UNECE Standard on the marketing and commercial quality control of Whole Dried Chilli Peppers

Explanatory Brochure
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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 Whole Dried Chilli Peppers 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. It corresponds to the latest edition of the UNECE Standard for Whole Dried Chilli Peppers (DDP-24), which was officially adopted in 2013. Subsequent revisions to the standard will be placed on the website at: www.unece.org/trade/agr/standard/dry/ddp-standards.html

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: www.unece.org/trade/agr/welcome.html

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Concerning the marketing and commercial quality control
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The official text of the standard is indicated in blue bold; the interpretative text of the standard is indicated in black. References to photos representing the visual interpretation are printed in black bold. The entire text of the standard without the interpretative text appears in Annex II.
Definition of Produce
I. Definition of Produce

This standard applies to whole dried chilli peppers1 of varieties (cultivars) grown from *Capsicum annuum* L., *C. baccatum*, *C. chinense*, *C. frutescens* and *C. pubescens*, 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.

**Interpretation:** Whole dried sweet peppers and bell peppers are excluded from this standard. Whole dried chilli peppers have undergone a process of water loss by natural (sun-drying) or artificial (machine-drying) means.

Whole dried chilli peppers are traded by commercial type showing a wide range of colours, sizes and shapes. Examples of commercial types are described below:

**Ancho:** 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. Ancho are mainly artificially dehydrated (dark black colour), but can be sun-dried (reddish to black colour). The type Ancho planchado is re-hydrated after drying, the peduncle and the indented shoulders are pulled out.

**Chipotle:** fruit with light brown or black colour, depending whether it was dried from green or red Jalapeño chilli peppers. During the drying process these chilli peppers are smoked and the dried product has a mild and smoked taste.

**De árbol:** Small fruits, with a uniform intense or dark red colouration, cylindrical, with a shape prominently long and pointed, characterized by their high pungency.

**Guajillo (or Mirasol):** Generally, it is long, with a sharp end; its body is cylindrical, smooth and with slight undulations. It has two to three loculi. This type is mainly naturally dried and moderately pungent.

**Mulato:** Has a shape and growth habit similar to the ancho chilli, but generally less pungent. The main difference between mulato and ancho chilli is the colour. Mulato is dark brown when ripe and blackish brown once it is dehydrated.

**Pasilla:** Fruit with a long undulated body that ends in a flat or pointed apex; it presents from two to three locules.

**Puya:** Elongated fruit, medium size, smaller than guajillo and bigger than de árbol chillies, with a uniform intense red or dark red colour. It is mainly naturally dehydrated.

Examples related to commercial types of whole dried chilli peppers are shown in Photos 1 to 7.

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1 Whole dried chilli peppers presenting a minimum pungency of 900 Scoville index; for levels of pungency, see annex.
Photo 1
Definition of produce — Different commercial types showing the examples of shapes, sizes and colours of chilli peppers. From left to right: Pasilla, Guajillo, Puya, Ancho, Mulato, De árbol

Photo 2
Definition of produce — Commercial type Piquín
Definition of Produce

Photo 3
Definition of produce
— Commercial type
Cascabel

Photo 4
Definition of produce
— Commercial type
Catarina
Photo 5
Definition of produce — Commercial type
Chipotle

Photo 6
Definition of produce — Commercial type
De árbol. Left presentation with peduncle, right presentation without peduncle and calyx
Definition of Produce

Photo 7
Definition of produce — Commercial type Ancho. Left: sun dried planchado, right: machine dried
Provisions concerning Quality
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 requirements

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; peduncle and calyx may be missing but flesh at the calyx area must be intact, if present peduncle and calyx must be intact

Interpretation: The whole dried chilli peppers must have no damage or injury which means complete fruits, free of damage and physical defects on the surface skin and, if present, on peduncle and calyx. Whole dried chilli peppers showing damage exposing the interior of the produce are not allowed.

Examples related to the minimum requirement “intact” are shown in Photos 8 to 10.

2 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>
Provisions concerning Quality

Photo 9
Minimum requirement “intact”. Damaged dried chilli peppers – not allowed

Photo 10
Minimum requirement “intact”. Without peduncle and calyx – limit allowed
- sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;

**Interpretation:** Whole dried chilli peppers must be free from disease (caused by fungi, bacteria or viruses), physiological disorders or serious deterioration, which appreciably affect their appearance, edibility or keeping quality. In particular whole dried chilli peppers affected by rotting, or the rot affecting the crown only, even if the signs are very slight but liable to make the whole dried chilli peppers unfit for consumption upon arrival at their destination, are to be excluded.

Examples related to the minimum requirement “sound” are shown in **Photos 11 to 12**.
- clean, practically free of any visible foreign matter;

**Interpretation:** The acceptable limit for “practically free” would be very slight traces of foreign matter. Extensive soiling or deposits are not allowed.

Examples related to the minimum requirement “clean” are shown in Photos 13 to 15.
Photo 14
Minimum requirement “clean”. Very slight traces of dust – limit allowed.

Photo 15
Minimum requirement “clean”. Serious soiling – not allowed.
- sufficiently developed;

**Interpretation:** Whole dried chilli peppers must be sufficiently developed before drying. If they are not sufficiently developed, the dried produce is smaller in size and pale in colour compared to the typical characteristics of the commercial type. Whole dried chilli peppers with insufficient development are to be excluded.

Examples related to the minimum requirement “sufficiently developed” are shown in Photos 16 to 17.
Photo 17
Minimum requirement “sufficiently developed”. Bottom: fully developed Pasilla; top: not sufficiently developed – not allowed.
- free from living pests whatever their stage of development;

**Interpretation:** The presence of pests detracts from the commercial presentation and severely affects the acceptance and shelf life of the whole dried chilli peppers. Therefore, a lot showing a single living pest is to be excluded. In this context the term pests covers insects and mites in their different stages of development such as eggs, larvae and imagines.

- free from damage caused by pests, including the presence of dead insects and/or mites, their debris or excreta;

**Interpretation:** Whole dried chilli peppers must be free from pest damage, including feeding damages caused by rodents, insects and mites, dead insects and mites (eggs, larvae, imagines), or parts of dead pests as well as their debris and excreta.

