
UNECE STANDARD DDP-38

concerning the marketing and
commercial quality control of

PECAN KERNELS

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NOTE

Working Party on Agricultural Quality Standards

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The new standard for pecan kernels is based on document ECE/CTCS/WP.7/2023/17, reviewed and adopted by the Working Party at its seventy-eighth session in 2023.

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Please contact us at the following address with any comments or enquiries:

Agricultural Standards Unit
Economic Cooperation and Trade Division
United Nations Economic Commission for Europe
Palais des Nations
CH-1211 Geneva 10, Switzerland
Email: agristandards@un.org

UNECE Standard DDP-38 concerning the marketing and commercial quality control of pecan kernels

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 food when intended to be mixed with other products for direct consumption without further processing. This standard does not apply to pecan kernels that are processed by salting, sugaring, flavouring, or roasting or for industrial processing.

Pecan kernels may be presented in the following styles:

- Whole (separated halves of the kernel)
- Pecan kernel pieces.

II. Provisions concerning quality

The purpose of the standard is to define the quality requirements of pecan kernels after preparation and packaging.

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

A. Minimum requirements¹

In all classes, subject to the special provisions for each class and the tolerances allowed, the pecan kernels must display the following characteristics observed by the naked eye or corrected 20/20 vision² when appropriate:

The kernel must be:

- 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; no shrunken or shrivelled kernels which are extremely flat and wrinkled, or with dried, dried out or tough portions affecting more than 25 per cent of the kernel
- free from blemishes, areas of discolouration or spread stains in pronounced contrast with the rest of the kernel affecting in aggregate no more than 25 per cent of the surface of the kernel
- well formed
- free from living pests whatever their stage of development

¹ Definitions of terms and defects are listed in Annex III of the Standard Layout – Recommended terms and definitions of defects for standards of dry (inshell nuts and nut kernels) and dried produce <https://unece.org/trade/wp7/DDP-Standards>.

² Loupe, binocular or other magnifying equipment should not be used when assessing defects.

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- free from damage caused by pests, including the presence of dead insects and/or mites, their debris or excreta
 - free from mould filaments visible to the naked eye
 - free from rancidity
 - free of abnormal external moisture
 - 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 content³

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

C. Classification

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

Class I and Class II.

The defects allowed must not affect the general appearance of the produce as regards 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).

III. Provisions concerning sizing

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

³ The moisture content is determined by Method 1 and/or 2 in Annex II of the Standard Layout for UNECE Standards on Dry and Dried Produce. The laboratory reference method shall be used in cases of dispute.

A. Whole pecan kernels

Size is determined by count, a number range of whole kernels per ounce or per 100 g in accordance with the following table:

<i>Size designation for whole 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

B. Pecan kernel pieces

Size is determined by screening, i.e. minimum diameter (mm, inch) in accordance with the following table.

<i>Size designation for kernel pieces</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>	
	<i>inches</i>	<i>mm</i>	<i>inches</i>	<i>mm</i>
	Mammoth pieces	No limit	No limit	8/16
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

IV. Provisions concerning tolerances

At all marketing stages, tolerances in respect of quality and size shall be allowed in each lot for produce not satisfying the minimum requirements of the class indicated.

<i>Defects allowed</i>	<i>Tolerances allowed, percentage of defective produce, by number or weight</i>			
	<i>Whole kernels</i>		<i>Kernel pieces</i>	
	<i>Class I</i>	<i>Class II</i>	<i>Class I</i>	<i>Class II</i>
(a) Tolerances for produce not satisfying the minimum requirements	4	9	4	9
of which no more than:				
Not sufficiently developed, shrunken and shrivelled	1.5	4	1.5	4
Mouldy	1	2	1	2
Rancid or damaged by pests, rotten or deteriorated	3	8	3	8
Living pests	0	0	0	0

<i>Defects allowed</i>	<i>Tolerances allowed, percentage of defective produce, by number or weight</i>			
	<i>Whole kernels</i>		<i>Kernel pieces</i>	
	<i>Class I</i>	<i>Class II</i>	<i>Class I</i>	<i>Class II</i>
(b) Size tolerances				
For produce not conforming to the size indicated, if sized	5	5	7	7
Tolerance for pieces				
– Pieces less than ½ kernel	5	5	–	–
– Pieces greater than ½ kernel	9	9	–	–
(c) Tolerances for other defects				
Extraneous matter (of organic origin) such as loose shells, shell fragments, fragments of hull, leaves, dust (by weight)	1	1	2	2
Foreign matter (of inorganic origin) such as stones, metal, and glass (by weight)	0.05	0.15	0.05	0.15
Pecan kernels belonging to varieties or commercial types other than that indicated – depending on the characteristics of the product	5	5	7	7

V. Provisions concerning presentation

A. Uniformity

The contents of each package⁴ must be uniform and contain only pecan kernels of the same origin, quality, size (if sized), variety (if indicated), crop year (if indicated).

The visible part of the contents of the package must be representative of its 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 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 practically free of all foreign and extraneous matter in accordance with the table of tolerances in section “IV. Provisions concerning tolerances”.

VI. Provisions concerning marking

Each package⁵ 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:

⁴ The term “packages” is defined in Annex III of the Standard Layout for UNECE Standards on Dry and Dried Produce.

⁵ These marking provisions do not apply to sales packages presented in packages.

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 authority⁶ if a country applying such a system is listed in the UNECE Code Mark Registry.

B. Nature of produce

- “Pecan kernels”
- Style
- Colour type (optional)
- Name of the variety (optional).

C. Origin of produce

- Country of origin⁷ and, optionally, district where grown or national, regional or local place name.

D. Commercial specifications

- Class
- Size (if sized); expressed as
 - count per 100 g or ounce or
 - minimum diameter followed by “and larger” or equivalent denomination or
 - minimum and maximum diameters or
 - size designation in accordance with section III
- Crop year (optional)
- “Best before” followed by the date (optional).

E. Official control mark (optional)

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⁶ 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 with the ISO 3166 alpha country code of the recognizing country, if not the country of origin.

⁷ The full or a commonly used name should be indicated.