on Standardization of Dry and Dried Produce.

**UNECE STANDARD DDP-...**  
concerning the marketing and commercial quality control of  
**INSHELL MACADAMIA NUTS**

**I. DEFINITION OF PRODUCE**

This Standard applies to inshell macadamia nuts of varieties grown from *Macadamia integrifolia*, *Macadamia tetraphylla*, *Macadamia ternifolia* and their hybrids, intended for direct consumption or for food when intended to be mixed with other products for direct consumption without further processing. This Standard does not apply to inshell macadamia nuts that are processed by salting, sugaring, flavouring, or roasting or for industrial processing.

**II. PROVISIONS CONCERNING QUALITY**

The purpose of the Standard is to define the quality requirements of inshell macadamia nuts at the export-control stage, after preparation and packaging.

However, if applied at stages following export, the holder shall be responsible for observing the requirements of the standard. The holder/seller of products not in conformity with this standard may not display such products or offer them for sale, or deliver or market them in any other manner.

**A. Minimum requirements<sup>1</sup>**

**General provisions**

In all classes, subject to the special provisions for each class and the tolerances allowed, the inshell macadamia nuts must display the following characteristics:

The shell must be:

- intact; however, superficial cracks or slight superficial damage are not considered as a defect, provided the kernel is physically protected
- clean; practically free of any visible foreign matter, including residues of adhering hull affecting in aggregate more than 5 per cent of the total shell surface

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<sup>1</sup> Definitions of terms and defects are listed in annex III of the Standard Layout – Recommended terms and definition of defects for standards of dry (Inshell Nuts and Nut Kernels) and dried produce <[http://www.unece.org/trade/agr/standard/dry/StandardLayout/StandardLayoutDDP\\_e.pdf](http://www.unece.org/trade/agr/standard/dry/StandardLayout/StandardLayoutDDP_e.pdf)>.

- free from blemishes, areas of discolouration or spread stains in pronounced contrast with the rest of the shell affecting in aggregate more than 25 per cent of the surface of the shell
- sound; free from defects likely to affect the natural keeping quality of the inshell macadamia nuts
- free from mould filaments visible to the naked eye
- well formed; not noticeably misshapen.

The kernel must be:

- free from rancidity
- sufficiently developed. Shrunken or shrivelled kernels which are extremely flat and wrinkled, or with desiccated, dried out or tough portions affecting more than 25 per cent of the kernel and empty shells, are to be excluded
- free from blemishes, areas of discolouration or spread stains in pronounced contrast with the rest of the kernel affecting in aggregate more than 25 per cent of the of the surface of the kernel.

The whole produce (shell and kernel) must be:

- sound; produce affected by rotting or deterioration such as to make it unfit for human consumption is excluded
- free from mould filaments visible to the naked eye
- free from living pests whatever their stage of development
- free from damage caused by pests, including the presence of dead insects and/or mites, their debris or excreta
- free of abnormal external moisture
- free of foreign smell and/or taste.

The condition of the inshell macadamia nuts must be such as to enable them:

- to withstand transportation and handling
- to arrive in satisfactory condition at the place of destination.

**B. Moisture content<sup>2</sup>**

The inshell macadamia nuts kernels shall have a moisture content not exceeding 10.0 per cent.

**C. Classification**

In accordance with the defects allowed in section “IV. Provisions concerning tolerances”, inshell macadamia nuts are classified into the following two classes:

Class I

Class II

The defects allowed must not affect the general appearance of the produce as regards quality, keeping quality and presentation in the package.

**III. PROVISIONS CONCERNING SIZING**

Sizing is optional in all classes. However, when sized, size is determined by the diameter of the shortest axis of the shell measured in (millimetres or inches).

Uniformity in size is expressed by:

- A size range defined by a maximum size and a minimum size which must not exceed  $\pm 5$  mm (1/5 inch) of difference or,
- Screening defined as a minimum size in diameter.