An example related to the minimum requirement “damage caused by pests” is shown in **Photo 18.**
- free from blemishes, areas of discoloration or spread stains in pronounced contrast with the rest of the produce affecting in aggregate not more than 25 per cent of the surface of the produce;

**Interpretation:** Whole dried chilli peppers with blemishes, discoloration and/or pronounced staining that do not exceed the 25 per cent of the fruit surface are allowed in all classes. Whole dried chillis with blemishes and/or discoloration exceeding 25 per cent of the surface area are to be excluded.

Examples related to the minimum requirement “free from blemishes” are shown in Photos 19 to 22.
Provisions concerning Quality

**Photo 20**  
Minimum requirement “free from blemishes”. Discolouration equal to 25% of the total surface – limit allowed.

**Photo 21**  
Minimum requirement “free from blemishes and areas of discolouration”. Discolouration exceeding 25% of the total surface – not allowed.
Minimum requirement: “free from blemishes and areas of discolouration”. Discolouration exceeding 25% of the total surface – not allowed.
- free from mould;

**Interpretation:** Excess moisture of produce and/or at storage room plus warm conditions during storage of whole dried chilli peppers promote and increase the presence and contamination with fungi resulting in high levels of mould filaments and/or spores, causing deterioration of colour, texture, flavour, smell and taste of produce.

An example related to the minimum requirement “free from mould” is shown in Photo 23.
- 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 whole dried chilli peppers 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.

This provision does not preclude a specific smell and/or specific taste caused by smoking as in the commercial types such as Chipotle.

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 content

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

<table>
<thead>
<tr>
<th>Commercial type</th>
<th>Maximum moisture content in per cent (m/m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guajillo, Pasilla and other commercial types having similar flesh texture</td>
<td>13.5</td>
</tr>
<tr>
<td>Ancho, Mulato and other commercial types having similar flesh texture</td>
<td>12.5</td>
</tr>
<tr>
<td>Puya and other commercial types having similar flesh texture</td>
<td>10.0</td>
</tr>
<tr>
<td>De árbol and other commercial types having similar flesh texture</td>
<td>9.0</td>
</tr>
</tbody>
</table>

**Interpretation:** Maximum moisture content refers to the limits of moisture allowed for the produce in order to be commercialized. Moisture content varies with the commercial type and its flesh texture, but it is important to understand that excess moisture of the produce increases microorganism and insect development, contamination and deterioration of produce. Excess drying, on the other hand makes whole chilli peppers come apart and break easily. Broken chilli peppers are unacceptable for commercialization of whole chilli peppers. Therefore excess moisture and excess drying are not allowed.

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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.
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.

**Interpretation:** Examples related to classification are shown in Photos 24 to 29. (for section IV., Provisions concerning tolerances, see page 36.)
Photo 25
Commercial type Guajillo – from left to right: Classes Extra, I and II – limits allowed

Photo 26
Commercial type Puya – from left to right: Classes Extra, I and II – limits allowed
Provisions concerning Quality

Photo 27
Commercial type Ancho – from top to bottom: Classes Extra, I and II – limits allowed
Photo 28
Commercial type Mulato – from top to bottom: Classes Extra, I and II – limits allowed
Provisions concerning Quality

Photo 29
Commercial type De árbol – from left to right: Classes Extra, I and II – limits allowed.
D. Colour

Colour classification for whole dried chilli peppers is mandatory for all commercial types in accordance with the table below:

<table>
<thead>
<tr>
<th>Commercial Type</th>
<th>Extra</th>
<th>Class I</th>
<th>Class II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guajillo</td>
<td>Uniform; intense or dark red with no discoulouration</td>
<td>Slight variation in colour intensity with no discoulouration</td>
<td>Variation in colour intensity including discoulouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Puya</td>
<td>Uniform; intense or dark red with no discoulouration</td>
<td>Slight variation in colour intensity with no discoulouration</td>
<td>Variation in colour intensity including discoulouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Ancho</td>
<td>Uniform; light red to dark red with no discoulouration</td>
<td>Slight variation in colour intensity with no discoulouration</td>
<td>Variation in colour intensity including discoulouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Mulato</td>
<td>Uniform; intense black with no discoulouration</td>
<td>Slight variation in colour intensity with no discoulouration</td>
<td>Variation in colour intensity including discoulouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Pasilla</td>
<td>Uniform; intense black with no discoulouration</td>
<td>Slight variation in colour intensity with no discoulouration</td>
<td>Variation in colour intensity including discoulouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>De árbol</td>
<td>Uniform; intense red with no discoulouration</td>
<td>Slight variation in colour intensity with no discoulouration</td>
<td>Variation in colour intensity including discoulouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Others</td>
<td>Uniform; colour characteristic of the commercial type with no discoulouration</td>
<td>Slight variation in colour intensity with no discoulouration</td>
<td>Variation in colour intensity including discoulouration within the limits of the minimum requirements</td>
</tr>
</tbody>
</table>

*Interpretation:* An example related to colour classification is shown in Photo 30.
E. Pungency

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

In case of dispute, or when requested, the packer and/or dispatcher/shipper shall supply information regarding the level of pungency.

**Interpretation:** Pungency is the sharp or intense sensation caused by the effect of the capsaicins after the ingestion of chilli or its sub-products. Capsaicinoids are the 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.

Verification of pungency is optional. In case of verification, pungency must be reported in the Scoville scale, but analysed using the High Performance Liquid Chromatography (HPLC) method.

For further information, see the pungency annex to the standard.
Provisions concerning Sizing
III. Provisions concerning Sizing

Size is determined by the length (measured from the apex of the fruit to the insertion point of the peduncle at the calyx).

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

<table>
<thead>
<tr>
<th>Commercial type</th>
<th>Class</th>
<th>Length (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pasilla</td>
<td>Extra</td>
<td>&gt; 20</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 14</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 14</td>
</tr>
<tr>
<td>Guajillo</td>
<td>Extra</td>
<td>&gt; 14</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 10</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>Puya</td>
<td>Extra</td>
<td>&gt; 10</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 8</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 8</td>
</tr>
<tr>
<td>Ancho, Mulato</td>
<td>Extra</td>
<td>&gt; 10</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 7</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 7</td>
</tr>
<tr>
<td>De árbol</td>
<td>Extra</td>
<td>&gt; 9</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 9</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 9</td>
</tr>
<tr>
<td>Chipotle</td>
<td>Extra</td>
<td>&gt; 7</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 4</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 4</td>
</tr>
<tr>
<td>Cascabel</td>
<td>Extra</td>
<td>&gt; 5</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 3</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 3</td>
</tr>
<tr>
<td>Habanero, Catarina</td>
<td>Extra</td>
<td>≥ 4</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 2</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>Piquín (bird eye)</td>
<td>Extra</td>
<td>≤ 1</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>≤ 1</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>≤ 1</td>
</tr>
</tbody>
</table>

Other commercial types are sized in accordance with the existing commercial trading practices.

