

**DRAFT CARICOM STANDARD**

**Specification for the  
Grading of Mangoes**

COMMITTEE DRAFT

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**Committee Representation**

The preparation of this standard was carried out under the supervision of the Regional Technical Committee (RTC #19) for Agricultural Commodities, which at the time comprised of the following members:

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**0.0 FOREWORD**

0.1 This draft CARICOM Standard was prepared by the Regional technical Committee (RTC #19) for Agricultural Commodities, hosted by the CARICOM Member State, Dominica.

0.2 This regional Standard was developed in an effort to:

- (a) Avoid misunderstanding and confusion among those involved in the marketing chain
- (b) Provide an objective basis for relating price to quality
- (c) Encourage better selection, packaging and presentation of produce as a means of obtaining greater income overall
- (d) Assist exporters and their countries in meeting export market requirements and thereby enhancing their reputation and market position

0.3 In developing this standard reference was made to:

- (a) CODEX Standard for Mangoes (CODEX STAN 184-1993)
- (b) Guyana Standard Specification for Mangoes; GYS 26:2005
- (c) UNECE Standard FFV-45 concerning the marketing and commercial quality control of Mangoes, 1988, Revised 1991

## 1.0 SCOPE

This Standard applies to commercial varieties of **Mangoes** grown from *Mangifera indica* L., of the *Anacardiaceae* family, to be supplied fresh to the consumer, after preparation and packaging. Mangoes for industrial processing are excluded.

## 2.0 DEFINITIONS

For the purpose of this standard, the following definitions shall apply:

- 2.1 Blemish:** means any physical injury affecting the surface of the fruit, such as scars or scratches, which detract from its natural appearance, but will significantly affect its shelf life.
- 2.2 Clean:** Free from loose or adhering soil and all foreign matter.
- 2.3 Damaged:** Defect or combination of defects which materially detract from the appearance or edible quality of the fruit such as bruises, cuts, insect damage, or damage caused by physiological disorder.
- 2.4 Firm:** Not soft or noticeably wilted and skin not puffy.
- 2.5 Free from disease:** Free from any visible evidence of moulds, fungal and bacterial rots, spots or any symptoms of viral infection.
- 2.6 Insect Free:** means no signs of live or dead insects at any stage of development shall be present on or in the fruit or in the package.
- 2.7 Lot:** means two or more mangoes whether or not packaged, but sold as one distinct and separate group.
- 2.8 Mature:** Stage of development where optimum growth characteristics of the variety are attained that will ensure the proper completion of the ripening process.
- 2.9 Properly trimmed:** means the stalk is intact and not more than 6 mm (1/4 inch) long.
- 2.10 Similar Varietal Characteristics:** The flesh, skin and flesh color, odor, shape and size typical of the variety.
- 2.11 Well formed:** The shape is the characteristic of the variety and is symmetrical without irregularities in shape.

### 3.0 PROVISIONS CONCERNING QUALITY

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

#### 3.1 Minimum requirements

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

- (a) Intact;
- (b) Firm;
- (c) Fresh in appearance;
- (d) Sound, produce affected by rotting or deterioration, such as to make it unfit for consumption is excluded;
- (e) Clean, practically free from any visible foreign matter;
- (f) Free from black necrotic stains or trails which extend under the skin;
- (g) Free from marked bruising;
- (h) Practically free from pests and damage caused by pests;
- (i) Free from damage caused by low/high temperature;
- (j) Free from abnormal external moisture, excluding condensation following withdrawal from cold storage;
- (k) Free of any foreign smell and/or taste;
- (l) Sufficiently developed and display satisfactory ripeness; and
- (m) When a peduncle is present, it shall be no longer than 1 cm.
- (n) Mature
- (o) Of similar maturity stages
- (p) Of the same variety

#### 3.1.2 Mangoes must be sufficiently developed and display satisfactory ripeness.

Mangoes must be carefully picked at the stage of physiological development so as to enable them:

- To ensure a continuation of the ripening process until they reach the appropriate degree of ripeness corresponding to the varietal characteristics,
- To withstand transport and handling, and
- To arrive in satisfactory condition at the place of destination.