In case size designations are used or indicated, the following table applies:

<b>Size designations</b>	<b>Diameter (mm)</b>	<b>Diameter (inches)</b>
Extra large	28 mm and larger	1.1 inches and larger
Large	23 – 28 mm	0.9 – 1.1 inches
Medium	18 – 23 mm	0.7 – 0.9 inches
Small	16 – 18 mm	0.6 – 0.7 inches
Undersize	Less than 16 mm	Less than 0.6 inches

<sup>2</sup> The moisture content is determined by one of the methods given in annex II of the Standard Layout - Determination of the moisture content for dry produce <[http://www.unece.org/trade/agr/standard/dry/StandardLayout/StandardLayoutDDP\\_e.pdf](http://www.unece.org/trade/agr/standard/dry/StandardLayout/StandardLayoutDDP_e.pdf)>. The laboratory reference method shall be used in cases of dispute.

When sized, the minimum size of inshell macadamia nut must not be less than 16 mm (5/8 inch) in diameter.

#### IV. PROVISIONS CONCERNING TOLERANCES

Tolerances in respect of quality and size shall be allowed in each lot for produce not satisfying the minimum requirements of the class indicated.

##### A. Quality tolerances

Defects allowed	Tolerances allowed (percentage of defective inshell macadamia nuts by number or weight)	
	Class I	Class II
<b>(a) Tolerances for the shell not satisfying the minimum requirements</b>	5	7
<b>of which no more than:</b>		
- Macadamia shells with adhering husk/hull	1	2
- Damage by pests (scars)	2	3
- [Unopened cracks	1	2]
- Living pests	0	0
<b>(b) Total tolerances for the kernel not satisfying the minimum requirements of which no more than:</b>	7	10
- Mould	0.5	1
- Foreign smell and/or taste	2	3
- Shrunken or shrivelled kernel	2	3
- Gum or brown spot	2	3
- Other types of unsound kernels]	2	3
- Deterioration, damage by pest	3	5
<b>(c) Size tolerances:</b>		
- Inshell macadamia nuts not conforming to the minimum size 15.87 mm (5/8 of an inch) diameter	0	0

<b>Defects allowed</b>	<b>Tolerances allowed</b> (percentage of defective inshell macadamia nuts by number or weight)	
	<b>Class I</b>	<b>Class II</b>
- Not conforming to the size marked	10	10
<b>(d) Tolerances for other defects</b>		
- Loose/foreign extraneous material	1	2

## **V. PROVISIONS CONCERNING PRESENTATION**

### **A. Uniformity**

The contents of each package must be uniform and contain only inshell macadamia nuts of the same origin, quality, size (if sized) and variety or commercial type (if indicated).

The visible part of the contents of the package must be representative of the entire contents.

### **B. Packaging**

Inshell macadamia nuts must be packed in such a way as to protect the produce properly.

The materials used inside the package must be clean and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials, particularly of paper or stamps bearing trade specifications, is allowed, provided the printing or labelling has been done with non-toxic ink or glue.

Packages must be free of all foreign matter in accordance with the table of tolerances in section "IV. Provision concerning tolerances".

### **C. Presentation**

Inshell macadamia nuts must be presented in bags or solid containers. All sales packages within each package must be of the same weight.

## VI. PROVISIONS CONCERNING MARKING

Each package<sup>3</sup> must bear the following particulars in letters grouped on the same side, legibly and indelibly marked and visible from the outside:

### A. Identification

Packer and/or Dispatcher: Name and physical address (e.g. street/city/region/postal code and, if different from the country of origin, the country) or a code mark officially recognized by the national authority<sup>4</sup>.

### B. Nature of produce

- inshell macadamia nuts
- name of variety and /or commercial type (optional).

### C. Origin of produce

- country of origin and, optionally, district where grown or national, regional or local place name.

### D. Commercial specifications

- class
- size (optional)
- crop year (optional)
- "Best before" followed by the date (optional).

### E. Official control mark (optional)

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<sup>3</sup> Package units of produce prepacked for direct sale to the consumer shall not be subject to these marking provisions, but shall conform to national requirements. However, the markings referred to shall in any event be shown on the transport packaging containing such package units.

<sup>4</sup> The national legislation of a number of countries requires the explicit declaration of the name and address. However, in cases where a code mark is used, the reference "packer and/or dispatcher" (or equivalent abbreviations) must be indicated in close connection with the code mark, and the code mark should be preceded by the ISO 3166 alpha country code of the recognizing country, if not the country of origin.