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

**Interpretation:** Size of commercial types other than those mentioned in the table is determined by length but the minimum size applied, for specific classes or irrespective of the class, is according to trading practices.

An example related to sizing is shown in Photo 31.
Provisions concerning Sizing

Photo 31
Method to determine the length of whole dried chilli peppers
Provisions concerning Tolerances
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 fresh 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 Vegetable ([c](http://www.oecd.org/dataoecd/33/0/19517729.pdf)). Decision on conformity of the lot is taken depending on the percentage of non-conforming produce in the bulk sample.

A. Quality tolerances

<table>
<thead>
<tr>
<th>Defects allowed</th>
<th>Tolerances allowed, percentage of defective produce, by number or weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Extra</td>
</tr>
<tr>
<td>(a) Tolerances for produce not satisfying the minimum requirements of which no more than:</td>
<td></td>
</tr>
<tr>
<td>Blemishes, stains, discolorations, burns, scratches, scars, deformations</td>
<td>5</td>
</tr>
<tr>
<td>Decayed and mouldy produce</td>
<td>0.5</td>
</tr>
<tr>
<td>Damaged by pests</td>
<td>0.5</td>
</tr>
<tr>
<td>Living pests</td>
<td>0</td>
</tr>
<tr>
<td>Missing stems and broken fruit</td>
<td>5</td>
</tr>
<tr>
<td>(b) Size tolerances, if sized</td>
<td></td>
</tr>
<tr>
<td>For produce not conforming to the size indicated, in total</td>
<td>10</td>
</tr>
<tr>
<td>(c) Tolerances for other defects</td>
<td></td>
</tr>
<tr>
<td>Foreign matter (by weight)</td>
<td>1</td>
</tr>
<tr>
<td>Whole dried chilli peppers belonging to commercial types other than that indicated</td>
<td>5</td>
</tr>
</tbody>
</table>
Provisions concerning Presentation
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.

Interpretation: The whole dried chilli peppers must respect uniformity in colour as defined in section II.D and in sizing as defined in section III for the relevant class.

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 32 to 35.
Provisions concerning Presentation

Photo 33
Class I presentation of commercial type
Pasilla

Photo 34
Class I presentation of commercial type
Ancho planchado
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”.

Interpretation: Packaging must be of such quality and strength as to protect the whole dried chilli peppers 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 related to packaging are shown in Photos 36 to 37.
Provisions concerning Presentation

Photo 36
Example of whole dried chilli peppers packed in a bag

Photo 37
Example of whole dried chilli peppers packed in a sales package
Provisions concerning Marking
VI. Provisions concerning Marking

Each package 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.

In case of sales packages, the provisions on labelling of the country of destination (consumption) apply.

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.

**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 assume sole responsibility, in which case identification of the “packer” as defined above is optional.

B. Nature of produce

- “Whole dried chilli peppers”
- Name of the commercial type
- Level of pungency indicated as “mild”, “medium”, “hot”, or “extra hot” as appropriate

C. Origin of produce

Country of origin 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 whole dried chilli peppers were grown (e.g. “Produce of Mexico” or “Produce of Thailand”). Optionally, district of origin in national, regional or local terms (e.g. “Chile de Zacatecas”) may also be shown.

D. Commercial specifications

- Class
  
  **Interpretation:** Stating the class is compulsory.
  
  - Size (if sized); expressed as size range or minimum size followed by “and over”

**Interpretation:** The indication of the size is mandatory for Classes Extra and I and optional for Class II. The size may be indicated by minimum and maximum length (e.g. “14-18 cm) of the whole dried chilli peppers in the package or by the minimum length in the package followed by “and over” or “plus” (e.g. “14 cm and over” or “14 cm plus”).

- Method of drying (optional)

**Interpretation:** The indication of the drying method (e.g. “sun-dried”) is optional.

- “Best before” followed by the date (optional).

E. Official control mark (optional)

Adopted 2013

Examples of marking are shown in Photos 38 to 39.

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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 mark should be preceded by the ISO 3166 alpha country code of the recognizing country, if not the country of origin.

6 The full or commonly used name should be indicated.
Provisions concerning Marking

Photo 38
Marking printed on a carton

Whole dried chilli peppers
Pungency: mild
Class I
Size: 14 cm and over

Photo 39
Example of labelling of a sales package in accordance with the country of destination (consumption)
Annex Pungency
Annex – Pungency

Pungency of certain commercial types of whole dried chilli peppers

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

<table>
<thead>
<tr>
<th>Level of pungency</th>
<th>Total capsaicinoids (μg/g dry weight)</th>
<th>Pungency Intensity (Scoville units(^a))</th>
<th>Examples of commercial types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>60 - 200</td>
<td>900 - 3000</td>
<td>Ancho, Mulato, Pasilla</td>
</tr>
<tr>
<td>Medium</td>
<td>201 - 334</td>
<td>3001 – 5 000</td>
<td>Guajillo, Cascabel, Catarina</td>
</tr>
<tr>
<td>Medium to hot</td>
<td>335 – 2009</td>
<td>5 001 – 30 000</td>
<td>Puya, De árbol, Chipotle</td>
</tr>
<tr>
<td>Hot</td>
<td>2010 – 6670</td>
<td>30 010 – 100 000</td>
<td>Piquín (Bird Eye)</td>
</tr>
<tr>
<td>Extra hot</td>
<td>&gt; 6670</td>
<td>&gt; 100 000</td>
<td>Habanero</td>
</tr>
</tbody>
</table>

\(^a\) 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.

**Interpretation:** Pungency is the sharp or intense sensation caused by the effect of the capsaicins after the ingestion of chilli or its sub-products. Capsaicinoids are the 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.

