

Recommendation on trial through 2012 for

UNECE STANDARD DDP-XX

concerning the marketing and
commercial quality control of

WHOLE DRIED CHILLI PEPPERS

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NOTE

Working Party on Agricultural Quality Standards

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The new Standard for Whole Dried Peppers is based on document ECE/TRADE/C/WP.7/2011/19, reviewed and adopted by the Working Party at its sixty-seventh session.

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UNECE standard DDP-.. concerning the marketing and commercial quality control of Whole Dried Chilli Peppers

I. Definition of produce

This Standard applies to whole dried chilli peppers of varieties (cultivars) grown from *Capsicum annuum* 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 whole dried chilli peppers for industrial processing.

This standard covers the following commercial types of whole dried chilli peppers: ancho, de árbol, guajillo, mulato, pasilla and puya.

II. Provisions concerning quality

The purpose of the standard is to define the quality requirements of whole dried chilli peppers 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 whole dried chilli peppers must display the following characteristics:

- 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 and with attached peduncle;
- shape and colour characteristic of chilli types^[2];
- 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 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> [Specific definitions are contained in annex I of the present standard.]

² [For examples of colour and visual quality, see Draft Explanatory Brochure for Whole Dried Chilli Peppers]

- free from damage caused by pests, including the presence of dead insects and/or mites, their debris or excreta;
- free from blemishes, areas of discolouration or spread stains in pronounced contrast with the rest of the produce affecting in aggregate not more than 5 per cent of the surface of the produce;
- free from mould filaments visible to the naked eye;
- free of abnormal external moisture;
- free of foreign smell and/or taste.

The condition of the whole dried chilli peppers 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

Whole dried chilli peppers should have a maximum moisture content in accordance with the following table:

<i>Maximum moisture content in per cent (m/m)</i>	
Ancho	12.5
De árbol	9.0
Guajillo	13.5
Mulato	12.5
Pasilla	13.5
Puya	10.0

C. Classification

In accordance with the defects allowed in section “IV. Provisions concerning tolerances”, whole dried chilli peppers 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.

³ The moisture content is determined by the method given in annex I of the Standard Layout – Determination of the moisture content for dried produce <http://www.unece.org/trade/agr/standard/dry/StandardLayout/StandardLayoutDDP_e.pdf>. The laboratory reference method shall be used in cases of dispute.

D. Colour

[Colour requirement for whole dried chillies is mandatory for the commercial types in accordance with the table below:]

<i>Type</i>	<i>Extra</i>	<i>Class I</i>	<i>Class II</i>
Guajillo	Uniform; intense or dark red with no discoloration	Uniform; intense or dark red with no discoloration	Uniform; intense or dark red with slight discoloration
Puya	Uniform; intense or dark red with no discoloration	Not totally uniform; intense or dark red with no discoloration	Not totally uniform; intense or dark red slightly discoloured
Ancho	Uniform; light red to dark red, free from discolouring	Uniform; intense red to dark red with no discoloration	Uniform; intense red to dark red slightly discoloured
Mulato	Uniform; intense black, free from discolouring	Uniform; intense black, free from discolouring	Non-uniform; black, discoloured
Pasilla	Uniform intense black without discoloration	Uniform black without discolouring	Non-uniform; black or greenish. Slightly discoloured
De árbol	Not applicable	Uniform; intense red without any discolouration	Intense red. May present discolouring stains

E. Pungency⁴

Commercial types of whole dried chilli peppers are characterized by pungency in accordance with the following table.

<i>Dry chilli</i>	<i>Total capsaicinoids (µg/g dry weight)</i>	<i>Pungency Intensity (Scoville units⁽⁴⁾)</i>	<i>Intensity</i>
Ancho	67 - 100	1 000 – 1 500	Mild
Mulato	67 - 100	1 000 – 1 500	
Pasilla	67 - 100	1 000 – 1 500	
Guajillo	201 - 335	3 000 – 5 000	Medium
De árbol	335 – 2010	5 000 – 30 000	Medium - Hot
Puya	335 - 2010	5 000 – 30 000	

⁴ For methods of verification, see Annex II: Methods to determine pungency.

^(a) The Scoville scale is a system to measure the pungency in chillies. High performance liquid chromatography (HPLC) can also be used to measure content of capsaicin in chillies.

III. Provisions concerning sizing

Sizing of whole dried chilli peppers is mandatory for “Extra” Class and Class I.

Size is determined by the length (measured from the apex of the fruit without considering the peduncle).

