

PHILIPPINE NATIONAL STANDARD

PNS/BAFPS 09:2004
ICS 65.020.20

Fresh Fruit – Pineapple– Specification

Foreword

The Philippine National Standard, PNS/BAFPS 09:2004 for Fresh Fruits - Pineapple, was formulated in July 2001 under the Bureau of Agriculture and Fisheries Product Standards (BAFPS)' Technical Assistance on Safety and Quality Standards Covering Products of High Value Commercial Crops in view of the increasing demand of the commodity for domestic and export markets.

In 2003, the Bureau of Agriculture and Fisheries Product Standards (BAFPS) conducted series of technical reviews and public consultations nationwide on the draft standards for fresh pineapple fruits prior to its approval.

The Technical Committee and Sub-Committees of BAFPS organized through Special Order No. 411, series of 2001 set the classification of fresh pineapple fruit based on their physical characteristics and current practices existing in the sectors concerned.

Fresh fruits – Pineapples - Specification

1 Scope

This standard establishes a system of grading and classifying commercial varieties of fresh pineapples grown from *Ananas comosus* Merr. of the *Bromeliaceae* family produced in the Philippines to be supplied fresh to the consumer. Pineapple fruits for industrial processing are excluded.

2 References

The titles of the standards publications and other references of this standard are listed on the inside back cover.

3 Definitions

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

3.1 General**3.1.1****characteristic color**

the tops are green and characteristics of well-grown pineapples at shipment, and shall be fairly green and relatively free from discoloration as received in the markets

3.1.2**crown slips**

the small, secondary top growths at the crown of the fruit

3.1.3**diameter**

the greatest dimension measured at right angles to a line from top to butt

3.1.3**fairly well-formed**

the fruit is somewhat round or cylindrical in shape

3.1.4**fairly well-developed eyes**

eyes which show fairly normal development and are not badly misshapen

3.1.5**mature**

the pineapple has reached the stage of development which ensure a proper completion of the ripening process. The fruit shows a yellow green cast at the stem scar after removing the calyx and the grooves of the two layers of eyes from the bottom are turning yellow and are far apart (Annex A)

3.1.6

pineapple

an edible fruit of tropical plant belonging to the genus *Ananas* of the family *Bromeliaceae*. It is a herbaceous plant with long, narrow, stiff leaves usually armed with sharp spines along each margin except in a few varieties. Some known varieties of pineapples in the Philippines include 'Smooth Cayenne', 'Queen'/Formosa, 'Red Spanish' and other varieties

3.1.7

similar varietal characteristics

the pineapples in any lot which are similar in shape, shell structure, crown and color of the flesh

3.1.8

single to p

the fruit has only one prominent crown

3.1.9

well-formed

the fruit shows good shoulder development and is not lopsided or distinctly pointed and the sides are not noticeably flattened

3.1.10

well-trimmed

the bract on the stem next to the base of the fruit has been removed and that the stem does not protrude more than $\frac{3}{4}$ inch beyond the base of the pineapple

3.2

damage

any defect or injury which affects to varying degrees the appearance, eating and shipping qualities of the fruit

3.2.1

compression

any mechanical injury on the peel of the fruit resulting in the presence of water soak and soft areas that makes it unsightly

3.2.2

endogenous brown spot

a physiological disorder known also as blackheart characterized by brownish or grayish opaque areas developing at the base of fruitlets against the core. This is a form of chilling injury that may occur in the field or during postharvest and cool storage, and there are no external visible symptoms

3.2.3

sunburn

injury due to high temperature characterized by bleached yellow area on the exposed side of the fruit. Severe sunburn causes a sunken, spongy brown skin lesion developing in the center of the bleached area

4 Varieties

Pineapple fruits shall be identified according to the characteristics of the following varieties :

4.1 Queen/Formosa – Fruit is small, oblong, slightly tapering, color straw yellow with brown markings; eyes prominent, small and deep; flesh yellowish, tender, crispy, sweet, rich flavor and excellent quality, small core; and small to medium crown. It is good for the table.

4.2 Smooth cayenne – Fruit is large; cylindrical, brownish yellow, flat eyes not prominent medium deep, flesh yellowish, very juicy, sweet, slightly fibrous, aromatic, rich flavor and excellent quality; medium core, fairly inedible; small crown; leaves are long, broad and generally spineless. It is good for canning.

