



Food and Agriculture
Organization of the
United Nations



World Health
Organization

CODEX
ALIMENTARIUS
INTERNATIONAL FOOD STANDARDS

CODEX ALIMENTARIUS
STANDARD

**REGIONAL STANDARD
FOR CASTILLA LULO
(NARANJILLA) – LATIN AMERICA
AND THE CARIBBEAN**
CX5 362R-2025



ADOPTED 2025

CX5 362R-2025

History of the standard

Adopted in 2025.

1 Scope

The purpose of this standard is to define the quality requirements for Castilla lulo (naranjilla)ⁱ (*Solanum quitoense*, Lamark), after preparation and packaging. When it is applied at the stages following packing, the fruits may show the following in relation to the requirements of the standard:

- a slight decrease in the freshness and turgidity state; or
- a slight deterioration due to their development and their tendency to perish.

The holder/seller of products may not display such products or offer them for sale or deliver or market them in any manner other than in conformity with this standard. The holder/seller shall be responsible for conforming to this standard.

2 Definition of produce

This standard applies to Castilla lulo (naranjilla) (*Solanum quitoense* Lam.), belonging to the Solanaceae family, here referred to as Castilla lulo (naranjilla). The surface of unripe Castilla lulo (naranjilla) is covered by yellow or red fuzz. These fruits must be supplied fresh to the consumer, after their preparation and packaging. Fruit intended for industrial processing are excluded.

3 Provisions concerning quality

3.1 Minimum requirements

In all classes, subject to the special provisions for each class and the tolerances allowed, the Castilla lulo (naranjilla) must be:

- intact;
- sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- firm;
- clean and practically free of any visible foreign matter;
- round or oval in shape, characteristic of the Castilla lulo (naranjilla);
- practically free of pestsⁱⁱ affecting the flesh and damage caused by them;
- free of abnormal external moisture excluding condensation following removal from cold storage;
- free of mechanical damage; and
- free from damage caused by low and/or high temperature.

The development and condition of the Castilla lulo (naranjilla) must be such as to enable it:

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

ⁱ Also known as naranjilla (Ecuador and Mexico); naranjilla de Quito, Gele Terong (Netherlands), morelle de Quito (France), oranger von Quito (Germany).

ⁱⁱ Provisions relating to pests and pest damage apply without prejudice to plant protection regulations applied by governments in accordance with the International Plant Protection Convention (IPPC).

3.1.1 Minimum maturity requirements

Castilla lulo (naranja) must have reached an appropriate degree of development and/or maturity in accordance with the criteria for the species, variety, commercial type and to the area in which they are grown, that allows the proper development of its organoleptic characteristics.

3.2 Classification

Castilla lulo (naranja) is classified into three classes, defined below:

3.2.1 Extra class

Castilla lulo (naranja) in this class must be of superior quality and they must be characteristic of the variety. They must be free from defects, with the exception of very slight superficial defects, provided these do not affect the general appearance of the produce, the quality, the keeping quality, the pulp or flesh and presentation in the package.

3.2.2 Class I

Castilla lulo (naranja) in this class must be of good quality and characteristics of the variety. The following slight defects, however, may be allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality, the flesh, and presentation in the package:

- slight defects in shape;
- slight defects in colouring;
- superficial fissure (crack/split/dent/pitting) of the outer skin;
- healed scrapes;
- slight bruising; and
- sunburn.

These skin defects together must not exceed 10 percent of the total fruit surface area and must not affect the flesh of the produce in any way.

3.2.3 Class II

This class includes Castilla lulo (naranja) that do not qualify for inclusion in the higher classes (class I and extra class) but satisfy the minimum requirements specified in Section 3.1: "Minimum requirements". The following defects may be allowed, provided the Castilla lulo (naranja) retains their essential characteristics as regards the quality, the keeping quality and presentation in the package:

- defects in shape, reasonably well-formed;
- defects in skin and colouring, depending on the variety;
- superficial fissure (crack/split/dent/pitting) on the bark in the area near the calyx and not exceeding 5 percent of the total area;
- healed cracks in the bark, provided that the flesh is not damaged;
- healed damage or bruises on skin; and
- sunburn.

These defects shall not cover the surface of the fruit by more than 10 percent. These defects, must not, in any case, affect the flesh of the produce.

4 Provisions concerning sizing

Castilla lulo (naranjilla) may be sized by count, diameter or weight in accordance with existing commercial trading practices. When such is the case, the package must be labelled accordingly.

- a) When sized by count, size is determined by the number of individual fruit per package.
- b) When sized by diameter (the maximum diameter of the equatorial section of each fruit). The following table is a guide and may be used on an optional basis:

Table 1: Diameter

Size code	Diameter range (mm)
A	> 68
B	60-68
C	< 60

Note: the minimum diameter of Castilla lulo (naranjilla) is 50 mm.

- c) Castilla lulo (naranjilla) may be sized by weight (the individual weight of each fruit). The following table is a guide and may be used on an optional basis:

Table 2: Weight

Size code	Weight range (g)
A	> 130
B	80-130
C	< 80

Note: the minimum weight of Castilla lulo (naranjilla) is 70 g.