Verification of pungency is optional. In case of verification, pungency must be reported in the Scoville scale, but analysed using the High Performance Liquid Chromatography (HPLC) method.
Annexes
I. Production Process
II. UNECE Standard
Annex I Production Process

1) Sowing, germination, and initial growth of chilli plants at the greenhouse

(2) Harvesting healthy chilli plants at the greenhouse facility when ready to be planted

(3) Soil preparation for chilli planting: including the incorporation of green crops (when possible); several machinery passes and plastic mulching

(4) Planting of a chilli field showing the correct wetting below the mulching for adequate handling
(5) Inter mulch-bed cultivation of chilli plots allows a good root aeration and a weed-free crop

(6) A mid-season high yield chilli crop as a result of an adequate plant nutrition
(7) A pest control programme based on integrated practices including monitoring of pests, cultural and biological practices and the use of environmentally friendly pesticides allows healthy and productive chilli crops

(8) A high yield “puya” chilli orchard showing progressive fruit maturity up to harvest time

(9) A high yield “guajillo” chilli orchard showing progressive fruit maturity up to harvest time
(10) Dry chillies (commercial produce) become naturally sun-dried fruits at the chilli plantation or through artificial dehydration in forced hot air circulating tunnels.
(11) From top to bottom, “guajillo”, “pasilla” and “puya” chillies at harvest maturity and after dehydration.
(12) Chilli peppers drying and being packed
UNECE STANDARD DDP – 24
Concerning the marketing and commercial quality control of
Whole Dried Chilli Peppers
2013 Edition

I. Definition of produce

This standard applies to whole dried chilli peppers\(^1\) of varieties (cultivars) grown from Capsicum annuum L., C. baccatum, C. chinense, C. frutescens and C. pubescens, 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.

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 requirements\(^2\)

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; peduncle and calyx may be missing but flesh at the calyx area must be intact, if present peduncle and calyx must be intact
- 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;
- 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 blemishes, areas of discolouration or spread stains in pronounced contrast with the rest of the produce affecting in aggregate not more than 25 per cent of the surface of the produce;
- free from mould;
- 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.

---

\(^1\) Whole dried chilli peppers presenting a minimum pungency of 900 Scoville index; for levels of pungency, see annex.

\(^2\) 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>
B. Moisture content

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

<table>
<thead>
<tr>
<th>Commercial type</th>
<th>Maximum moisture content in per cent (m/m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guajillo, Pasilla and other commercial types having similar flesh texture</td>
<td>13.5</td>
</tr>
<tr>
<td>Ancho, Mulato and other commercial types having similar flesh texture</td>
<td>12.5</td>
</tr>
<tr>
<td>Puya and other commercial types having similar flesh texture</td>
<td>10.0</td>
</tr>
<tr>
<td>De árbol and other commercial types having similar flesh texture</td>
<td>9.0</td>
</tr>
</tbody>
</table>

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.

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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 classification for whole dried chilli peppers is mandatory for the commercial types in accordance with the table below:

<table>
<thead>
<tr>
<th>Commercial Type</th>
<th>Extra</th>
<th>Class I</th>
<th>Class II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guajillo</td>
<td>Uniform; intense or dark red with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Puya</td>
<td>Uniform; intense or dark red with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Ancho</td>
<td>Uniform; light red to dark red with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Mulato</td>
<td>Uniform; intense black with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Pasilla</td>
<td>Uniform; intense black with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>De árbol</td>
<td>Uniform; intense red with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Others</td>
<td>Uniform; colour characteristic of the commercial type with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
</tbody>
</table>

E. Pungency

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

In case of dispute, or when requested, the packer and/or dispatcher/shipper shall supply information regarding the level of pungency.
III. Provisions concerning sizing

Size is determined by the length measured from the apex to the insertion point of the peduncle at the calyx.

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

<table>
<thead>
<tr>
<th>Commercial type</th>
<th>Class</th>
<th>Length (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pasilla</td>
<td>Extra</td>
<td>&gt; 20</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 14</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 14</td>
</tr>
<tr>
<td>Guajillo</td>
<td>Extra</td>
<td>&gt; 14</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 10</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>Puya</td>
<td>Extra</td>
<td>&gt; 10</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 8</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 8</td>
</tr>
<tr>
<td>Ancho, Mulato</td>
<td>Extra</td>
<td>&gt; 10</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 7</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 7</td>
</tr>
<tr>
<td>De árbol</td>
<td>Extra</td>
<td>&gt; 9</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 9</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 9</td>
</tr>
<tr>
<td>Chipotle</td>
<td>Extra</td>
<td>&gt; 7</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 4</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 4</td>
</tr>
<tr>
<td>Cascabel</td>
<td>Extra</td>
<td>&gt; 5</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 3</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 3</td>
</tr>
<tr>
<td>Habanero, Catarina</td>
<td>Extra</td>
<td>≥ 4</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 2</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>Piquín (bird eye)</td>
<td>Extra</td>
<td>≤ 1</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>≤ 1</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>≤ 1</td>
</tr>
</tbody>
</table>

Other commercial types are sized in accordance with the existing commercial trading practices.

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

<table>
<thead>
<tr>
<th>Defects allowed</th>
<th>Tolerances allowed, percentage of defective produce, by number or weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Extra</td>
</tr>
<tr>
<td>(a) Tolerances for produce not satisfying the minimum requirements of which no more than:</td>
<td></td>
</tr>
<tr>
<td>Blemishes, stains, discolorations, burns, scratches, scars, deformations</td>
<td>2</td>
</tr>
<tr>
<td>Decayed and mouldy produce</td>
<td>0.5</td>
</tr>
<tr>
<td>Damaged by pests</td>
<td>0.5</td>
</tr>
<tr>
<td>Living pests</td>
<td>0</td>
</tr>
<tr>
<td>Missing stems and broken fruit</td>
<td>5</td>
</tr>
<tr>
<td>(b) Size tolerances, if sized</td>
<td></td>
</tr>
<tr>
<td>For produce not conforming to the size indicated, in total</td>
<td>10</td>
</tr>
<tr>
<td>(c) Tolerances for other defects</td>
<td></td>
</tr>
<tr>
<td>Foreign matter (by weight)</td>
<td>1</td>
</tr>
<tr>
<td>Whole dried chilli peppers belonging to commercial types other than that indicated</td>
<td>5</td>
</tr>
</tbody>
</table>

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 package 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 authority.

