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

Revised standard for almond kernels

Submitted by the secretariat

Summary

The following document is submitted to the Working Party for adoption as the revised United Nations Economic Commission for Europe (UNECE) standard DDP-06 concerning the marketing and commercial quality control of almond kernels.

The document is based on the document ECE/CTCS/WP.7/2016/9, adopted by the Working Party at its seventy-second session in 2016. It incorporates revisions discussed at the seventy-first session of the Specialized Section on Standardization of Dry and Dried Produce (GE.2) in 2024, as reflected in documents ECE/CTCS/WP.7/GE.2/2024/4 and ECE/CTCS/WP.7/GE.2/2024/2.



UNECE standard DDP-06 concerning the marketing and commercial quality control of almond kernels

I. Definition of produce

This standard applies to sweet whole almond kernels of varieties (cultivars) grown from *Prunus amygdalus* Batsch, syn. *Prunus dulcis* (Mill.) D.A. Webb. The standard does not apply to almond halves, pieces, sticks, slices, dices or to almond kernels that are processed by salting, sugaring, flavouring, or roasting, that are blanched or for industrial processing.

II. Provisions concerning quality

The purpose of the standard is to define the quality requirements of almond 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 almond kernels must display the following characteristics observed by the naked eye or corrected 20/20 vision² when appropriate:

The kernel must be:

- intact; however, kernels with less than 1/8th missing are considered as whole
- sound; produce affected by rotting or deterioration such as to make it unfit for human consumption is excluded
- clean; practically free of any visible foreign matter
- sufficiently developed; no shrunken or shrivelled kernels which are extremely wrinkled, or with desiccated, dried out or tough portions affecting more than 25 per cent of the kernel
- free from blemishes, areas of discolouration, yellowing, fat diffusion 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
- free from gummy resinous substance covering an area greater than 7 mm in diameter or 38 mm²
- free from brown spots covering an area greater than 8 mm²
- free from chipped and scratched areas greater than 6 mm in diameter
- well formed
- 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

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.

- 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 almond 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 almond kernels shall have a moisture content not exceeding 6.5 per cent.

C. Classification

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

“Extra” Class, 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.

III. Provisions concerning sizing

Sizing or screening is mandatory for “Extra” Class and Class I, and optional for Class II.

Sizing and screening are determined by the maximum diameter of the equatorial section of the almond kernel, by means of round-holed or elongated-holed screens. Other sizing and screening systems may be used, such as those based on the number of almond kernels per 100g or per ounce (28,3495 grams).

- Sizing is expressed by an interval defined by a minimum and maximum size in millimetres, which must not exceed 2 mm of difference. When a range in count is specified, the almond kernels shall be fairly uniform in size, and the average count shall be within the range specified.
- Screening is expressed by a reference to a minimum size, in millimetres, followed by the words “and plus” or other equivalent wording, or by a reference to a maximum number of kernels per 100 g or per ounce, followed by the words “and less” or other equivalent wording.

Alternatively, screening could be expressed by a reference to a maximum size, in millimetres, followed by the words “and less” or other equivalent wording, or by a reference to a minimum number of kernels per 100g or per ounce, followed by the words “and plus” or other equivalent wording. For produce presented to the final consumer under on “screened”, this alternative reference is not allowed.

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.

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.

<i>Defects allowed</i>	<i>Tolerances allowed, percentage of defective produce, by number or weight</i>		
	<i>“Extra”</i>	<i>Class I</i>	<i>Class II</i>
(a) Tolerances for almond kernels not satisfying the minimum requirements	5	10	15
of which no more than:			
Not sufficiently developed, shrunken and shrivelled	1	2	4
Mouldy	0.5	0.5	1
Rancid or damaged by pests, rotten or deteriorated	1	2	3
Gummy, brown spot, blemishes and discolouration	2	3	6
Pieces	1	1	3
Split and broken	1	3	5
Living pests	0	0	0
(b) Size tolerances (if sized)			
For produce not conforming to the size indicated, in total	10	10	15
(c) Tolerances for other defects			
Extraneous matter (of organic origin) such as loose shells, shell fragments, fragments of hull, dust (by weight) and foreign matter (of inorganic origin) such as stones, metal, and glass (by weight)	0.15	0.25	0.25
Chipped and scratched	5	10	20
Doubles or twins	5	15	20
Almond kernels belonging to varieties or commercial types other than that indicated	5	5	5
Bitter almond kernels	1	1	2

V. Provisions concerning presentation

A. Uniformity

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

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

B. Packaging

Almond 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

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

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:

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

- “Almond kernels”
- Name of variety or commercial type (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 in accordance with section III
- Crop year (optional)
- “Best before” followed by the date (optional).

E. Official control mark (optional)

Adopted 1986

Last revised 2024

Aligned with the Standard Layout 2022

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

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.