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Working Party on Agricultural Quality Standards

Specialized Section on Standardization of  
Dry and Dried Produce (Fruit)

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**DRAFT NEW UNECE STANDARD FOR  
INSHELL MACADAMIA NUTS**

Transmitted by the United States

**Note by the secretariat:** The following text has been transmitted by the delegation of the United States of America and is reproduced as received.

**UNECE STANDARD**  
concerning the marketing and commercial  
quality control of

**INSHELL MACADAMIA NUTS**  
Moving in international trade between and to  
UNECE member countries

**I. DEFINITION OF PRODUCE**

This standard applies to inshell macadamia nuts of varieties grown from *Macadamia ternifolia* intended for direct consumption. It does not apply to inshell macadamia nuts for industrial processing or for use in the food industry.<sup>1</sup>

**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.

**A. Minimum requirements**

**(i) General provisions**

Subject to the special provisions and the tolerances allowed<sup>2</sup> the inshell macadamia nuts must be:

**(a) Characteristics of the shell**

- intact; free from cracks, holes or punctures
- sound; free from defects likely to affect the natural keeping quality of the fruit
- clean; practically free of any visible foreign matter
- dry; free from abnormal external moisture
- free from residue of husk.
- free of damage caused by pests
- slight superficial damage is not considered as a defect

**(b) Characteristics of the edible part of the dry fruit in the shell**

- sufficiently dry to ensure keeping quality,
- intact; slight superficial damage is not considered as a defect,
- sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded
- sufficiently developed
- clean, practically free of any visible foreign matter;

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<sup>1</sup> {One or the other of these sentences (or neither) could be used according to the nature of the produce.}

<sup>2</sup> {This section will specify which of the minimum requirements are not subject to tolerances.}

- free from insects or mites whatever their stage of development;
- free of damage caused by pests;
- free from mould,
- free from rancidity,
- 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 transport and handling, and
- to arrive in satisfactory condition at the place of destination.

(ii) **Moisture content**

The inshell macadamia nuts shall have a moisture content not exceeding 3 per cent.<sup>3</sup>

(iii) **Preservatives**

Preservatives may be used in accordance with the legislation of the importing country.

**B. Classification**

Inshell macadamia nuts are classified in one classes defined below:

(i) ***Class I***

Inshell macadamia nuts in this class must be of good quality. They must be characteristic of the variety and/or commercial type.

They must be:

- husked
- well developed
- free of doubles

The following slight defects may be allowed provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

- superficial or slight scratches.
- slightly cracked shell leaving no opening
- slightly stained shell

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<sup>3</sup> {The method to be used should be one of the methods tested collaboratively and shown to give satisfactory results in inter-laboratory trials and which are given in Annexes I and II for dried and dry fruit. The laboratory reference method shall be used in cases of dispute. }

### III. PROVISIONS CONCERNING SIZING

Size is determined by screening. The minimum size inshell macadamia nut must be more than 15.87mm (5/8 inch) in diameter

### IV. PROVISIONS CONCERNING TOLERANCES

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

#### A. Quality tolerances

Defects allowed	Tolerances allowed (per cent by number or weight of defective fruit)
Basic Requirements total allowance	3
Including loose/foreign extraneous material	1
Shell requirements total	5
Kernel requirements total	10
Of which no more than	
- Mould, decay, rodent injury, insect infestation (other than live insects), off odor, off flavor, by	3
any cause or serious damage other than by insect scar.	2
- Serious damage by insect scar	

*Standard definitions of the defects are listed in Annex I.*

#### B. Mineral impurities

Ashes insoluble in acid must not exceed 1g/kg.

#### C. Size tolerances

In this class there is no tolerance for inshell macadamia nuts less than 5/8 of an inch in diameter.

## **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 and size (if sized).

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 new, 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 that the printing or labeling has been done with non-toxic ink or glue.

Packages must be free of all foreign matter.

### **C. Presentation**

Inshell Macadamia may be presented in solid containers. All consumer packages within each master package must be of the same weight

## **VI. PROVISIONS CONCERNING MARKING**

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

For inshell macadamia nuts transported in bulk these particulars must appear on a document accompanying the goods and be attached in a visible position inside the transport vehicle

### **A. Identification**

Packer	)	Name and address or
and/or	)	officially issued or
Dispatcher	)	accepted code mark

### **B. Nature of produce**

- Name of the produce;
- Name of the variety and/or commercial type
- Type or style

**C. Origin of produce**

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

**D. Commercial specifications**

- Class;
- Size
- Crop year {optional};
- Net weight, or the number of pre-packages, followed by the net unit weight in the case of packages containing such units (optional or at the request of the importing country).
- "Best before" followed by the date (optional)

**E. Official control mark (optional)**

ANNEX

**DEFINITIONS OF TERMS AND DEFECTS  
FOR INSHELL MACADAMIA NUTS**

<i>Similar Varietal Characteristics:</i>	The macadamia nuts have similar shape, and shell texture
<i>Diameter:</i>	The shortest axis of the nut
<i>Doubles:</i>	The nuts that result from two nuts having a common husk
<i>Loose Extraneous Foreign Material:</i>	Loose pieces of shell and husk, empty shell, plant material, and substance other than macadamia nuts
<i>Clean:</i>	The shell is practically free from dirt and other foreign material, or the general appearance of the lot is not more than appreciably affected by dirt and other foreign material.
<i>Dry:</i>	Shell that is free from moisture.
<i>Damage:</i>	Classification of defect/s; or an equally objectionable variation of one of these defects, or other defects, or combination of defects which materially detracts from the appearance, edible or shipping quality of the inshell macadamia nut. <sup>4</sup>
<i>Well Developed:</i>	kernel is plump and not shrivelled or excessively soft
<i>Off-odour/off flavour</i>	The macadamia nut posses an uncharacteristic flavour/odour which appreciably affects its eating quality.
<i>Insect Infestation:</i>	Presence of insect, insect frass, insect fragments or web within the nut.
<i>Serious Damage</i> <sup>5</sup>	

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<sup>4</sup> see table classification of defects.

<sup>5</sup> see table classification of defects.

### CLASSIFICATION OF DEFECTS

FACTOR	DAMAGE	SERIOUS DAMAGE
<u>Shell Defects</u>		
Rodent injury	Shell shows evidence of gnawing.	
Adhering husk	More than 10% of shell surface covered with husk...	
Crack	When opening exceeds one half of the longitudinal axis of the nut.	
Holes and punctures	When extended to the kernel.	
Surface mold	When conspicuous.	
<u>Kernel Defects</u>		
Insect scar	Any feeding scar exceeds an area of 2.38mm (3/32 inch) in diameter; or 2 or more scars are present within a 12.7mm (½ inch) area.	Any feeding scar exceeds an aggregate of such scars within a 12.7mm (½ inch) area exceeds an area 3.17mm (1/8 inch) in diameter.
Discolored area	Any markedly discolored spot is present; any more slightly discolored spot exceeds an area 2.38mm (3/32 inch) in diameter; any more than slightly discolored spot exceeds 1/8 inch in length or width; or a markedly discolored varietal ring is present; or speckles that affect appearance more than slightly are present.	Any markedly discolored or prominent spot (abnormalities such as area encircled by a reddish brown line), or an aggregate of such spots within 12.7mm (½ inch) in area, exceeds an area 4.76mm (3/16 inch) in diameter; or speckled that seriously affect appearance are present
Shriveling		When excessive