B. Nature of produce

- “Whole dried chilli peppers”
- Name of the commercial type
- Level of pungency indicated as “mild”, “medium”, “hot” or “extra hot” as appropriate.

C. Origin of produce

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

D. Commercial specifications

- Class
- Size (if sized): expressed as size range or minimum size followed by “and over”
- Method of drying (optional)
- “Best before” followed by the date (optional).

E. Official control mark (optional)

Adopted 2013

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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 mark should be preceded by the ISO 3166 alpha country code of the recognizing country, if not the country of origin.

6 The full or commonly used name should be indicated.
Annex – Pungency

Pungency of certain commercial types of whole dried chilli peppers

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

<table>
<thead>
<tr>
<th>Level of pungency</th>
<th>Total capsaicinoids (μg/g dry weight)</th>
<th>Pungency Intensity (Scoville units&lt;sup&gt;a&lt;/sup&gt;)</th>
<th>Examples of commercial types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>60 - 200</td>
<td>900 - 3000</td>
<td>Ancho, Mulato, Pasilla Guajillo, Cascabel, Catarina</td>
</tr>
<tr>
<td>Medium</td>
<td>201-334</td>
<td>3001 – 5 000</td>
<td>Puya, De árbol, Chipotle</td>
</tr>
<tr>
<td>Medium to hot</td>
<td>335 – 2009</td>
<td>5 001 – 30 000</td>
<td></td>
</tr>
<tr>
<td>Hot</td>
<td>2010 – 6670</td>
<td>30 010 – 100 000</td>
<td>Piquín (Bird Eye)</td>
</tr>
<tr>
<td>Extra hot</td>
<td>&gt; 6670</td>
<td>&gt; 100 000</td>
<td>Habanero</td>
</tr>
</tbody>
</table>

<sup>a</sup> 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.
UNECE Standard on the marketing and commercial quality control of Whole Dried Chilli Peppers

Explanatory Brochure
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 Whole Dried Chilli Peppers 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. It corresponds to the latest edition of the UNECE Standard for Whole Dried Chilli Peppers (DDP-24), which was officially adopted in 2013. Subsequent revisions to the standard will be placed on the website at: www.unece.org/trade/agr/standard/dry/ddp-standards.html

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: www.unece.org/trade/agr/welcome.html

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The official text of the standard is indicated in blue bold; the interpretative text of the standard is indicated in black. References to photos representing the visual interpretation are printed in black bold. The entire text of the standard without the interpretative text appears in Annex II.
I. Definition of Produce

This standard applies to whole dried chilli peppers¹ of varieties (cultivars) grown from *Capsicum annuum* L., *C. baccatum*, *C. chinense*, *C. frutescens* and *C. pubescens*, 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.

**Interpretation:** Whole dried sweet peppers and bell peppers are excluded from this standard. Whole dried chilli peppers have undergone a process of water loss by natural (sun-drying) or artificial (machine-drying) means.

Whole dried chilli peppers are traded by commercial type showing a wide range of colours, sizes and shapes. Examples of commercial types are described below:

- **Ancho:** 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. Ancho are mainly artificially dehydrated (dark black colour), but can be sun-dried (reddish to black colour). The type Ancho planchado is re-hydrated after drying, the peduncle and the indented shoulders are pulled out.

- **Chipotle:** fruit with light brown or black colour, depending whether it was dried from green or red Jalapeño chilli peppers. During the drying process these chilli peppers are smoked and the dried product has a mild and smoked taste.

- **De árbol:** Small fruits, with a uniform intense or dark red colouration, cylindrical, with a shape prominently long and pointed, characterized by their high pungency.

- **Guajillo (or Mirasol):** Generally, it is long, with a sharp end; its body is cylindrical, smooth and with slight undulations. It has two to three loculi. This type is mainly naturally dried and moderately pungent.

- **Mulato:** Has a shape and growth habit similar to the ancho chilli, but generally less pungent. The main difference between mulato and ancho chilli is the colour. Mulato is dark brown when ripe and blackish brown once it is dehydrated.

- **Pasilla:** Fruit with a long undulated body that ends in a flat or pointed apex; it presents from two to three locules.

- **Puya:** Elongated fruit, medium size, smaller than guajillo and bigger than de árbol chillies, with a uniform intense red or dark red colour. It is mainly naturally dehydrated.

Examples related to commercial types of whole dried chilli peppers are shown in Photos 1 to 7.

¹ Whole dried chilli peppers presenting a minimum pungency of 900 Scoville index; for levels of pungency, see annex.
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 requirements

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; peduncle and calyx may be missing but flesh at the calyx area must be intact, if present peduncle and calyx must be intact

Interpretation: The whole dried chilli peppers must have no damage or injury which means complete fruits, free of damage and physical defects on the surface skin and, if present, on peduncle and calyx. Whole dried chilli peppers showing damage exposing the interior of the produce are not allowed.

Examples related to the minimum requirement “intact” are shown in Photos 8 to 10.

---

2 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>
- sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;

**Interpretation:** Whole dried chilli peppers must be free from disease (caused by fungi, bacteria or viruses), physiological disorders or serious deterioration, which appreciably affect their appearance, edibility or keeping quality. In particular whole dried chilli peppers affected by rotting, or the rot affecting the crown only, even if the signs are very slight but liable to make the whole dried chilli peppers unfit for consumption upon arrival at their destination, are to be excluded.

Examples related to the minimum requirement “sound” are shown in Photos 11 to 12.
- clean, practically free of any visible foreign matter;

**Interpretation:** The acceptable limit for “practically free” would be very slight traces of foreign matter. Extensive soiling or deposits are not allowed.

Examples related to the minimum requirement “clean” are shown in Photos 13 to 15.
- sufficiently developed;

**Interpretation:** Whole dried chilli peppers must be sufficiently developed before drying. If they are not sufficiently developed, the dried produce is smaller in size and pale in colour compared to the typical characteristics of the commercial type. Whole dried chilli peppers with insufficient development are to be excluded.

Examples related to the minimum requirement “sufficiently developed” are shown in Photos 16 to 17.
- free from living pests whatever their stage of development;

**Interpretation:** The presence of pests detracts from the commercial presentation and severely affects the acceptance and shelf life of the whole dried chilli peppers. Therefore, a lot showing a single living pest is to be excluded. In this context the term pests covers insects and mites in their different stages of development such as eggs, larvae and imagines.

