

UNECE Standard on the marketing and commercial quality control of

WALNUT KERNELS



NOTE

Commercial quality standards for agricultural produce are developed and approved by the United Nations Economic Commission for Europe through its Working Party on Agricultural Quality Standards. These international standards facilitate trade, encourage high-quality production, improve profitability and protect consumer interests. They are used by governments, producers, traders, importers and exporters, as well as international organizations. They cover a wide range of agricultural products, including fresh fruit and vegetables, dry and dried produce, seed potatoes, meat, cut flowers, eggs and egg products.

The Explanatory Brochure on the Standard for Walnut Kernels has been developed to harmonize the interpretation of the Standard, thereby facilitating international as well as national trade. It addresses producers and traders, as well as inspection authorities.

All members of the United Nations can participate, on an equal footing, in the activities of the Working Party on Agricultural Quality Standards.

For more information, please visit our website http://www.unece.org/trade/agr/welcome.html>.

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CONTENTS

I.	DEFINITION OF PRODUCE	1
II.	PROVISIONS CONCERNING QUALITY	4
III.	PROVISIONS CONCERNING SIZING (STYLES)	10
IV.	PROVISIONS CONCERNING TOLERANCES	14
V.	PROVISIONS CONCERNING PRESENTATION	18
VI.	PROVISIONS CONCERNING MARKING	24
	ANNEX: UNECE STANDARD DDP-02 CONCERNING	28
	THE MARKETING AND COMMERCIAL QUALITY	
	CONTROL OF WALNUT KERNELS	



Note: Throughout this brochure, the official text of the standard is indicated in Roman type; the interpretative text of the standard is indicated in black italic. References to photos representing the visual interpretation are printed in black bold. The entire text of the standard without the interpretative text appears in the annex.

ACKNOWLEDGEMENTS

UNECE would like to acknowledge the contributions of all delegations of the Specialized Section on Standardization of Dry and Dried Produce during the development of this publication.

UNECE would also like to thank the California Walnut Commission and the California Walnut Board for preparing and printing the explanatory brochure on walnut kernels.





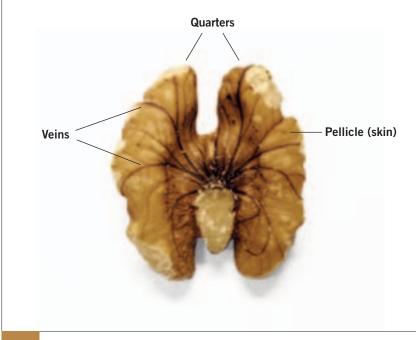
DEFINITION OF PRODUCE

DEFINITION OF PRODUCE

This standard applies to walnut kernels from varieties (cultivars) grown from *Juglans regia* L. 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 walnut kernels that are processed by salting, sugaring, flavouring, or roasting or for industrial processing.

INTERPRETATION

Walnut kernels vary in colours, sizes and shapes (Photos 1-2).



Half walnut kernel anatomy

DEFINITION OF PRODUCE



Representation of kernel colours and halves



PROVISIONS CONCERNING QUALITY

II PROVISIONS CONCERNING QUALITY

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

However, if applied at stages following export, the holder/seller 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 REQUIREMENTS¹

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

The kernel must be:

- 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 including the residues of adhering shell.

INTERPRETATION

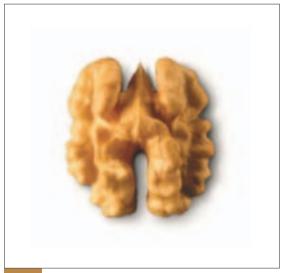
The acceptable limit for "practically free" would be traces of adhering shell, septa affecting in aggregate not more than 10 % of the total surface area. An example related to visible foreign matter is shown in Photo 3.



Kernel with adhering shell (not allowed)

PROVISIONS CONCERNING QUALITY

• sufficiently developed. Shrunken or shriveled kernels which are extremely wrinkled, or with desiccated, dried out or tough portions affecting more than 25 % of the kernel, are to be excluded.



