

**DRAFT CARICOM STANDARD**

**Specification for the  
Grading of Pineapples**

COMMITTEE DRAFT

**Contents**

<b>0.0</b>	<b>Foreword</b>	<b>iv</b>
<b>1.0</b>	<b>Scope</b>	<b>1</b>
<b>2.0</b>	<b>Definitions</b>	<b>1</b>
<b>3.0</b>	<b>Provisions Concerning Quality</b>	<b>3</b>
<b>4.0</b>	<b>Provisions Concerning Tolerances</b>	<b>5</b>
<b>5.0</b>	<b>Provisions Concerning Sizing</b>	<b>6</b>
<b>6.0</b>	<b>Provisions Concerning Presentation</b>	<b>6</b>
<b>7.0</b>	<b>Provisions Concerning Labeling</b>	<b>7</b>
<b>8.0</b>	<b>Contaminants</b>	<b>7</b>
<b>9.0</b>	<b>Hygienic and Sanitary Requirements</b>	<b>8</b>

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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 to improve the regional and international market competitiveness of Pineapples and to address critical concerns relating to quality in the production, processing and packaging of Pineapples in the region.
- 0.3. These measures are expected to assist all stakeholders engaged in the production, packaging, distribution and sale of Pineapples in ensuring compliance with minimum quality requirements for Pineapples for commercial use.
- 0.4. In developing this standard reference was made to:
  - (a) CODEX Standard for Pineapples (CODEX STAN 182-1993, Rev 1-1999; AMD 1-2005)
  - (b) United States Standards for Grades of Pineapples; 1997
  - (c) UNECE Standard FFV-49 concerning the marketing and commercial quality control of Pineapples, 2004
  - (d) Guyana Standard Specifications for Pineapples, GYS 2:2005
  - (e) Frehfel EUROPE Marketing Standards for Pineapples (Ananas comosus L.)

## 1.0 SCOPE

This standard applies to **Pineapples** of varieties (cultivars) grown from *Ananas comosus* (L.) Merr. of the *Bromeliaceae* family to be supplied fresh to the consumer. Pineapples for ornamental use or industrial processing are excluded.

The purpose of the standard is to define the quality requirements of pineapples at the import and export control stage, after preparation and packaging.

## 2.0 DEFINITION OF THE TERMS

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

- 2.1 **Similar Varietal Characteristics:** means that pineapple shall be of the same cultivar, showing similar color, shape and size typical of the variety
- 2.2 **Mature:** means that the pineapple has reached a state of development where optimum growth characteristics of the variety are attained, that will ensure that they arrive on the market in an acceptable condition and meets customer requirements in terms of flavour and texture.
- 2.3 **Clean:** means that the pineapple is practically free from soil and foreign matter
- 2.4 **Colored:** Eighty percent of the fruit exhibits the color typical of the variety at maturity
- 2.5 **Desired Size:** means the sizes requested by customer and market requirements
- 2.6 **Damage:** means physical or physiological injury to the fruit, such as decay, chilling injury, insect damage, open wounds, cracks or punctures which could lead to the abnormally quick deterioration of the fruit and detracts from the appearance or edible quality of the fruit.
- 2.7 **Blemish:** means any physical injury affecting the surface of the fruits, such as scars or healed scratches, which detracts from its natural appearance, but will not significantly affect its shelf life.
- 2.8 **Disease:** means any signs of fungal growth, particularly mould or signs of bacterial infection particularly the development of dry or soft rots.
- 2.9 **Free from Disease:** Free from any visible evidence of moulds, fungal and bacterial, rots, spots or any symptoms of viral infection.
- 2.10 **Insect Free:** means free from signs of live or dead insects, or insect parts on the fruits or in the package.

- 2.11 Intact:** means that the fruit should not have had any part removed nor have suffered any damage making them incomplete. The removal of parts of the crown or the entire crown as permitted by the market shall not be considered as a defect
- 2.12 Internal browning:** means a dark and unappealing color change brought about by enzymatic oxidation of certain phenolic compounds present in the pineapple fruit.
- 2.13 Firm:** means not soft or noticeably wilted and skin not puffy.
- 2.14 Trimmed:** means the removal after harvest of dead, wilted or damaged leaves and excessive peduncle, either by hand or with a sharp blade. Only when explicitly so specified by a particular market outlet should the crowns be removed in their entirety.
- 2.15 Consignment:** means a quantity of pineapple which has the following characteristics in common:
- the same packer
  - the same lot(s) or batches(s)
  - the same variety
  - the same country of origin
  - the same type of package
  - the same region or district, if possible
- 2.16 Properly Labeled:** meets the requirements of section 6.0 of this standard or any other national standard on labeling of fresh produce and any other requirements stipulated by the importer and importing country legislation.
- 2.17 Correct Packed Weight:** means that weight of pineapple placed in the package is consistent with the net weight stated on the package and provision made for the expected natural weight loss.
- 2.18 “Reducing of the crown”:** means the mechanical destruction of the apical growing point in the heart of the crown during the growth period at about two months from harvest by means of a gouge or similar instrument. Done correctly, this leaves no visible scar at harvest and requires no special subsequent treatment.

### 3.0 PROVISION CONCERNING QUALITY

#### 3.1 Minimum Requirements

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

- a) Whole, complete with the crown, which may be reduced and/or trimmed
- b) Fresh in appearance, including the crown when present, this should be free of wilted, dry, loose or damaged leaves;
- c) Sound, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- d) Clean, practically free of any visible foreign matter;
- e) Free of internal browning;
- f) Practically free of damage caused by pests;
- g) Practically free of pests affecting the general appearance of the produce;
- h) Free of pronounced blemishes, in particular unhealed cuts, bruising, scorching,
- i) holes, cracks (healed or not);
- j) Free of damage caused by low or high temperatures;
- k) Free of abnormal external moisture
- l) Free of any foreign smell and/or taste.