- free from damage caused by pests, including the presence of dead insects and/or mites, their debris or excreta;

**Interpretation:** Whole dried chilli peppers must be free from pest damage, including feeding damages caused by rodents, insects and mites, dead insects and mites (eggs, larvae, imagines), or parts of dead pests as well as their debris and excreta.

An example related to the minimum requirement “damage caused by pests” is shown in Photo 18.
- free from blemishes, areas of discoloration or spread stains in pronounced contrast with the rest of the produce affecting in aggregate not more than 25 per cent of the surface of the produce;

**Interpretation:** Whole dried chilli peppers with blemishes, discolouration and/or pronounced staining that do not exceed the 25 per cent of the fruit surface are allowed in all classes. Whole dried chillis with blemishes and/or discolouration exceeding 25 per cent of the surface area are to be excluded.

Examples related to the minimum requirement “free from blemishes” are shown in Photos 19 to 22.
- free from mould;

**Interpretation:** Excess moisture of produce and/or at storage room plus warm conditions during storage of whole dried chilli peppers promote and increase the presence and contamination with fungi resulting in high levels of mould filaments and/or spores, causing deterioration of colour, texture, flavour, smell and taste of produce.

An example related to the minimum requirement “free from mould” is shown in Photo 23.
UNECE Explanatory Brochure on the Standard for Whole Dried Chilli Peppers

- 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 whole dried chilli peppers 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.

This provision does not preclude a specific smell and/or specific taste caused by smoking as in the commercial types such as Chipotle.

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 content**

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

<table>
<thead>
<tr>
<th>Commercial type</th>
<th>Maximum moisture content in per cent (m/m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guajillo, Pasilla and other commercial types</td>
<td>13.5</td>
</tr>
<tr>
<td>Ancho, Mulato and other commercial types</td>
<td>12.5</td>
</tr>
<tr>
<td>Puya and other commercial types</td>
<td>10.0</td>
</tr>
<tr>
<td>De árbol and other commercial types</td>
<td>9.0</td>
</tr>
</tbody>
</table>

**Interpretation:** Maximum moisture content refers to the limits of moisture allowed for the produce in order to be commercialized. Moisture content varies with the commercial type and its flesh texture, but it is important to understand that excess moisture of the produce increases microorganism and insect development, contamination and deterioration of produce. Excess drying, on the other hand makes whole chilli peppers come apart and break easily. Broken chilli peppers are unacceptable for commercialization of whole chilli peppers. Therefore excess moisture and excess drying are not allowed.

---

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.unce.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”, 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.

Interpretation: Examples related to classification are shown in Photos 24 to 29. (For section IV., Provisions concerning tolerances, see page 36.)
D. Colour

Colour classification for whole dried chilli peppers is mandatory for all commercial types in accordance with the table below:

<table>
<thead>
<tr>
<th>Commercial Type</th>
<th>Extra</th>
<th>Class I</th>
<th>Class II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guajillo</td>
<td>Uniform; intense or dark red with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Puya</td>
<td>Uniform; intense or dark red with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Ancho</td>
<td>Uniform; light red to dark red with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Mulato</td>
<td>Uniform; intense black with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Pasilla</td>
<td>Uniform; intense black with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>De árbol</td>
<td>Uniform; intense red with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Others</td>
<td>Uniform; colour characteristic of the commercial type with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
</tbody>
</table>

Interpretation: An example related to colour classification is shown in Photo 30.
E. Pungency

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

In case of dispute, or when requested, the packer and/or dispatcher/shipper shall supply information regarding the level of pungency.

Interpretation: Pungency is the sharp or intense sensation caused by the effect of the capsaicins after the ingestion of chilli or its sub-products. Capsaicinoids are the 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.

Verification of pungency is optional. In case of verification, pungency must be reported in the Scoville scale, but analysed using the High Performance Liquid Chromatography (HPLC) method.

For further information, see the pungency annex to the standard.
III. Provisions concerning Sizing

Size is determined by the length (measured from the apex of the fruit to the insertion point of the peduncle at the calyx).

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

<table>
<thead>
<tr>
<th>Commercial type</th>
<th>Class</th>
<th>Length (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pasilla</td>
<td>Extra</td>
<td>&gt; 20</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 14</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 14</td>
</tr>
<tr>
<td>Guajillo</td>
<td>Extra</td>
<td>&gt; 14</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 10</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>Puya</td>
<td>Extra</td>
<td>&gt; 10</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 8</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 8</td>
</tr>
<tr>
<td>Ancho, Mulato</td>
<td>Extra</td>
<td>&gt; 10</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 7</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 7</td>
</tr>
<tr>
<td>De árbol</td>
<td>Extra</td>
<td>&gt; 9</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 9</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 9</td>
</tr>
<tr>
<td>Chipotle</td>
<td>Extra</td>
<td>&gt; 7</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 4</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 4</td>
</tr>
<tr>
<td>Cascabel</td>
<td>Extra</td>
<td>&gt; 5</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 3</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 3</td>
</tr>
<tr>
<td>Habanero, Catarina</td>
<td>Extra</td>
<td>≥ 4</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 2</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>Piquín (bird eye)</td>
<td>Extra</td>
<td>≤ 1</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>≤ 1</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>≤ 1</td>
</tr>
</tbody>
</table>

Other commercial types are sized in accordance with the existing commercial trading practices.

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

**Interpretation:** Size of commercial types other than those mentioned in the table is determined by length but the minimum size applied, for specific classes or irrespective of the class, is according to trading practices.

An example related to sizing is shown in **Photo 31.**
Provisions concerning Sizing

Length

Photo 31
Method to determine the length of whole dried chilli peppers
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 fresh 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 Vegetable [(c(2006)95) (http://www.oecd.org/dataoecd/33/0/19517729.pdf)]. Decision on conformity of the lot is taken depending on the percentage of non-conforming produce in the bulk sample.