4 Sufficiently developed (allowed)

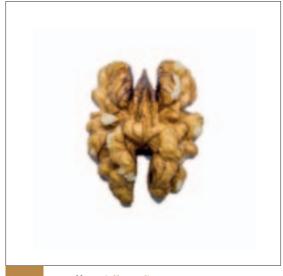


Shrunken/shriveled (more than 25 % of the kernel - not allowed)

• free from blemishes, areas of discolouration (fat diffusion or spread stains) in pronounced contrast with the rest of the kernel affecting in aggregate more than 25 % of the surface of the kernel; scuffing is not regarded as a blemish.



Blemishes and discolouration (More than 25 % of the kernel - not allowed)



Scuffing (allowed)

- 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.

6

II PROVISIONS CONCERNING QUALITY



8 Insect/pest damage (not allowed)

• free from mould filaments visible to the naked eye.

INTERPRETATION

Mould filaments visible to the naked eye, either on the shell or on the kernel, are not allowed (Photo 9).



Mould (not allowed)

II PROVISIONS CONCERNING QUALITY

· free from rancidity.

INTERPRETATION

Rancidity is a condition where the walnut kernel has a disagreeable odor or taste of decomposed oils or fat. N.B. Some products may display a dark, or oily appearance and not be rancid (Photo 10).



Rancidity may first appear as such but the walnut kernel should be checked by sensory test

• free of abnormal external moisture.

INTERPRETATION

This provision applies to excessive moisture, for example, free water lying inside the package. Care must be taken that the maximum moisture content of the produce as specified in Section II.B is respected.

free of foreign smell and/or taste.

INTERPRETATION

This provision applies to walnut kernels stored or transported under poor conditions, which have consequently resulted in their absorbing abnormal smells and/or tastes, in particular through the proximity of other product which give off volatile odours.

The condition of the walnut kernels must be such as to enable them:

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

I I PROVISIONS CONCERNING QUALITY

B. MOISTURE CONTENT²

The walnut kernels shall have a moisture content not exceeding 5.0 %.

INTERPRETATION

Maximum moisture content refers to the limits of moisture allowed for the produce in order to be commercialized.

C. CLASSIFICATION

In accordance with the defects allowed in section "IV. Provisions Concerning Tolerances", walnut 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.



PROVISIONS CONCERNING SIZING (STYLES)

III PROVISIONS CONCERNING SIZING (STYLES)

Walnut kernels are classified by style as follows:

I	halves	kernels separated into two more or less equal and intact parts
II	chipped kernels	A "chipped kernel" means a portion representing at least three-quarters of a "half"
III	quarters	kernels separated lengthways into four more or less equal pieces
IV	large pieces	portions smaller than a "chipped kernel" but larger than a "broken piece"
V	broken pieces	portions of kernels which can pass through a 8 mm round hole screen but not through a 3 mm round hole screen

For halves only, the number of pieces per kilo is optional.

When styles are mixed, the proportion of each style must be indicated; the table of size tolerances does not apply.

INTERPRETATION

Walnut kernels come in different styles. Examples related to different styles are shown in Photos 11 to 15.



III PROVISIONS CONCERNING SIZING (STYLES)



Representation of chipped kernels
(a portion representing at least three quarters of a "half")



Representation of quarters (kernels separated lengthways into four more or less equal pieces)

III PROVISIONS CONCERNING SIZING (STYLES)



Representation of large pieces (portions smaller than a "chipped kernel" but larger than a "broken piece")



Representation of broken pieces (portions of kernels which can pass through a 8 mm round hole screen but but not through a 3 mm round hole screen)



PROVISIONS CONCERNING TOLERANCES

Y 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.

INTERPRETATION

Tolerances are provided to allow for deviation in handling and for natural deterioration of produce over time.

Conformity with tolerances should be determined using at a minimum the operating rules for the conformity checks as set out in Annex II of the Council Decision Revising the OECD "Scheme" for the Application of International Standards for Fruit and Vegetables [C(2006)95] (downloadable from http://www.oecd.org/agriculture/fruit-vegetables).

Decision on conformity of the lot is taken depending on the percentage of non-conforming produce in the bulk sample (Photo 16).

