

ASEAN STANDARD FOR ORANGES (ASEAN Stan 72:2023)

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 shall be:

- whole;
- fresh in appearance;
- 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 pests¹;
- practically free of damage caused by pests affecting the general appearance of the produce;
- free of abnormal external moisture, excluding condensation following removal from cold storage;
- free of any foreign smell/odour and/or taste;
- free of damage caused by low and/or high temperatures;
- free of signs of internal shrivelling; and
- practically free of bruising and/or extensive healed-over cuts.

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

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

2.1.1 Minimum Maturity Requirement

The oranges shall reach an appropriate degree of development in accordance with criteria proper to the variety and to the area in which they are grown.

Oranges satisfying these requirements may be degreened (exposed to low levels of ethylene or low temperature to enhance fruit skin coloration). This treatment is permitted only if the other natural organoleptic characteristics are not modified.

¹ The provision for pest applies without prejudice to the applicable plant protection rules applied by governments in line with the International Plant Protection Convention (IPPC).

The maturity of oranges is defined by the following parameters:

- colouring; and
- 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.

2.1.1.1 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 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 2.1.1.2 below.

2.1.1.2 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% |

2.2 CLASSIFICATION

Oranges are classified into three classes defined below:

2.2.1 “Extra” Class

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

2.2.2 Class I

Oranges in this class shall be of good quality. They shall be characteristic of the variety and/or commercial type. The following slight defects 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.; and
- slight healed defects due to a mechanical cause such as hail damage, rubbing, damage from handling, etc.

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

2.2.3 Class II

This class includes oranges that do not qualify for inclusion in the higher classes but satisfy the minimum requirements specified in Section 2.1 above. The following defects 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; and
- slight and partial detachment of the pericarp.

The defects shall 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 each fruit. The following table is a guide and may be used on an optional basis.

Size Code	Diameter (mm)
1	>97-110
2	>82-97
3	>67-82
4	53-67

Oranges of diameter below 53 mm are excluded.

4. PROVISIONS CONCERNING TOLERANCES

At all marketing stages, tolerances in respect to quality and size shall be allowed in each lot for produce not satisfying the requirements of the class indicated. Conformity assessment for the produce should be conducted in accordance with the relevant provisions in the *ASEAN Principles and Guidelines for National Food Control*

Systems (CAC/GL 82-2013- Principles and Guidelines for National Food Control Systems, MOD), *ASEAN Principles for Food Import and Export Inspection and Certification* (CAC/GL 20-1995-Principles for Food Import and Export Inspection and Certification, MOD) and/or the *Codex Guidelines for Food Import Control Systems* (CXG 47-2003).

4.1 QUALITY TOLERANCES

4.1.1 “Extra” Class

Five percent (5%) 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 (10%) 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 (10%) 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 shall 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 maturity 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 the “Extra” Class.

5.2 PACKAGING

Oranges shall be packed in such a way as to protect the produce properly. The materials used inside the package shall be of food-grade quality, clean, and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials, particularly 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 *Code of Practice for Packaging and Transport of Fresh Fruits and Vegetables* (CXC 44-1995).

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 shall 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; and
- 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. PROVISIONS CONCERNING MARKING AND LABELLING

6.1 CONSUMER PACKAGES

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

6.1.1 Name of Produce

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.

6.1.2 Origin of Produce

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

6.2 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). In addition, the following specific requirements shall apply:

Each package shall bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside.

6.2.1 Origin of Produce

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

6.2.2 Commercial Specifications

- Class;
- Size (if sized)

6.2.3 Official control mark (optional)

7. FOOD ADDITIVES

Food additives listed in Tables 1 and 2 of the General Standard for Food Additives (CXS 192-1995) in Food Category 04.1.1.2 (Surface-treated fresh fruit) are acceptable for use in oranges conforming to this standard.

8. CONTAMINANTS

8.1 Oranges shall comply with maximum residue limits for pesticides established by the ASEAN Harmonized MRLs of Pesticides and/or Codex Alimentarius Commission. In cases where the MRLs of pesticide are not included in the databases of ASEAN and Codex Alimentarius Commission, the commodity shall conform with the established MRL of the national competent authority.

8.2 Oranges shall comply with the maximum levels of the *Codex General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995).

9. HYGIENE

9.1 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 *ASEAN Good Agricultural Practices (GAP)*, *ASEAN General Principle for Food Hygiene, Recommended International Code of Practice – General Principles of Food Hygiene* (CXC 1-1969), *Code of Hygienic Practice for Fresh Fruits and Vegetables* (CXC 53-

2003), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

9.2 The produce should comply with any microbiological criteria established in accordance with the *Principles and Guidelines for the Establishment and Application of Microbiological Criteria for Foods* (CXG 21-1997).

10. METHODS OF ANALYSIS AND SAMPLING

Analytical and sampling methods to be used for ascertaining conformance to the requirements of this specification shall be in accordance with Codex Recommended methods of analysis and sampling (CXS 234-1999) and/or other relevant sampling protocols established by national competent authorities or their latest issuances.

References:

ASEAN General Principle for Food Hygiene, Recommended International Code of Practice – General Principles of Food Hygiene (CXC 1-1969)

ASEAN Good Agricultural Practices (GAP).

ASEAN Harmonized MRLs of Pesticides.

ASEAN Principles and Guidelines for National Food Control System (CAC/GL 82-2013-Principles and Guidelines for National Food Control Systems, MOD).

ASEAN Principles for Food Import and Export Inspection and Certification (CAC/GL 20-1995-PRINCIPLES FOR FOOD IMPORT AND EXPORT INSPECTION AND CERTIFICATION, MOD)

Bureau of Agriculture and Fisheries Standards (BAFS) – Department of Agriculture (DA). (2018). Orange - Specification (PNS/BAFS 239:2018).

Codex Code of Hygienic Practice for Fresh Fruits and Vegetables (CXC 53-2003).

Codex Code of Practice for Packaging and Transport of Fresh Fruits and Vegetables. (CXC 44-1995).

Codex General Standard for Contaminants and Toxins in Food and Feed (CXS 193-1995).

Codex General Standard for the Labelling of Non-retail Containers of Foods (CXS 346-2021).

Codex General Standard for the Labelling of Prepackaged Foods (CXS 1-1985).

Codex Guidelines for Food Import Control Systems (CXG 47-2003).

Codex Principles for the Establishment and Application of Microbiological Criteria for Foods (CXG 21-1997).

Codex Principles and Guidelines for National Food Control Systems (CXC/GL 82-2013).

Codex Recommended International Code of Practice – General Principles of Food Hygiene (CXC 1-1969).

Codex Recommended Methods of Analysis and Sampling (CXS 234-1999).

Codex Standard for Oranges (CXS 245-2004).

ANNEX 1

VERNACULAR NAMES OF ORANGES IN THE ASEAN REGION

Country	Vernacular Name
Brunei Darussalam	Limau Manis
Cambodia	Krouch Pursat
Indonesia	Jeruk Manis
Lao PDR	Mak giang
Malaysia	Oren
Myanmar	Lain-Maw
Philippines	Orange, Dalandan, Dalanghita
Singapore	Orange
Thailand	Som Plueak Mai Lon
Vietnam	Cam sành, Cam ngọt