### A. Quality tolerances

<table>
<thead>
<tr>
<th>Defects allowed</th>
<th>Tolerances allowed, percentage of defective produce, by number or weight</th>
<th>Extra</th>
<th>Class I</th>
<th>Class II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Tolerances for produce not satisfying the minimum requirements of which no more than:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blemishes, stains, discolorations, burns, scratches, scars, deformations</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Decayed and mouldy produce</td>
<td>0.5</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Damaged by pests</td>
<td>0.5</td>
<td>0.5</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Living pests</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Missing stems and broken fruit</td>
<td>5</td>
<td>7</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>(b) Size tolerances, if sized</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For produce not conforming to the size indicated, in total</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>(c) Tolerances for other defects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign matter (by weight)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Whole dried chilli peppers belonging to commercial types other than that indicated</td>
<td>5</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>
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.

**Interpretation:** The whole dried chilli peppers must respect uniformity in colour as defined in section II.D and in sizing as defined in section III for the relevant class.

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 32 to 35.
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”.

Interpretation: Packaging must be of such quality and strength as to protect the whole dried chilli peppers 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 related to packaging are shown in Photos 36 to 37.
VI. Provisions concerning Marking

Each package 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 on 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.

In case of sales packages, the provisions on labelling of the country of destination (consumption) apply.

**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.

**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 assume sole responsibility, in which case identification of the “packer” as defined above is optional.

**B. Nature of produce**

- “Whole dried chilli peppers”
- Name of the commercial type
- Level of pungency indicated as “mild”, “medium”, “hot”, or “extra hot” as appropriate

**C. Origin of produce**

Country of origin 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 whole dried chilli peppers were grown (e.g. “Produce of Mexico” or “Produce of Thailand”). Optionally, district of origin in national, regional or local terms (e.g. “Chile de Zacatecas”) may also be shown.

**D. Commercial specifications**

- Class

**Interpretation:** Stating the class is compulsory.

- Size (if sized); expressed as size range or minimum size followed by “and over”

**Interpretation:** The indication of the size is mandatory for Classes Extra and I and optional for Class II. The size may be indicated by minimum and maximum length (e.g. “14-18 cm) of the whole dried chilli peppers in the package or by the minimum length in the package followed by “and over” or “plus” (e.g. “14 cm and over” or “14 cm plus”).

- Method of drying (optional)

**Interpretation:** The indication of the drying method (e.g. “sun-dried”) is optional.

- “Best before” followed by the date (optional).

**E. Official control mark (optional)**

Adopted 2013

Examples of marking are shown in Photos 38 to 39.

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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 mark should be preceded by the ISO 3166 alpha country code of the recognizing country, if not the country of origin.
6 The full or commonly used name should be indicated.
Provisions concerning Marking

Whole dried chilli peppers
Pungency: mild
Class I
Size: 14 cm and over

Example of labelling of a sales package in accordance with the country of destination (consumption)
Annex – Pungency

Pungency of certain commercial types of whole dried chilli peppers

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

<table>
<thead>
<tr>
<th>Level of pungency</th>
<th>Total capsaicinoids (μg/g dry weight)</th>
<th>Pungency Intensity (Scoville units)</th>
<th>Examples of commercial types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>60 - 200</td>
<td>900 - 3000</td>
<td>Ancho, Mulato, Pasilla</td>
</tr>
<tr>
<td>Medium</td>
<td>201-334</td>
<td>3001 – 5 000</td>
<td>Guajillo, Cascabel, Catarina</td>
</tr>
<tr>
<td>Medium to hot</td>
<td>335 – 2009</td>
<td>5 001 – 30 000</td>
<td>Puya, De árbol, Chipotle</td>
</tr>
<tr>
<td>Hot</td>
<td>2010 – 6670</td>
<td>30 010 – 100 000</td>
<td>Piquín (Bird Eye)</td>
</tr>
<tr>
<td>Extra hot</td>
<td>&gt; 6670</td>
<td>&gt; 100 000</td>
<td>Habanero</td>
</tr>
</tbody>
</table>

*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.

**Interpretation:** Pungency is the sharp or intense sensation caused by the effect of the capsaicins after the ingestion of chilli or its sub-products. Capsaicinoids are the 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.

Verification of pungency is optional. In case of verification, pungency must be reported in the Scoville scale, but analysed using the High Performance Liquid Chromatography (HPLC) method.
Annex I Production Process

1) Sowing, germination, and initial growth of chilli plants at the greenhouse

(2) Harvesting healthy chilli plants at the greenhouse facility when ready to be planted

(3) Soil preparation for chilli planting: including the incorporation of green crops (when possible); several machinery passes and plastic mulching

(4) Planting of a chilli field showing the correct wetting below the mulching for adequate handling
(5) Inter mulch-bed cultivation of chilli plots allows a good root aeration and a weed-free crop.

(6) A mid-season high yield chilli crop as a result of an adequate plant nutrition.
(7) A pest control programme based on integrated practices including monitoring of pests, cultural and biological practices and the use of environmentally friendly pesticides allows healthy and productive chilli crops.

(8) A high yield “puya” chilli orchard showing progressive fruit maturity up to harvest time.

(9) A high yield “guajillo” chilli orchard showing progressive fruit maturity up to harvest time.
(10) Dry chillies (commercial produce) become naturally sun-dried fruits at the chilli plantation or through artificial dehydration in forced hot air circulating tunnels.
(11) From top to bottom, “guajillo”, “pasilla” and “puya” chillies at harvest maturity and after dehydration
(12) Chilli peppers drying and being packed
I. Definition of produce

This standard applies to whole dried chilli peppers\(^1\) of varieties (cultivars) grown from *Capsicum annuum* L., *C. baccatum*, *C. chinense*, *C. frutescens* and *C. pubescens*, 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.

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 requirements\(^2\)

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; peduncle and calyx may be missing but flesh at the calyx area must be intact, if present peduncle and calyx must be intact
- 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;
- 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 blemishes, areas of discolouration or spread stains in pronounced contrast with the rest of the produce affecting in aggregate not more than 25 per cent of the surface of the produce;
- free from mould;
- 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.

\(^1\) Whole dried chilli peppers presenting a minimum pungency of 900 Scoville index; for levels of pungency, see annex.