A. QUALITY TOLERANCES

	Tolerances allowed percentage of defective produce, by weight		
DEFECTS ALLOWED	EXTRA	CLASS I	CLASS II
(a) Tolerances for produce not satisfying the minimum requirements of which no more than:	4	6	8
Mouldy	0.5	1	2
Rancid or foreign smell or taste	1	1	2
Rotting or deterioration	0.5	1	2
Damaged by pests	1	1	2
Living pests (b) Tolerances for other defects	0	0	0
Foreign matter, shell fragments, fragments of hull (c) Tolerance for colour:	0.5	1	1
Walnut kernels that do not belong to the same colour classification	15	15	15

PROVISIONS CONCERNING TOLERANCES



Example of foreign matter including wood, stones, twigs, shell and septa.

B. SIZE/STYLE TOLERANCES

	Minimum percentage and tolerances allowed (per cent by weight of kernels)					
STYLE	HALVES	CHIPPED KERNELS	QUARTERS	LARGE PIECES	BROKEN PIECES	FRAG- MENTS
Halves	85ª	15 ^b	5°	5 °	1°	1°
Chipped Kernels		85ª	15⁵	5°	5°	1°
Quarters			85ª	15 ⁵	5 °	1°
Large pieces				85ª	15 ^b	1°
Broken pieces				10ь	90ª	1 ^d

- a) Minimum percentage
- b) Tolerances allowed
- c) Included in 15 % tolerance
- d) Included in 10 % tolerance





PROVISIONS CONCERNING PRESENTATION

PROVISIONS CONCERNING PRESENTATION

A. UNIFORMITY

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

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

INTERPRETATION

Presentation should not be misleading, i.e. concealing in the lower layers of the package produce inferior in quality and size to that displayed and marked. Examples related to uniformity are shown in Photos 17 to 21.

Colour Uniformity3:

The following colour uniformity apply in the respective classes.

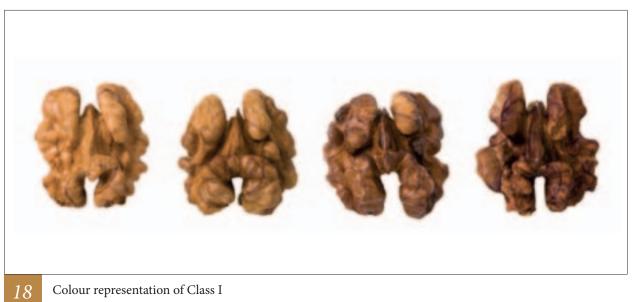
- Extra Class: Walnut kernels in this class must be uniformly light-coloured with practically no dark straw and/or lemon-yellow colour and with no dark brown.
- Class I: Walnut kernels in this class must be of a colour not darker than light brown and/or lemon-yellow.
- Class II: Walnut kernels in this class must be of a colour not darker than dark brown. Darker kernels may be marketed in this class, provided the colour is indicated on the package.
- Red coloured kernel varieties are exempted from the colour requirements.



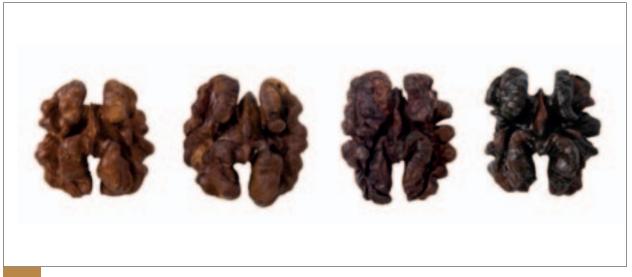
Representation of colour uniformity of Extra Class

 $http://www.unece.org/fileadmin/DAM/trade/agr/standard/dry/Publications/ECE_DDP-02_WalnutKernels.pdf$

