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COMMITTEE FOR TRADE, INDUSTRY AND
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Working Party on Standardization of
Perishable Produce and Quality Development

Specialized Section on Standardization of
Fresh Fruit and Vegetables

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REPORT OF THE FORTY-EIGHTH SESSION

Addendum 10

Note by the secretariat: The document contains the text agreed by the Specialized Section for adoption as a new UNECE Recommendation for Pineapples for a trial period of one year. The secretariat has aligned the text with the standard layout. In some cases, when texts were not clear, notes have been added in square brackets which contain questions or proposals.

UNECE Recommendation for Pineapples

UNECE RECOMMENDATION
concerning the marketing and commercial
quality control of

PINEAPPLES
moving in international trade between and to
UNECE member countries

I. DEFINITION OF PRODUCE

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

II. PROVISIONS CONCERNING QUALITY

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

A. Minimum requirements

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

- intact, complete with the crown, which may be reduced¹ and/or trimmed²;
- fresh in appearance, including the crown, which should be free of wilted, dry, loose or damaged leaves;
- 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;
- free of internal browning;
- practically free of pests affecting the general appearance of the produce;
- practically free of damage caused by pests;
- free of pronounced blemishes, in particular unhealed cuts, bruising, scorching, holes, cracks (healed or not);

¹ “Reducing” of the crown refers to 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.

² “Trimming” is defined as the removal after harvest of dead, wilted or damaged leaves, 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.

- free of damage caused by chilling or by high temperature;
- free of abnormal external moisture, excluding condensation following removal from cold storage; free of any foreign smell and/or taste.

When a peduncle (stem) is present, it shall be no longer than 2.0 cm³ and the cut must be transversal, straight and clean.

The fruit must be physiologically ripe, i.e. without evidence of unripeness (opaque, flavourless, exceedingly porous⁴ flesh) or over-ripeness (exceedingly translucent or fermented flesh)
[Should the first part of this paragraph be in the maturity requirements?]

A transverse section of the fruit must not reveal flesh that is excessively fibrous⁴ or lacking in aroma.

The “eyes” should be well-filled, according to the characteristics of the variety

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

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

[This text has been included in the pears standard and could also apply to pineapples: “-to continue their ripening process and to reach the degree of ripeness required in relation to the varietal characteristics”]

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

B. Maturity requirements

The total soluble solids content of the fruit flesh should be at least 12⁰ Brix (twelve Brix degrees). For the determination of Brix degrees, a sample of the juice representative of all the fruit shall be taken.

C. CLASSIFICATION

Pineapples are classified in three classes defined below:

(i) “Extra” Class

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.

³ Pineapples exported with the stem intact in response to a special market demand are excluded from this requirement.

⁴ Varieties such as “Queen Victoria” may have more porous flesh.

UNECE Recommendation for Pineapples

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.

(ii) **Class I**

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 colouring, 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° from the longitudinal axis of the fruit.

(iii) **Class II**

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 colouring, 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.

(iv) **Classification by exterior colouring**⁵

Colour 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.

III. PROVISIONS CONCERNING SIZING

Sizing is determined by weight.

The minimum weight per individual fruit is 700 grams⁶

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

IV. PROVISIONS CONCERNING TOLERANCES

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

A. Quality tolerances

(i) **“Extra” class**

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

(ii) **Class I**

Ten 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.

(iii) **Class II**

Ten 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 This section is optional, but may be used as a trade reference when so required.

⁶ Except “Queen Victoria” variety, which may be 250 grams minimum weight.

UNECE Recommendation for Pineapples

B. Size tolerances

For all classes, not more than 10 per cent by number or weight of pineapples corresponding to the size immediately above and/or below that indicated on the package.

V. PROVISIONS CONCERNING PRESENTATION

A. 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.

In addition, for the “Extra” Class, uniformity in colouring and maturity is required.

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

B. Packaging

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

The material used inside the package must be new⁷, 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.

Packages must be free of all foreign matter and smell.

[The draft contained the following text which should probably be deleted:

“DESCRIPTION OF CONTAINERS

The containers shall meet the quality, hygiene, ventilation and resistance characteristics that ensure suitable handling, shipping and preserving of the pineapples.”]

C. Presentation

The pineapples may be presented:

- laid down horizontally in the carton,
- stood up vertically in the carton with the crowns uppermost.

⁷ For the purposes of this Standard, this includes recycled material of food-grade quality.

VI. PROVISIONS CONCERNING MARKING

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.

A. Identification

Packer)	Name and address or
and/or)	officially issued or
Dispatcher)	accepted code mark. ⁸

B. Nature of produce

- Name of produce (pineapples) if the contents are not visible from the outside.
- Name of variety and/or commercial type (optional).
- If the crown is absent, this must be clearly indicated.

C. Origin of produce

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

⁸*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.*

UNECE Recommendation for Pineapples

D. Commercial specifications

- Class;
- Number of fruit;
- Weight range (or recognised size code⁹, if appropriate);
- Coloration code, if appropriate;
- Tare weight (optional);
- Net weight (optional)
- The indication - “To be stored at 8⁰ C” (optional)

E. Official control mark (Optional)

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⁹ *The following is an example of a “ recognized size code” that is in current commercial use.*

- A5: - fruit of 2,101 – 2,400 grams
- A6: - fruit of 1,801 – 2,100 grams
- A8: - fruit of 1,502 – 1,800 grams
- B9: - fruit of 1,301 – 1,500 grams
- B10: - fruit of 1,101 – 1,300 grams
- C12: - fruit of 901 – 1,100 grams
- D14: - fruit of 701 - 900 grams