



## **Economic and Social Council**

Distr.: General  
20 October 2017

Original: English

---

### **Economic Commission for Europe**

Steering Committee on Trade Capacity and Standards

#### **Working Party on Agricultural Quality Standards**

**Seventy-third session**

Geneva, 7-8 November 2017

Item 10 of the provisional agenda

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

### **Explanatory document for walnut kernel standard\***

#### **Submitted by the secretariat**

The following document is submitted to the Working Party for adoption as the revised text for the interpretation of the walnut kernel standard. It is prepared according to ECE/CTCS/2015/7 (part II, section A, subsection c).

---

\*

Submitted on the above date to allow for verification by the secretariat of portions of the proposed standard and explanatory text.

## 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.

**Interpretation:** Walnut kernels vary in colours, sizes and shapes (Photos 1-2)

Photo 1 Half walnut kernel anatomy [veins, quarters, pellicle (skin)]

Photo 2 Representation of kernel colours and halves

## 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 requirements<sup>1</sup>

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. Examples related to visible foreign matter is shown in Photo 3.

Photo 3 Kernel with adhering shell (not allowed).

- Sufficiently developed.
- 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 and empty shells, are to be excluded.

Photo 4 Sufficiently developed (allowed)

Photo 5 Shrunken/shrivelled (More than 25% of the kernel-Not Allowed)

---

<sup>1</sup> 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  
<[http://www.unece.org/trade/agr/standard/dry/StandardLayout/StandardLayoutDDP\\_e.pdf](http://www.unece.org/trade/agr/standard/dry/StandardLayout/StandardLayoutDDP_e.pdf)>

- free from blemishes, areas of discoloration (fat diffusion 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. NOTE: Scuffing is not a blemish.

Photo 6 Blemishes and discoloration (More than 25% of the kernel-Not Allowed).

Photo 7 Right: 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

Photo 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).

Photo 9 Mould (Not allowed)

- 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).

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

## B. Moisture content<sup>2</sup>

The walnut kernels shall have moisture content not exceeding 5.0 per cent<sup>2</sup>.

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

<sup>2</sup> The moisture content is determined by one of the methods given in Annex II of the Standard Layout – Determination of the moisture content for dried produce  
<[http://www.unece.org/trade/agr/standard/dry/StandardLayout/StandardLayoutDDP\\_e.pdf](http://www.unece.org/trade/agr/standard/dry/StandardLayout/StandardLayoutDDP_e.pdf)>. The laboratory reference method shall be used in cases of dispute.

## 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:	Any half kernel with not more than ¼ broken off or missing
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 8mm round hole screen but not through a 3mm 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 from Photos 11 through 15.

Photo 11 Representation of Halves (Kernels separated into two more or less equal and intact parts)

Photo 12 Representation of chipped kernels (Any half kernel with not more than ¼ broken off or missing)

Photo 13 Representation of Quarters (Kernels separated lengthways into four more or less equal pieces)

Photo 14 Representation of Large Pieces (Portions smaller than a “chipped kernel” but larger than a “broken piece”)

Photo 15 Representation of Broken Pieces (Portions of kernels which can pass through a 8 mm round hole screen but not through a 3 mm round hole screen)

## 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.

**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 the 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

<i>Defects allowed</i>	<i>Tolerances allowed percentage of defective produce, by weight</i>		
	<i>Extra</i>	<i>Class I</i>	<i>Class II</i>
(a) Tolerances for produce not satisfying the minimum requirements of which no more than:			
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	0	0	0
(b) Tolerances for other defects:			
Foreign matter, shell fragments, fragments of hull, dust (by weight)	0.5	1	1
(c) Tolerances for colour:			
Colour, percent darker than respective class tolerance	15	15	15

Photo 16 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	Fragments
Halves	85 <sup>a</sup>	15 <sup>b</sup>	5 <sup>c</sup>	5 <sup>c</sup>	1 <sup>c</sup>	1 <sup>c</sup>
Chipped Kernels		85 <sup>a</sup>	15 <sup>b</sup>	5 <sup>c</sup>	5 <sup>c</sup>	1 <sup>c</sup>
Quarters			85 <sup>a</sup>	15 <sup>b</sup>	5 <sup>c</sup>	1 <sup>c</sup>
Large pieces				85 <sup>a</sup>	15 <sup>b</sup>	1 <sup>c</sup>
Broken pieces				10 <sup>b</sup>	90 <sup>a</sup>	1 <sup>d</sup>

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, 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 Photo 21.

#### **Colour Uniformity<sup>3</sup>:**

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.

Photo 17 Representation of colour uniformity of Extra Class

Photo 18 Colour representation of Class I

Photo 19 Colour representation of Class II

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

Photo 21 Uniform colour in the package

### 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 so 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

---

<sup>3</sup> The official colour chart illustrating the colours is available at:  
[http://www.unece.org/fileadmin/DAM/trade/agr/standard/dry/Publications/ECE\\_DDP-02\\_WalnutKernels.pdf](http://www.unece.org/fileadmin/DAM/trade/agr/standard/dry/Publications/ECE_DDP-02_WalnutKernels.pdf).

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.

Example of packaging is shown in Photo 22 and 23

Photo 22 Example of sales or consumer package

Photo 23 Example of package or carton

## VI. Provisions concerning marking

Each package<sup>4</sup> 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 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 authority<sup>5</sup>.

**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.

### B. Nature of produce

- “Walnut kernels”

### C. Origin of produce

- Country of origin<sup>6</sup> 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

<sup>4</sup> These marking provisions do not apply to sales packages presented in packages.

<sup>5</sup> 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.

<sup>6</sup> The full or a commonly used name should be indicated.

district of origin in national, regional or local terms e.g. “Californian 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.

Photo 24 Example of marking printed on the carton [packer name and address, product, country of origin]

Photo 25 Example of marking printed on sales/consumer package [packer, product, size, class, region (optional), country of origin, address, lot code/sell by date (optional)]

---