\(^2\) 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>
B. Moisture content

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

<table>
<thead>
<tr>
<th>Commercial type</th>
<th>Maximum moisture content in per cent (m/m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guajillo, Pasilla and other commercial types having similar flesh texture</td>
<td>13.5</td>
</tr>
<tr>
<td>Ancho, Mulato and other commercial types having similar flesh texture</td>
<td>12.5</td>
</tr>
<tr>
<td>Puya and other commercial types having similar flesh texture</td>
<td>10.0</td>
</tr>
<tr>
<td>De árbol and other commercial types having similar flesh texture</td>
<td>9.0</td>
</tr>
</tbody>
</table>

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 classification for whole dried chilli peppers is mandatory for the commercial types in accordance with the table below:

<table>
<thead>
<tr>
<th>Commercial Type</th>
<th>Extra</th>
<th>Class I</th>
<th>Class II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guajillo</td>
<td>Uniform; intense or dark red with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Puya</td>
<td>Uniform; intense or dark red with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Ancho</td>
<td>Uniform; light red to dark red with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Mulato</td>
<td>Uniform; intense black with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Pasilla</td>
<td>Uniform; intense black with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>De árbol</td>
<td>Uniform; intense red with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
<tr>
<td>Others</td>
<td>Uniform; colour characteristic of the commercial type with no discolouration</td>
<td>Slight variation in colour intensity with no discolouration</td>
<td>Variation in colour intensity including discolouration within the limits of the minimum requirements</td>
</tr>
</tbody>
</table>

E. Pungency

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

In case of dispute, or when requested, the packer and/or dispatcher/shipper shall supply information regarding the level of pungency.
### III. Provisions concerning sizing

Size is determined by the length measured from the apex to the insertion point of the peduncle at the calyx.

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

<table>
<thead>
<tr>
<th>Commercial type</th>
<th>Class</th>
<th>Length (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pasilla</strong></td>
<td>Extra</td>
<td>&gt; 20</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 14</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 14</td>
</tr>
<tr>
<td><strong>Guajillo</strong></td>
<td>Extra</td>
<td>&gt; 14</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 10</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 10</td>
</tr>
<tr>
<td><strong>Puya</strong></td>
<td>Extra</td>
<td>&gt; 10</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 8</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 8</td>
</tr>
<tr>
<td><strong>Ancho, Mulato</strong></td>
<td>Extra</td>
<td>&gt; 10</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 7</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 7</td>
</tr>
<tr>
<td><strong>De árbol</strong></td>
<td>Extra</td>
<td>&gt; 9</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 9</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 9</td>
</tr>
<tr>
<td><strong>Chipotle</strong></td>
<td>Extra</td>
<td>&gt; 7</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 4</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 4</td>
</tr>
<tr>
<td><strong>Cascabel</strong></td>
<td>Extra</td>
<td>&gt; 5</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 3</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 3</td>
</tr>
<tr>
<td><strong>Habanero, Catarina</strong></td>
<td>Extra</td>
<td>≥ 4</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>&gt; 2</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>&lt; 2</td>
</tr>
<tr>
<td><strong>Piquín (bird eye)</strong></td>
<td>Extra</td>
<td>≤ 1</td>
</tr>
<tr>
<td></td>
<td>Class I</td>
<td>≤ 1</td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>≤ 1</td>
</tr>
</tbody>
</table>

Other commercial types are sized in accordance with the existing commercial trading practices.

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

<table>
<thead>
<tr>
<th>Defects allowed</th>
<th>Tolerances allowed, percentage of defective produce, by number or weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Extra</td>
</tr>
<tr>
<td>(a) Tolerances for produce not satisfying the minimum requirements of which no more than:</td>
<td></td>
</tr>
<tr>
<td>Blemishes, stains, discolorations, burns, scratches, scars, deformations</td>
<td>5</td>
</tr>
<tr>
<td>Decayed and mouldy produce</td>
<td>0.5</td>
</tr>
<tr>
<td>Damaged by pests</td>
<td>0.5</td>
</tr>
<tr>
<td>Living pests</td>
<td>0</td>
</tr>
<tr>
<td>Missing stems and broken fruit</td>
<td>5</td>
</tr>
<tr>
<td>(b) Size tolerances, if sized</td>
<td></td>
</tr>
<tr>
<td>For produce not conforming to the size indicated, in total</td>
<td>10</td>
</tr>
<tr>
<td>(c) Tolerances for other defects</td>
<td></td>
</tr>
<tr>
<td>Foreign matter (by weight)</td>
<td>1</td>
</tr>
<tr>
<td>Whole dried chilli peppers belonging to commercial types other than that indicated</td>
<td>5</td>
</tr>
</tbody>
</table>

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 package\(^4\) 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 authority\(^5\).

B. **Nature of produce**
   
   - “Whole dried chilli peppers”
   - Name of the commercial type
   - Level of pungency indicated as “mild”, “medium”, “hot” or “extra hot” as appropriate.

C. **Origin of produce**
   
   - Country of origin\(^6\) and, optionally, district where grown or national, regional or local place name.

D. **Commercial specifications**
   
   - Class
   - Size (if sized): expressed as size range or minimum size followed by “and over”
   - Method of drying (optional)
   - “Best before” followed by the date (optional).

E. **Official control mark (optional)**

Adopted 2013

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\(^4\) 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 mark should be preceded by the ISO 3166 alpha country code of the recognizing country, if not the country of origin.

\(^6\) The full or commonly used name should be indicated.
Annex – Pungency

Pungency of certain commercial types of whole dried chilli peppers

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

<table>
<thead>
<tr>
<th>Level of pungency</th>
<th>Total capsaicinoids (μg/g dry weight)</th>
<th>Pungency Intensity (Scoville units(^a))</th>
<th>Examples of commercial types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>60 - 200</td>
<td>900 - 3000</td>
<td>Ancho, Mulato, Pasilla</td>
</tr>
<tr>
<td>Medium</td>
<td>201-334</td>
<td>3001 – 5 000</td>
<td>Guajillo, Cascabel, Catarina</td>
</tr>
<tr>
<td>Medium to hot</td>
<td>335 – 2009</td>
<td>5 001 – 30 000</td>
<td>Puya, De árbol, Chipotle</td>
</tr>
<tr>
<td>Hot</td>
<td>2010 – 6670</td>
<td>30 010 – 100 000</td>
<td>Piquín (Bird Eye)</td>
</tr>
<tr>
<td>Extra hot</td>
<td>&gt; 6670</td>
<td>&gt; 100 000</td>
<td>Habanero</td>
</tr>
</tbody>
</table>

\(^a\) 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.