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**Specialized Section on Standardization
of Dry and Dried Produce**

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Draft new UNECE Standard for Pecan Kernels (2007 version)

The following document contains the last version of the draft Standard for Pecan Kernels as discussed by the 2007 session of the Specialized Section¹. It is submitted as a reference and background for further discussion on the development of a Standard for Pecan kernels.

¹

At the 2007 session, the Working Party had approved the recommendation by the Specialized Section to suspend work on the Standard for Pecan kernels until a new request to restart activities is seconded or if trading volumes increase in the future.

I. Definition of produce

This Standard applies to pecan kernels of varieties (cultivars) grown from *Carya illinoensis* (Wangenh.) K. Koch intended for direct consumption or for use in the food industry when they are intended to be mixed with other product for direct consumption without further processing. This Standard does not apply to pecan kernels for industrial processing.

Pecan kernels may be presented in the following styles:

- (a) Whole (separated halves of the kernel);
- (b) Pieces or parts of a pecan kernel other than whole.

II. Provisions concerning quality

The purpose of the Standard is to define the quality requirements of pecan kernels at the export control stage, after preparation and packaging.

A. Minimum requirements²

In all classes subject to the special provisions for each class and the tolerances allowed the pecan kernels must display the following characteristics:

The kernel must be:

- Dried in accordance with section “B. Moisture content”;
- Intact; however, 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;
- Clean, practically free of any visible foreign matter;
- 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 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 surface of the kernel;
- Well-formed;
- Free from live insects or mites whatever their stage of development;
- Free from damage caused by pests, including the presence of dead insects and mites, their debris or excreta;
- Free from mould filaments visible to the naked eye;
- Free from rancidity;
- Free of abnormal external moisture;

² 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 <www.unece.org/trade/agr/info/layout/layout.htm>.

- Free of foreign smell and/or taste.

The condition of the pecan kernels 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 ³

The pecan kernels shall have a moisture content not exceeding 5.0 per cent.

C. Classification ⁴

In accordance with the defects allowed in section “IV. Provisions concerning tolerances”, pecan kernels are classified into the following classes:

Class I

Class II

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

D. Colour classification

Colour classification for pecan kernels is optional. However, when colour classified, pecan kernels are classified into the four colour types defined below.

- *Light*: the outer surface of the kernel is mostly **golden** colour or lighter, with not more than 25 per cent of the outer surface darker than **golden**, none of which is darker than **light brown**.
- *Light amber*: more than 25 per cent of the outer surface of the kernel is **light brown**, with not more than 25 per cent of the outer surface darker than **light brown**, none of which is darker than **medium brown**.
- *Amber*: more than 25 per cent of the outer surface of the kernel is **medium brown**, with not more than 25 per cent of the outer surface darker than **medium brown**, none of which is darker than **dark brown** (very dark brown or blackish-brown discolouration).
- *Dark amber*: more than 25 per cent of the outer surface of the kernel is **dark brown**, with not more than 25 per cent of the outer surface darker than **dark brown** (very dark-brown or blackish-brown discolouration).

³ 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
<www.unece.org/trade/agr/info/layout/layout.htm>. The laboratory reference method shall be used in cases of dispute.

⁴ The Classes therein are equivalent with North American industry designations.

III. Provisions concerning sizing

Sizing of pecan kernels is optional. However, when sized, size is determined by the following:

- Whole pecan kernels: by count, a number range of whole kernels per ounce or per 100 g in accordance with the following name designations in Table I;
- Pecan kernel pieces: by a size range, the minimum and maximum diameter in accordance with the designations in Table II⁵.

TABLE I

<i>Size classifications for kernels</i>	<i>Number of kernels per ounce</i>	<i>Number of kernels per 100 g</i>
Mammoth	16 or less	55 or less
Junior mammoth	16 – 19	55 – 66
Jumbo	19 – 22	66 – 77
Extra large	22 – 28	77 – 99
Large	28 – 34	99 – 121
Medium	34 – 40	121 – 143
Small (topper)	40 – 47	143 – 165
Midget	47 – or more	165 – or more

TABLE II

<i>Size classifications</i>	<i>Maximum diameter (will pass through round opening of following diameter):</i>		<i>Minimum diameter (will not pass through round opening of following diameter):</i>	
	inches	mm	inches	mm
Mammoth pieces	No limit	No limit	8/16	12.5
Extra large pieces	9/16	14.28	7/16	11.11
Halves and pieces	No limit	No limit	5/16	7.9
Large pieces	8/16	12.7	5/16	7.9
Medium pieces	6/16	9.52	3/16	4.76
Small pieces	4/16	6.25	2/16	3.17
Midget pieces	3/16	4.76	1/16	1.58
Granules	2/16	3.17	1/16	1.58

⁵ In Table II, the size of pieces in a lot may be specified in terms of minimum diameter, or as a range described in terms of minimum and maximum diameters expressed in sixteenths or sixty-fourths of an inch.

IV. Provisions concerning tolerances

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

<i>Defects allowed</i>	<i>Tolerances allowed (per cent by number or weight of defective kernel)</i>			
	Whole Kernels		Kernel Pieces	
	Class I	Class II	Class I	Class II
(a) Tolerances for pecan kernels not satisfying the minimum requirements	4	9	4	9
Of which no more than:				
Shell center wall and foreign material	0.05	0.015	0.05	0.015
Other defects	3	8	3	8
Of which no more than				
Rancid, decay, mould, insect damage dead insect and insects parts (dead larve)	1.5	4	1.5	4
Shrivelling, shrunken more than one dark spot, not well dried, flesh discolouration or poorly developed kernel	1.5	4	1.5	4
Total tolerance for dark amber or dark coloured kernels	3	25	3	25
b) Tolerances for pieces, particles and dust	15	17	-	-
Of which no more than				
Pieces less than ½ kernel	5	7	-	-
Pieces greater than ½ kernel	9	9	-	-
Particles and dust	1	1	2	2
For pecan kernels not conforming to the size indicated, if sized	5	5	7	7

B. Size tolerances

For whole kernel classes, when count per 100 g or per ounce is specified, 5 per cent, by number or weight, of products not according to the size indicated on the marking, but belonging to the size range immediately above and/or below the size indicated.

V. Provisions concerning presentation

A. Uniformity

The contents of each package must be uniform and contain only pecan kernels of the same origin (optional), quality and size. The visible part of the contents of the package must be representative of the entire contents.

B. Packaging

Pecan kernels 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 labelling has been done with non-toxic ink or glue.

Packages must be free of all foreign matter.

C. Presentation

Pecan kernels may be presented in bags or solid containers. All consumer packages within each master container must be of the same weight.

VI. Provisions concerning marking

Each package⁶ must bear the following particulars in letters grouped on the same side, legibly and indelibly marked and visible from the outside:

For pecan kernels 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 ⁷

B. Nature of produce

- Name of the produce
- Name of the variety and/or commercial type {according to the nature of the produce}
- Type or style {according to the definitions of the standard}
- Description of the produce

C. Origin of produce

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

⁶ 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.

⁷ The national legislation of a number of countries requires the explicit declaration of the name and address. 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.

D. Commercial specifications

- Class;
- Size (if sized);
- Crop year (optional or at the request of the importing country);
- 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)