PROVISIONS CONCERNING PRESENTATION



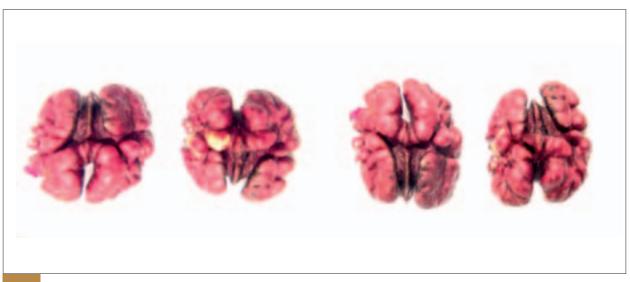
Colour representation of Class I



Colour representation of Class II



PROVISIONS CONCERNING PRESENTATION



20 Colour representation of red coloured kernels (e.g.; Livermore variety)



Uniform colour in the package

V

PROVISIONS CONCERNING PRESENTATION

B. PACKAGING

Walnut 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 and 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. Provisions Concerning Tolerances".

INTERPRETATION

Packaging must be of such quality and strength as to protect the kernels during transportation and handling.

This provision is designed to ensure that the materials inside the package protect the produce suitably. Clean materials should be used to protect the produce from foreign matter, such as leaves, sand or soil which could cause a negative impact on the produce and its presentation. A visible lack of cleanliness in several packages could result in the goods being rejected.

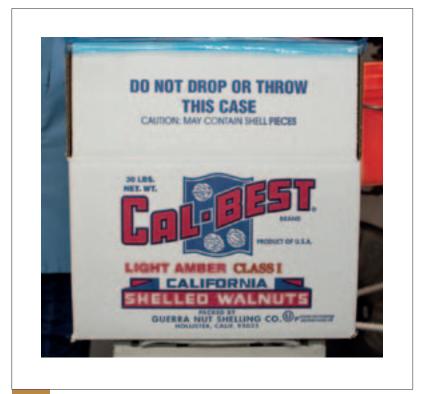
Examples of packaging are shown in Photos 22 and 23



Example of sales or consumer package

V

PROVISIONS CONCERNING PRESENTATION



23 Example of package or carton



PROVISIONS CONCERNING MARKING

VI PROVISIONS CONCERNING MARKING

Each package⁴ must bear the following particulars in letters grouped on the same side, legibly and indelibly marked and visible from the outside:

INTERPRETATION

On each package, all particulars must be grouped on the same side of the package, either on a label attached to or printed on the package with water insoluble ink.

In case of re-used packages, all previous labels must be carefully removed and/or previous indications deleted.

Examples related to marking are shown in Photos 24 and 25.

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 authority⁵.

INTERPRETATION

For inspection purposes, the "packer" is the person or firm responsible for the packaging of the produce (this does not mean the staff that actually carry out the work, who are responsible only to their employer). The code mark is not a trademark but an official control system enabling the person or firm responsible for packaging to be readily identified. The dispatcher (shipper or exporter) may, however, assume sole responsibility, in which case identification of the "packer" as defined above is optional.

VI PROVISIONS CONCERNING MARKING

B. NATURE OF PRODUCE

"Walnut Kernels".

C. ORIGIN OF PRODUCE

• Country of origin⁶ and, optionally, district where grown or national, regional or local place name.

INTERPRETATION

Marking must include the country of origin, i.e. the country in which the walnuts were grown (e.g. "Produce of the USA" or "Produce of France"). Optionally, the district of origin in national, regional or local terms e.g. "California Walnuts" or "Noix du Périgord" or "Noix de Grenoble" may also be shown.

D. COMMERCIAL SPECIFICATIONS

- Class.
- Style; when styles are mixed, the proportion of each style must be indicated.
- Number of halves per kg (optional).
- Crop year (optional).
- 'Best before' followed by the date (optional).

E. OFFICIAL CONTROL MARK (OPTIONAL)

Adopted 1983 Last revised 2017



PROVISIONS CONCERNING MARKING



24 Example of marking printed on the carton



Example of marking printed on sales/consumer package



UNECE STANDARD DDP-02 CONCERNING THE MARKETING AND COMMERCIAL QUALITY CONTROL OF WALNUT KERNELS

I. DEFINITION OF PRODUCE

This standard applies to walnut kernels from varieties (cultivars) grown from *Juglans regia* L. 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 walnut kernels 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 walnut kernels at the export control stage, after preparation and packaging.