The commercial types are sized in accordance with the following table:

<i>Type</i>	<i>Class</i>	<i>Length (cm)</i>
Guajillo	Extra	> 14
	Class I	10 – 14
	Class II	< 10
Puya	Extra	> 10
	Class I	8 – 10
	Class II	< 8
Ancho	Extra	> 10
	Class I	7 – 10
	Class II	7 – 10
Mulato	Extra	> 10
	Class I	7 – 10
	Class II	< 7
Pasilla	Extra	> 20
	Class I	14 – 20
	Class II	< 14
De árbol	Class I	9 – 11
	Class II	< 9

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

Defects allowed	<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 produce not satisfying the minimum requirements	5	10	15
of which no more than:			
Blemishes, stains, discolorations, burns, scratches, scars, deformations	2	5	10
Decayed and mouldy fruit	0.5	1	2
Damaged by pests	0.5	0.5	1
Living pests	0	0	0
(b) Size tolerances			
For produce not conforming to the size indicated, if sized	10	10	10
(c) Tolerances for other defects			
Missing stems and broken fruit	5	7	10
Foreign matter (by weight)	1	1	1
Foreign matter of plant material	1.5	1.5	2
Whole dried chilli peppers belonging to commercial types other than that indicated	5	10	10

V. Provisions concerning presentation

A. Uniformity

The contents of each package must be uniform and contain only whole dried chilli peppers of the same origin, quality, colour, size (if sized) and commercial type.

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

B. Packaging

Whole dried chilli peppers 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 free of all foreign 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.

B. Nature of produce

- “Whole dried chilli peppers”
- Name of the commercial type
- Method of drying (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
- “Best before” followed by the date (optional).

E. Official control mark (optional)

Adopted 20..

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

⁷ The full or commonly used name should be indicated.

Annex I

Commonly used terminology for whole dried chillies

Ancho chilli

Fruits have a conical shape, with sizes that vary in longitude and width. The base of the insertion of the peduncle can be flat or with indented shoulders; the body is generally flattened; the apex is pointed or round, and presents from two to four loculi. Its production as dry pepper is achieved mostly by artificially dehydrating the fruits, although a large part of this type of chilli is commercialized fresh.

De árbol chilli

Small fruits, with a uniform intense or dark red coloration, with no discoloration, cylindrical, with a shape prominently long and pointed, characterized by their high pungency.

Guajillo chilli

Also known as mirasol. Generally, it is long, with a sharp end; its body is cylindrical, smooth and with slight undulations. It has two to three locules; its position is hanging, even when there are some variants with erected fruits. This type of chilli is moderately pungent and its commercial production is in its majority dried in the plant in a natural way.

Mulato chilli

With a shape similar to the ancho chilli, it has the same variation in the growth habit and shape of the fruit, but generally less pungent. The basic difference with ancho chilli is the colour, which is dark brown when ripe and blackish brown once it is dehydrated.

Pasilla chilli

Fruit with a long undulated body that ends in a flat or pointed apex; it presents from two to three loculi. Its production is mainly destined for dehydrating, with a small amount consumed fresh.

Puya chilli

Elongated fruit, medium size, smaller than mirasol chillies and bigger than de árbol chillies, with a uniform intense red or dark red colour, with no discoloration. Its production is dehydrated mainly in a natural way in the plant before use in salsas. After the de árbol chilli, it is considered highly pungent.

Dried chilli (dehydrated)

Fruit that has undergone a process of water loss by natural or artificial means.

Capsaicinoids

Compounds responsible for the pungent or hot flavour in the chillies. The main and most pungent of all capsaicinoids is the Capsaicin, which is found in the seeds and placenta of the peppers.

Locule

Small chamber or cavity of the fruit that is formed by the arranging of the walls of the ovary; it is observed by making a transversal cut.

Foreign matter

All material or substance different to that which constitutes the fruit and the peduncle. This includes: stalks, dirt, sand, stones, waste, wires, cords, foreign seeds, dust and leaves, as well as insect debris.

Pungency

Sharp or intense sensation caused by the effect of the capsaicins after the ingestion of chilli or its sub-products.

Annex II

Methods to determine pungency

Pungency is reported in the Scoville scale and analyzed by the method of high performance resolution liquid chromatography (HPLC) methods.

References

- ISO 972: 1997: Chillies and capsicums, whole or ground (powdered) - Specifications.
- ISO 930: 1997: Spices and condiments - Determination of acid-insoluble ash
- ISO 3513:1995 Chillies - Determination of Scoville index Edition: 2
- ISO 7543-1 Chillies and chilli oleoresins - Determination of total capsaicinoid content
- Part 1: Spectrometric method
- ISO 7543-2 Chillies and chilli oleoresins - Determination of total capsaicinoid content
- Part 2: Method using high-performance liquid chromatography
- Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias. Centro de Investigación Regional del Noreste. Campo Experimental Palma de la Cruz. Nuevas Variedades del Chile Mirasol para el Centro Norte de México. Folleto Técnico Nro. 21, Marzo 2001.
- Pozo Campodónico, Octavio. Descripción de Tipos y Cultivares de Chile (*Capsicum* spp.) en México. Secretaría de Agricultura y Recursos Hidráulicos/Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria (SARH/INIA). Folleto Técnico Nro. 77, Octubre 1981.
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