
UNECE STANDARD FFV-45

concerning the marketing and
commercial quality control of

MANGOES

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NOTE

Working Party on Agricultural Quality Standards

The commercial quality standards developed by the Working Party on Agricultural Quality Standards of the United Nations Economic Commission for Europe (UNECE) help facilitate international trade, encourage high-quality production, improve profitability and protect consumer interests. UNECE standards are used by Governments, producers, traders, importers and exporters, and other 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.

Any member of the United Nations can participate, on an equal footing, in the activities of the Working Party. For more information on agricultural standards, please visit our website <http://www.unece.org/trade/agr/welcome.html>.

The present Standard for Mangoes is based on documents ECE/TRADE/C/WP.7/GE.1/2010/2 and ECE/TRADE/C/WP.7/2012/8, reviewed and adopted by the Working Party at its sixty-sixth and sixty-eighth sessions.

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UNECE standard FFV-45 concerning the marketing and commercial quality control of mangoes

I. Definition of produce

This standard applies to mangoes of varieties (cultivars) grown from *Mangifera indica* L. to be supplied fresh to the consumer, mangoes for industrial processing being excluded.

II. Provisions concerning quality

The purpose of the standard is to define the quality requirements for mangoes after preparation and packaging.

However, if applied at stages following export/dispatch, products may show in relation to the requirements of the standard:

- a slight lack of freshness and turgidity
- for products graded in classes other than the “Extra” Class, 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 observing such conformity.

A. Minimum requirements

In all classes, subject to the special provisions for each class and the tolerances allowed, the mangoes 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
- fresh in appearance
- practically free from pests
- free from damage caused by pests affecting the flesh
- free from black stains or trails which extend under the skin
- free from marked bruising
- free from damage caused by low temperature
- free of abnormal external moisture
- free of any foreign smell and/or taste.

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

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

B. Maturity requirements

The development and state of maturity of the mangoes must be such as to enable them to continue the ripening process and to reach a satisfactory degree of ripeness.

In relation to the evolution of maturing, the colour and firmness may vary according to variety.

C. Classification

Mangoes are classified in three classes, as defined below:

(i) "Extra" Class

Mangoes in this class must be of superior quality. 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 and presentation in the package.

(ii) Class I

Mangoes 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:

- a slight defect in shape
- slight skin defects due to rubbing or sunburn and suberized stains due to resin exudation (elongated trails included) not exceeding 3, 4, 5, 6 cm² for size groups A, B, C, D respectively
- slight bruising
- scattered rust-coloured lenticels
- a yellowing of green varieties due to exposure to direct sunlight, not exceeding 40 per cent of the surface of the fruit, excluding necrotic stains.

(iii) Class II

This class includes mangoes that do not qualify for inclusion in the higher classes but satisfy the minimum requirements specified above.

The following defects may be allowed, provided the mangoes retain their essential characteristics as regards the quality, the keeping quality and presentation:

- defects in shape
- skin defects due to rubbing or sunburn and suberized stains due to resin exudation (elongated trails included) not exceeding 5, 6, 7, 8 cm² for size groups A, B, C, D respectively
- bruising
- scattered rust-coloured lenticels
- a yellowing of green varieties due to exposure to direct sunlight, not exceeding 40 per cent of the surface of the fruit, excluding necrotic stains.

III. Provisions concerning sizing

Size is determined by the weight of the fruit¹ or by count.

¹ Australia at present determines size of mangoes on the basis of diameter and has placed its reservation on this point *ad referendum*.

The minimum weight of mangoes shall be 100 g.

To ensure uniformity in size, the following provisions must be respected:

<i>Size code</i>	<i>Weight in grams</i>	<i>Maximum permissible difference between fruit within the package in grams</i>
A	100 - 350	75
B	351 - 550	100
C	551 - 800	125
D	> 800	150

For mangoes sized by count, the difference in size in the package should be consistent with the above table.

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 requirements of the class indicated.²

A. Quality tolerances

(i) "Extra Class"

A total tolerance of 5 per cent, by number or weight, of mangoes not satisfying the requirements of the class but meeting those of Class I is allowed. Within this tolerance not more than 0.5 per cent in total may consist of produce satisfying the requirements of Class II quality.

(ii) Class I

A total tolerance of 10 per cent, by number or weight, of mangoes not satisfying the requirements of the class but meeting those of Class II is allowed. Within this tolerance not more than 1 per cent in total may consist of produce satisfying neither the requirements of Class II quality nor the minimum requirements, or of produce affected by decay.

(iii) Class II

A total tolerance of 10 per cent, by number or weight, of mangoes satisfying neither the requirements of the class nor the minimum requirements is allowed. Within this tolerance not more than 2 per cent in total may consist of produce affected by decay.

B. Size tolerances

For all classes: a total tolerance of 10 per cent, by number or weight, of mangoes not satisfying the requirements as regards sizing is allowed.

² A conformity check shall be made by assessing primary or composite samples. It is based on the principle of presumption that the quality of the randomly taken samples is representative of the quality of the lot. The OECD Operating Rules for Conformity Checks are recommended for application – also by operators – at the stages of dispatch as well as in wholesale and distribution centres and storerooms of food retail.

V. Provisions concerning presentation

A. Uniformity

The contents of each package must be uniform and contain only mangoes of the same origin, variety, quality and size.

The visible part of the contents of the package must be representative of the entire contents.

B. Packaging

Mangoes 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.

Stickers individually affixed to the produce shall be such that, when removed, they neither leave visible traces of glue nor lead to skin defects. Information lasered on single fruit should not lead to flesh or skin defects.

Packages must be free of all foreign matter.

VI. Provisions concerning marking

Each package³ 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/exporter:

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 authority⁴ if the country applying such a system is listed in the UNECE Code Mark Registry⁵. In the case where there is no street address available, the physical address can be made up of the name of the farm or facility, the nearest village, town, region, and postal code; or GPS coordinates and a PO Box address together with nearest town, region and country shall be accepted as a physical address.⁶

B. Nature of produce

- "Mangoes" if the contents are not visible from the outside
- Name of the variety.

³ These marking provisions do not apply to sales packages presented in packages bearing these particulars. However, they do apply to sales packages (pre-packages) presented individually.

⁴ 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, and the code mark should be preceded by the ISO 3166 (alpha-2) country/area code of the recognizing country, if not the country of origin.

⁵ See <http://www.unece.org/trade/agr/codemarkregistry.html>.

⁶ Reservation by the United States of America on the use of a PO Box address, as it may not allow facility inspections or rapid intervention in case of recalls, and is not part of its national labelling requirement related to packer and/or dispatcher/exporter.

C. Origin of produce

- Country of origin⁷ and, optionally, district where grown, or national, regional or local place name.

D. Commercial specifications

- Class
- Size expressed by at least one of the following:
 - minimum and maximum weight
 - size code
 - number of fruit.

E. Official control mark (optional)

Adopted 1988

Last revised 2012

Aligned with the Standard Layout 2023

The OECD Scheme for the Application of International Standards for Fruit and Vegetables has published an explanatory illustrated brochure on the application of this standard. The publication may be obtained from the OECD bookshop at: www.oecdbookshop.org.

⁷ The full or a commonly used name should be indicated.