When a peduncle (stem) is present, it shall be no longer than 2.0 cm long<sup>1</sup> and the cut must be transversal, straight and clean.

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

- (a) To withstand transport and handling, and
- (b) To arrive in satisfactory condition at the place of destination

##### 3.1.1 Maturity Requirements

The pineapples must have been carefully picked and have reached an appropriate degree of development and ripeness in accordance with criteria proper to the variety and/or commercial type and the area in which they are grown.

The total soluble solids content of the fruit should be at least 12° Brix. For the determination of Brix degrees, a sample of the juice representative of all the fruit shall be taken.

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<sup>1</sup>Pineapples exported with the stem intact in response to a special market demand are excluded from this requirement.

## 3.2 Classification

Pineapples are classified in three classes as defined below:

### 3.2.1 Class 1

Pineapples in this class must be of superior quality. They must be characteristic of the variety and/or commercial type.

They must be fresh in appearance and firm, with well-developed eyes.

They must be free from defects, with the exception of very slight superficial defects, provided that these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

The crown must be simple and straight with no side-shoots and should not exceed 150 per cent of the length of the fruit.

### 3.2.2 Class II

Pineapples in this class must be of good quality. They must be characteristic of the variety and/or commercial type.

They must be fresh in appearance and firm, with well-developed eyes.

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 defects in shape;
- Slight defects in coloring, including sun-scorch;
- Slight skin defects (i.e. scratches, scars, scrapes and blemishes) not exceeding 4 per cent of the total surface area.

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

The crown may be simple or double and straight or slightly curved, with no side-shoots and should not exceed 150 per cent of the length of the fruit. The maximum inclination of the crown should not exceed 30<sup>0</sup> from the longitudinal axis of the fruit.

### 3.2.3 Class III

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

- Defects in shape;
- Defects in coloring, including sun-scorch;
- Skin defects (i.e. scratches, scars, scrapes, bruises and blemishes) not exceeding 8 per cent of the total surface area.

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

The crown may be simple or double and straight or curved, with no side-shoots.

### 3.2.4 Classification by exterior coloring

Color criteria of the fruit are as follows:

- C0: totally green exterior,
- C1: beginning to turn yellow/orange on  $\frac{1}{4}$  of the fruit surface,
- C2: yellow/orange on  $\frac{1}{2}$  of the fruit surface,
- C3: yellow/orange on  $\frac{2}{3}$  of the fruit surface,
- C4: totally yellow/orange fruit.

## 4.0 PROVISIONS CONCERNING TOLERANCES

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

### 4.1. Quality tolerances

#### 4.1.2 Class I

5 per cent by number or weight of pineapples 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

10 per cent by number or weight of pineapples not satisfying the requirements of the class, but meeting those of class III or, exceptionally, coming within the tolerances of that class.

**(iii) Class III**

10 per cent by number or weight of pineapples 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.

**5.0 PROVISIONS CONCERNING SIZING****5.1 Sizing Requirements**

Size is determined by weight, subject to variety and market preferences.

Pineapples within a package may vary in weight by not more than 10 per cent above or below the average individual fruit weight for the package.

**6.0 PROVISIONS CONCERNING PRESENTATION****6.1 Packaging**

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

The material 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 labeling has been done with non-toxic ink or glue.

Stickers individually affixed on the produce shall be not such that, when removed, neither leaves visible traces of glue, nor lead to skin defects.

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

Pineapples may be presented:

- Laid down horizontally in the package
- Stood up vertically in the package with crowns uppermost.

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

<sup>5</sup> Except "Queen Victoria" variety, which may be 250 grams minimum weight.

## 6.2 Uniformity

The contents of each package must be uniform and contain only pineapples of the same origin, variety and/or commercial type, quality and size. For “Extra” class, color and ripeness should be uniform. The visible part of the contents of the package must be representative of the entire content.

## 7.0 PROVISIONS CONCERNING LABELING

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked and visible from the outside (either printed on the package itself or on a label secured to the package). Each Label shall include the following mandatory requirements:

- i. Name and address of exporter, packer or dispatcher
- ii. Name and address of consignee
- iii. Name of produce including variety and/or commercial type
- iv. Net weight of package as kg (lb) or size (size code or average weight in grams) and Number of fruits
- v. Country of Origin and Producer
- vi. The absence of the crown should be indicated

In addition, labels may include the following optional information:

- i. Grade of produce
- ii. Post harvest treatments e.g. waxing or fungicide use
- iii. Storage and ripening temperature requirements
- iv. District where grown if possible
- v. Official Inspection Mark

## 8.0 CONTAMINANTS

### 8.1 Heavy Metals and Pesticide Residues

All chemicals used pre/post harvest must be registered and approved for use in accordance with the requirements of the national regulation for pesticides and that of the Importing Country.

Pineapples shall comply with those maximum levels for heavy metals as well as maximum pesticide residue limits established by the Codex Alimentarius Commission for this commodity.

## 9.0 HYGIENIC AND SANITARY REQUIREMENTS

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 latest edition of the Recommended International Code of Practice – General principles of Food Hygiene (CAC/RCP 53-2003), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice which are relevant to this commodity.

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)

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