

CODEX STANDARD FOR ORANGES
(CODEX STAN 245-2004, AMD. 1-2005)

1. DEFINITION OF PRODUCE

This Standard applies to commercial varieties of oranges grown from *Citrus sinensis* (L.) Osbeck, of the *Rutaceae* family, to be supplied fresh to the consumer, after preparation and packaging. Oranges for industrial processing are excluded.

2. PROVISIONS CONCERNING QUALITY

2.1 MINIMUM REQUIREMENTS

In all classes, subject to the special provisions for each class and the tolerances allowed, the oranges must be:

- whole;
- 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;
- practically free of pests affecting the general appearance of the produce;
- practically free of damage caused by pests;
- free of abnormal external moisture, excluding condensation following removal from cold storage;
- free of any foreign smell and/or taste;
- free of damage caused by low and/or high temperatures;
- free of damage caused by frost;
- free of signs of internal shrivelling;
- practically free of bruising and/or extensive healed-over cuts.

2.1.1 The oranges must have been carefully picked and have reached an appropriate degree of development and ripeness account being taken of the characteristics of the variety, the time of picking and the area in which they are grown.

The development and condition of the oranges must be such as to enable them:

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

Oranges satisfying these requirements may be “degreened”. This treatment is permitted only if the other natural organoleptic characteristics are not modified.

2.2 MATURITY CRITERIA

The maturity of oranges is defined by the following parameters:

- Colouring;
- Minimum juice content, calculated in relation to the total weight of the fruit and after extraction of the juice by means of a hand press.

2.2.1 Colouring

The degree of colouring shall be such that, following normal development, the oranges reach their normal variety colour at their destination point, account being taken of the time of picking, the growing area and the duration of transport.

Colouring must be typical of the variety. Fruits with a light green colour are allowed, provided it does not exceed one-fifth of the total surface area of the fruit.

Oranges produced in areas with high air temperatures and high relative humidity conditions during the developing period can be of a green colour exceeding one fifth of the total surface area, provided they satisfy the criteria mentioned in Section 2.2.2 below.

2.2.2 Minimum Juice Content

- Blood oranges	30%
- Navels group	33%
- Other varieties	35%
- Varieties Mosambi, Sathgudi and Pacitan with more than one-fifth green colour	33%
- Other varieties with more than one-fifth green colour	45%

2.3 CLASSIFICATION

Oranges are classified in three classes defined below:

2.3.1 “Extra” Class

Oranges in this class must be of superior quality. In shape, external appearance, development and colouring, they must be characteristic of the variety and/or commercial type. They must be free of 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 and presentation in the package.

2.3.2 Class I

Oranges in this class must be of good quality. They must be characteristic of the variety and/or commercial type. The following slight defects, however, may be allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:

- slight defect in shape;
- slight defect in colouring;
- slight skin defects occurring during the formation of the fruit, such as silver scurfs, russets, etc.;
- slight healed defects due to a mechanical cause such as hail damage, rubbing, damage from handling, etc.

The defects must not, in any case, affect the pulp of the fruit.

2.3.3 Class II

This class includes oranges which do not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in Section 2.1 above. The following defects, however, may be allowed, provided the oranges retain their essential characteristics as regards the quality, the keeping quality and presentation:

- defect in shape;
- defect in colouring;
- skin defects occurring during the formation of the fruit, such as silver scurfs, russets, etc.;
- healed defects due to a mechanical cause such as hail damage, rubbing, damage from handling, etc.;
- rough skin;
- superficial healed skin alterations;
- slight and partial detachment of the pericarp.

The defects must not, in any case, affect the pulp of the fruit.

3. PROVISIONS CONCERNING SIZING

Size is determined by the maximum diameter of the equatorial section of the fruit, in accordance with the following table:

Size Code	Diameter (mm)
0	92 - 110
1	87 - 100
2	84 - 96
3	81 - 92
4	77 - 88
5	73 - 84
6	70 - 80
7	67 - 76
8	64 - 73
9	62 - 70
10	60 - 68
11	58 - 66
12	56 - 63
13	53 - 60

Oranges of a diameter below 53 mm are excluded.

Oranges may be packed by count. In this case, provided the size uniformity required by the Standard is retained, the size range in the package may fall outside a single size code, but within two adjacent codes.