However, if applied at stages following export, the holder/seller 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 REQUIREMENTS¹

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

The kernel must be:

- intact; however, kernels with less than 25 % missing are considered halves.
- 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 including the residues of adhering shell.
- sufficiently developed. Shrunken or shriveled kernels which are extremely wrinkled, or with desiccated, dried out or tough portions affecting more than 25 % of the kernel, are to be excluded.
- free from blemishes, areas of discolouration, yellowing, fat diffusion or spread stains in pronounced contrast with the
 rest of the kernel affecting in aggregate more than 25 % of the surface of the kernel; scuffing is not regarded as a
 blemish.
- 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 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 walnut kernels must be such as to enable them:

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

B. MOISTURF CONTENT²

The walnut kernels shall have a moisture content not exceeding 5.0 %.

C. CLASSIFICATION

In accordance with the defects allowed in section "IV. Provisions Concerning Tolerances", walnut 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 (STYLES)

Walnut kernels are classified by style as follows:

I	halves	kernels separated into two more or less equal and intact parts
II	chipped kernels	A "chipped kernel" means a portion representing at least three-quarters of a "half"
III	quarters	kernels separated lengthways into four more or less equal pieces
IV	large pieces	portions smaller than a "chipped kernel" but larger than a "broken piece"
V	broken pieces	portions of kernels which can pass through a 8 mm round hole screen but not through a 3 mm round hole screen

For halves only, the number of pieces per kilo is optional.

When styles are mixed, the proportion of each style must be indicated; the table of size tolerances does not apply.

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.

A. QUALITY TOLERANCES

	Tolerances allowed percentage of defective produce, by weight		
DEFECTS ALLOWED	EXTRA	CLASS I	CLASS II
(a) Tolerances for produce not satisfying the minimum requirements of which no more than:	4	6	8
Mouldy	0.5	1	2
Rancid or foreign smell or taste	1	1	2
Rotting or deterioration	0.5	1	2
Damaged by pests	1	1	2
Living pests (b) Tolerances for other defects Foreign matter, shell fragments, fragments of hull (c) Tolerance for colour:	0.5	0	0
Walnut kernels that do not belong to the same colour classification	15	15	15

B. SIZE/STYLE TOLERANCES

	Minimum percentage and tolerances allowed (per cent by weight of kernels)					
STYLE	HALVES	CHIPPED KERNELS	QUARTERS	LARGE PIECES	BROKEN PIECES	FRAG- MENTS
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Broken pieces				10ь	90ª	1 ^d

- a) Minimum percentage
- b) Tolerances allowed
- c) Included in 15 % tolerance
- d) Included in 10 % tolerance

V. PROVISIONS CONCERNING

PRESENTATION

A. UNIFORMITY

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

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

Colour Uniformity³:

The following colour uniformity apply in the respective classes.

- Extra Class: Walnut kernels in this class must be uniformly light-coloured with practically no dark straw and/or lemon-yellow colour and with no dark brown.
- Class I: Walnut kernels in this class must be of a colour not darker than light brown and/or lemon-yellow.
- Class II: Walnut kernels in this class must be of a colour not darker than dark brown. Darker kernels may be marketed in this class, provided the colour is indicated on the package.
- Red coloured kernel varieties are exempted from the colour requirements.

B. PACKAGING

Walnut 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 and 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. Provisions Concerning Tolerances".

VI. PROVISIONS CONCERNING

MARKING

Each package⁴ 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 authority⁵.

B. NATURE OF PRODUCE

"Walnut Kernels".

C. ORIGIN OF PRODUCE

Country of origin⁶ and, optionally, district where grown or national, regional or local place name.

D. COMMERCIAL SPECIFICATIONS

- Class.
- Style; when styles are mixed, the proportion of each style must be indicated.
- Number of halves per kg (optional).
- Crop year (optional).
- "Best before" followed by the date (optional).

E. OFFICIAL CONTROL MARK (OPTIONAL)

Adopted 1983 Revised 2017

⁴⁾ These marking provisions do not apply to sales packages presented in packages.

⁵⁾ 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 33 mark should be preceded with the ISO 3166 alpha country code of the recognizing country, if not the country of origin.