5 Provisions concerning tolerances

5.1 Quality tolerances

Tolerances in respect of quality and size shall be allowed in each package for produce not satisfying the requirements of the class indicated.

5.1.1 Extra class

Five percent, by number or weight of Castilla lulo (naranjilla) not satisfying the requirements of the class, but meeting those of class I or, exceptionally, coming within the tolerances of that class. Included within this tolerance, is 0.5 percent tolerance for decay and/or internal breakdown.

5.1.2 Class I

Ten percent, by number or weight of Castilla lulo (naranjilla) not satisfying the requirements of the class, but meeting those of class II or, exceptionally, coming within the tolerances of that class. Included within this tolerance, is 1 percent tolerance for decay and/or internal breakdown.

5.1.3 Class II

Ten percent, by number or weight of Castilla lulo (naranjilla) satisfying neither the requirements of the class nor the minimum requirements, with the exception of produce affected by rotting or any other deterioration rendering it unfit for consumption. Included within this tolerance, is 2 percent tolerance for decay and/or internal breakdown.

5.2 Size tolerances

For all classes, 10 percent by number or weight of Castilla lulo (naranjilla) corresponding to the size immediately above and/or below that indicated on the package.

6 Provisions concerning presentation

6.1 Uniformity

The contents of each package must be uniform and contain only Castilla lulo (naranjilla) of the same origin, variety, quality and size (if sized). Sales packages may contain mixtures of varieties of different colours and sizes provided they are uniform in quality and for each variety concerned, in origin. The visible part of the contents of the package must be representative of the entire contents.

6.2 Packaging

Castilla lulo (naranjilla) must be packed in such a way as to protect the produce properly. The materials used inside the package must be new, 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.

Castilla lulo (naranjilla) shall be packed in each container in compliance with the *Code of practice for packaging and transport of fresh fruits and vegetables* (CXC 44-1995).¹

6.2.1 Description of containers

The containers shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the Castilla lulo (naranjilla). Packages must be free of all foreign matter and smell.

7 Provisions concerning marking or labelling

7.1 Consumer packages

In addition to the requirements of the *General standard for the labelling of pre-packaged foods* (CXS 1-1985),² the following specific provisions shall apply:

7.1.1 Name of produce

If the produce is not visible from the outside, each package shall be labelled according to the name of the produce and may be labelled according to the name of the variety, class, size (if sized) expressed in accordance with any one of the following methods: count, size code and range, size range.

7.1.2 Origin of produce

Each package must include country of origin, and, optionally, district where grown or regional or local place name.

7.2 Non-retail containers

The labelling of non-retail containers should be in accordance with the *General standard for the labelling of non-retail containers of foods* (CXS 346-2021).³ In addition, the following specific requirements shall apply:

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside, or in the documents accompanying the shipment:

7.2.1 Identification

Name and address of exporter, packer and/or dispatcher. Identification code (optional).

7.2.2 Name of produce

Name of the produce if the contents are not visible from the outside. Name of the variety (where appropriate).

7.2.3 Origin of produce

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

7.2.4 Commercial identification

- class;
- size (size code or weight range or count); and
- net weight (optional).

8 Food additives

No food additives are permitted in foods conforming to this standard.

9 Contaminants

The produce covered by this standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

The produce covered by this standard shall comply with the maximum levels of the *General standard for contaminants and toxins in food and feed* (CXS 193-1995).⁴

10 Hygiene

It is recommended that the produce covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the *General principles of food hygiene* (CXC 1-1969),⁵ the *Code of hygienic practice for fresh fruits and vegetables* (CXC 53-2003)⁶ and other relevant Codex texts such as codes of practice and codes of hygienic practice.

The produce shall comply with any microbiological criteria established in accordance with the *Principles and guidelines for the establishment and application of microbiological criteria related to foods* (CXG 21-1997).⁷

Referenced texts

- 1 *Code of practice for packaging and transport of fresh fruits and vegetables* (CXC 44-1995).
- 2 *General standard for the labelling of pre-packaged foods* (CXS 1-1985).
- 3 *General standard for the labelling of non-retail containers of foods* (CXS 346-2021).
- 4 *General standard for contaminants and toxins in food and feed* (CXS 193-1995).
- 5 *General principles of food hygiene* (CXC 1-1969).
- 6 *Code of hygienic practice for fresh fruits and vegetables* (CXC 53-2003).
- 7 *Principles and guidelines for the establishment and application of microbiological criteria related to foods* (CXG 21-1997).

Codex Alimentarius

A collection of international food standards developed to protect consumer health and ensure fair practices in the food trade. Codex standards are adopted by the Codex Alimentarius Commission, an intergovernmental body with 189 Members, established by FAO and WHO. The standards are recognized by the World Trade Organization as the benchmark for the safety of internationally traded food.

Codex Secretariat

Contacts

codex@fao.org
codexalimentarius.org
x.com/FAOWHOCodex
youtube.com/@UNFAO

Food and Agriculture Organization of the United Nations

Rome, Italy