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

### 3.2 Classification

Mangoes are classified in three classes defined below:

#### 3.2.1 Class 1

Mangoes in this class must be of superior quality. Shape and colouring 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.

### **3.2.2 Class II**

Mangoes in this class must be of good quality. They must be characteristic of the variety.

However, 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:

- (a) Slight defects in shape
- (b) Slight defects of the skin due to rubbing or sunburn, suberized stains due to resin exudation (elongated trails included) and healed bruises not exceeding 3, 4, 5 cm<sup>2</sup> for size groups A, B, C respectively.

### **3.2.3 Class III**

This class includes mangoes which do not qualify for inclusion in the higher classes but satisfy the minimum requirements specified in **3.1**.

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

- (a) Defects in shape
- (b) Defects of skin due to rubbing or sunburn suberized stains due to resin exudation (elongated trails included) and healed bruises not exceeding 5, 6, and 7 cm<sup>2</sup> for size groups A, B, C respectively.

In classes II and III it is also allowed:

- (a) Scattered rusty lenticels
- (b) 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.

## **4.0 PROVISIONS CONCERNING TOLERANCES**

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

### **4.1 Quality tolerances**

#### **4.1.1 Class 1**

Five (5) percent by number or weight of mangoes 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 II**

Ten (10) percent by number or weight of mangoes 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 III**

Ten (10) per cent by number or weight of mangoes satisfying neither the requirements of the class nor the minimum requirements, with the exception of fruit affected by rotting, marked bruising or any other deterioration rendering it unfit for human consumption.

#### **4.2 Size tolerances**

Size is determined by the market requirements and should be specific to the variety.

### **5.0 PROVISIONS CONCERNING PRESENTATION**

#### **5.1 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.

#### **5.2 Packaging**

Mangoes must be packed in such a way as to protect the produce properly.

The materials used inside the package must be new<sup>1</sup>, clean and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials and particularly paper or stamps bearing trade specifications is allowed provided the printing or labelling has been done with non-toxic ink or glue.

Packages must be free of all foreign matter.

Mangoes shall be packed in each container in compliance with the latest edition of **CAC/RCP 44, "Code of Practice for packaging and transport of tropical fresh fruits and vegetables.**

### **6.0 PROVISIONS CONCERNING LABELING**

Each package<sup>2</sup> must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside.

<sup>1</sup> For the purposes of this Standard, this includes recycled material of food-grade quality

<sup>2</sup> Package units of produce prepacked for direct sale to the consumer shall not be subject to these marking provisions but shall conform to the national requirements. However, the markings referred to shall in any event be shown on the transport packaging containing such package units.



**6.1 Identification**

Name and address of the Packer and/or Dispatcher

**6.2 Nature of the produce**

- (a) "Mangoes" if the contents are not visible from the outside
- (b) Name of the variety.

**6.3 Origin of the produce**

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

**6.4 Commercial specifications**

- (a) Class
- (b) Size expressed as minimum and maximum weight
- (c) Size code (optional)
- (d) Number of fruit.
- (e) Batch number

**6.5 Official control mark (optional)**

**7.0 CONTAMINANTS**

**7.1 Heavy metals**

Mangoes shall be free from heavy metals in amounts which may represent a hazard to human health.

**7.2 Pesticide residues**

Mangoes shall comply with those maximum residue limits established by the **Codex Committee on Pesticide Residues** for this commodity.

**8.0 HYGIENIC AND SANITARY REQUIREMENTS**

8.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the latest edition of the **Recommended International Code of Practice, "General principles of food hygiene (CAC/RCP 1: 1969, Rev 3: 1999 Amendment)** and the latest edition of other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

8.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

8.3 When tested by appropriate methods of sampling and examination, the product shall:

- (a) be free from microorganisms in amounts which may represent a hazard to health;
- (b) be free from pests which may represent a hazard to health; and
- (c) Not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

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