

# CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture  
Organization of  
the United Nations



World Health  
Organization

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## STANDARD FOR LIMES

CXS 213-1999

Adopted in 1999. Amended in 2005, 2011.

## 1. DEFINITION OF PRODUCE

This Standard applies to commercial varieties of limes grown from *Citrus latifolia* Tanaka<sup>1</sup>, of the *Rutaceae* family, to be supplied fresh to the consumer, after preparation and packaging. Limes 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 limes 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;
- firm;
- free of damage caused by low temperatures;
- practically free of bruising;
- pipless.

**2.1.1** The limes must have reached an appropriate degree of development and ripeness in accordance with criteria proper to the variety and to the area in which they are grown.

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

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

### 2.1.2 Minimum Juice Content and Colouring

The minimum juice content is calculated in relation to the total weight of the fruit.

Minimum Juice Content: 42%

Colouring must be typical of the variety on at least two-thirds of the surface of the fruit. The fruit should be green but may show discolouring (yellow patches) up to 30% of its surface.

## 2.2 Classification

Limes are classified in three classes defined below:

### 2.2.1 "Extra" Class

Limes in this class must be of superior quality. They must be characteristic of the variety. 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.

### 2.2.2 Class I

Limes in this class must be of good quality. They must be characteristic 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 and presentation in the package:

- slight defects in shape;
- slight defects in colouring;
- slight skin defects not exceeding more than 1.0 cm<sup>2</sup>.

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

### 2.2.3 Class II

This class includes limes 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 limes retain their essential characteristics as regards the quality, the keeping quality and presentation:

- defects in shape;
- defects in colouring;
- skin defects not exceeding more than 2.0 cm<sup>2</sup>.

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)
1	58 - 67
2	53 - 62
3	48 - 57
4	45 - 52
5	42 - 49

Limes 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.

Limes of a diameter below 42 mm are excluded.

Uniformity in size is achieved by the above mentioned size scales, 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 limes packed by count, within two adjacent codes, must not exceed 7 mm (for size codes 1 to 5).
- (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 limes 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 limes 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 limes not satisfying the requirements of the class, but meeting those of Class II or, exceptionally, coming within the tolerances of that class.

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<sup>1</sup> It is an acid lime having large fruits called also, depending upon the country: Bearss, Persian, Tahiti.

#### 4.1.3 **Class II**

Ten percent by number or weight of limes 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.

#### 4.2 **Size Tolerances**

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

In no case can the diameter be less than 40 mm.

### 5. **PROVISIONS CONCERNING PRESENTATION**

#### 5.1 **Uniformity**

The contents of each package must be uniform and contain only limes of the same origin, variety, quality and size. For "Extra" Class, the colour must be uniform. The visible part of the contents of the package must be representative of the entire contents.

#### 5.2 **Packaging**

Limes must be packed in such a way as to protect the produce properly. The materials used inside the package must be new<sup>2</sup>, 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.

Limes 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 limes. Packages must be free of all foreign matter and smell.

### 6. **MARKING OR LABELLING**

#### 6.1 **Consumer Packages**

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

##### 6.1.1 **Nature of Produce**

If the produce is not visible from the outside, each package shall be labelled as to the name of the produce and may be labelled as to name of the variety.

#### 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)<sup>3</sup>.

##### 6.2.2 **Nature of Produce**

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

##### 6.2.3 **Origin of Produce**

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

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<sup>2</sup> For the purposes of this Standard, this includes recycled material of food-grade quality.

<sup>3</sup> 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.

#### **6.2.4 Commercial Identification**

- Class;
- Size (size code or minimum and maximum diameter in millimetres);
- Net weight (optional);
- 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.

#### **6.2.5 Official Inspection Mark (optional)**

### **7. CONTAMINANTS**

- 7.1** 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).
- 7.2** The produce covered by this Standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

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