Uniformity in size is achieved by the above mentioned size scale, unless otherwise stated, as follows:

- (i) for fruit arranged in regular layers in the package, including unit consumer packages, the maximum difference between the smallest and the largest fruit, within a single size code or, in the case of oranges packed by count, within two adjacent codes, must not exceed the following maxima:

Size Code	Maximum difference between fruit in the same package in mm
0 to 2	11
3 to 6	9
7 to 13	7

- (ii) for fruit not arranged in regular layers in packages and fruit in individual rigid packages for direct sale to the consumer, the difference between the smallest and the largest fruit in the same package must not exceed the range of the appropriate size grade in the size scale, or, in the case of oranges packed by count, the range in mm of one of the two adjacent codes concerned.
- (iii) for fruit in bulk bins and fruit in individual non-rigid (nets, bags) packages for direct sale to the consumer, the maximum size difference between the smallest and the largest fruit in the same lot or package must not exceed the range obtained by grouping three consecutive sizes in the size scale.

4. PROVISIONS CONCERNING TOLERANCES

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

4.1 QUALITY TOLERANCES

4.1.1 "Extra" Class

Five percent by number or weight of oranges not satisfying the requirements of the class, but meeting those of Class I or, exceptionally, coming within the tolerances of that class.

4.1.2 Class I

Ten percent by number or weight of oranges not satisfying the requirements of the class, but meeting those of Class II or, exceptionally, coming within the tolerances of that class.

4.1.3 Class II

Ten percent by number or weight of oranges 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.

Within this tolerance, a maximum of 5% is allowed of fruit showing slight superficial unhealed damage, dry cuts or soft and shrivelled fruit.

4.2 SIZE TOLERANCES

For all classes, 10% by number or weight of oranges corresponding to the size immediately above and/or below that indicated on the package.

The 10% tolerance only applies to fruit whose diameter is not less than 50 mm.

5. PROVISIONS CONCERNING PRESENTATION

5.1 UNIFORMITY

The contents of each package must be uniform and contain only oranges of the same origin, variety and/or commercial type, quality and size, and appreciably of the same degree of ripeness and development. The visible part of the contents of the package must be representative of the entire contents. In addition, uniformity of colouring is required for "Extra" Class.

5.2 PACKAGING

Oranges must be packed in such a way as to protect the produce properly. The materials used inside the package must be new¹, 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.

Oranges shall be packed in each container in compliance with the Recommended International Code of Practice for Packaging and Transport of Fresh Fruits and Vegetables (CAC/RCP 44-1995, Amd. 1-2004).

5.2.1 Description of Containers

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

5.3 PRESENTATION

The oranges may be presented as follows:

- (a) Arranged in regular layers in the package. This form of presentation is mandatory for "Extra" Class and optional for Classes I and II;
- (b) Not arranged in packages. This type of presentation is only allowed for Class I and II;
- (c) In individual packages for direct consumer sale of a weight less than 5 kg, either made up by number or by weight of fruit.

6. MARKING OR LABELLING

6.1 CONSUMER PACKAGES

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Rev. 1-1991), the following specific provisions apply:

6.1.1 Nature of Produce

If the produce is not visible from the outside, each package (or lot for produce presented in bulk) shall be labelled as to the name of the produce and may be labelled as to the name of the variety and/or commercial type.

6.2 NON-RETAIL CONTAINERS

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.

6.2.1 Identification

Name and address of exporter, packer and/or dispatcher. Identification code (optional)².

6.2.2 Nature of Produce

Name of the produce if the contents are not visible from the outside. Name of the variety and/or commercial type (optional)³.

¹ For the purposes of this Standard, this includes recycled material of food-grade quality.

² The national legislation of a number of countries requires the explicit declaration of the name and address. However, in the case where a code mark is used, the reference "packer and/or dispatcher (or equivalent abbreviations)" has to be indicated in close connection with the code mark.

³ The national legislation of a number of countries requires the explicit declaration of the variety.

6.2.3 Origin of Produce

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

6.2.4 Commercial Identification

- Class;
- Size code for fruit presented in accordance with the size scale or the upper and the lower limiting size code in the case of three consecutive sizes of the size scale;
- Size code (or, when fruit packed by count fall under two adjacent codes, size codes or minimum and maximum diameter in mm) and number of fruit, in the case of fruit arranged in layers in the package;
- If appropriate, a statement indicating the use of preservatives;
- Net weight (optional).

6.2.5 Official Inspection Mark (optional)

7. CONTAMINANTS

7.1 HEAVY METALS

Oranges shall comply with those maximum levels for heavy metals established by the Codex Alimentarius Commission for this commodity.

7.2 PESTICIDE RESIDUES

Oranges shall comply with those maximum pesticide residue limits established by the Codex Alimentarius Commission for this commodity.

8. HYGIENE

8.1 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 Recommended International Code of Practice – General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 4-2003), Code of Hygienic Practice for Fresh Fruits and Vegetables (CAC/RCP 53-2003), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

8.2 The produce should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).