4.3 Red spanish – The fruit is small to medium, somewhat cone shaped and of medium quality. The eyes are relatively large, and when ripe has a bright, and clear red color. The fruit has no commercial value. Mature leaves of this variety are excellent raw material for piña fibers.

5 Minimum requirements

In all classes subject to the special provisions for each class and tolerances allowed, the pineapple fruits shall meet the following requirements:

- 5.1 Pineapple fruit shall be fresh.
- 5.2 Pineapple fruit shall be mature and firm.
- 5.3 Pineapple fruit shall be free from decay caused by insects and animal damage.
- 5.4 Pineapple fruit shall be free from visible foreign material.
- 5.5 Pineapple fruit shall be free from dark internal discoloration.

6 Classification

Fresh pineapple shall be graded according to its general appearance, quality and condition.

6.1 Extra class – Pineapple in this class shall be of superior quality. They shall be of similar varietal characteristics; well-formed, well-developed eyes; practically free from decay, sunscald, injury caused by disease, insects, animals, mechanical or other means. The butts shall be trimmed, well-cured, free from damage caused by cracks. The tops shall be of characteristic color, single, straight, well attached to the fruit and free from crown slips, knobs and discoloration. The length of the tops shall not be more than 1 ½ times the length of the fruit.

6.2 Class I – Pineapples in this class shall be of good quality. They shall be of same varietal characteristics, well-formed, well-developed eyes; reasonably free from decay, sunscald, injury caused by disease, insects, animals, mechanical or other means. The butts shall be well-trimmed, fairly well-cured and have not been badly cracked. The tops shall be of characteristic color, single, reasonably straight, well attached to the fruit and shall not have more than 5 crown slips. The length of the tops shall not be more than twice the length of the fruit.

6.2 Class II – Pineapples in this class which do not qualify for inclusion in the higher classes but satisfy the requirements specified in Section 3. They shall be of similar varietal characteristics, fairly well-formed, fairly well-developed eyes; reasonably free from decay, sunscald, injury caused by disease, insects, animals, mechanical or other means. The tops shall be of characteristic color, well attached to the fruit, not completely curved and consist of not more than 2 fairly well developed stems and shall have any number of crown slips.

7 Size classification

Size is determined by the weight of the fruit as shown in the table below:

Size	Weight (grams)/Variety	
	Smooth cayenne	Queen/Formosa
SS (Batterball)		<550
Small	<1500	550 – 700
Medium	1500 – 2000	700 – 850
Large	>2000	850 – 1000
Extra Large		>1000

NOTE Whole fruit with crown

8 Tolerances

8.1 Quality tolerances

8.1.1 Extra class - Five percent of the pineapple, by number or weight, may fail to meet the requirements of the grade but shall conform to the requirements of the next lower grade.

8.1.2 Class I and class II - Ten percent of the pineapple, by number or weight, may fail to meet the requirements the minimum requirements.

8.2 Size tolerances

For extra class, five percent; and for **class I or class II**, ten percent by number or weight of pineapples not satisfying the requirements as in sizes.

9 Packaging

Pineapples shall be packed in suitable containers that may protect the fruits from any external or internal damage. The containers shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of pineapples.

10 Marking or Labeling

Each container shall be legibly labeled on the same side with the following information:

10.1 Name of the product, the variety and/or commercial type

10.2 Grade and size and/or number of pieces

10.3 Net weight in kilograms

10.4 Name of producer and exporter

10.5 The words “Product of the Philippines”

11 Sampling

Sampling method to be used shall be in conformance with PNS/ISO 874.

12 Contaminants

12.1 Heavy metals

Pineapples shall comply with those acceptable/tolerable residue levels for heavy metals established by the Codex Alimentarius Commission for this commodity.

12.2 Pesticide residues

Pineapples shall comply with those acceptable/tolerable residue levels for pesticide residues established by the Codex Alimentarius Commission for this commodity.

13 Hygiene

13.1 Pineapples shall be prepared and handled in accordance with appropriate sections of the Recommended International Code of Practice – General Principles of Food hygiene (CAC/RCP 1-1969, Rev. 2 –1985), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

13.2 Pineapples shall comply with microbial criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21 – 1997).

14 Compliance with specification

When found to comply with the requirements specified in this Philippine Standard Specification, the lot, the batch or the consignment from which the samples have been drawn, shall be deemed to comply with this Philippine Standard Specification.

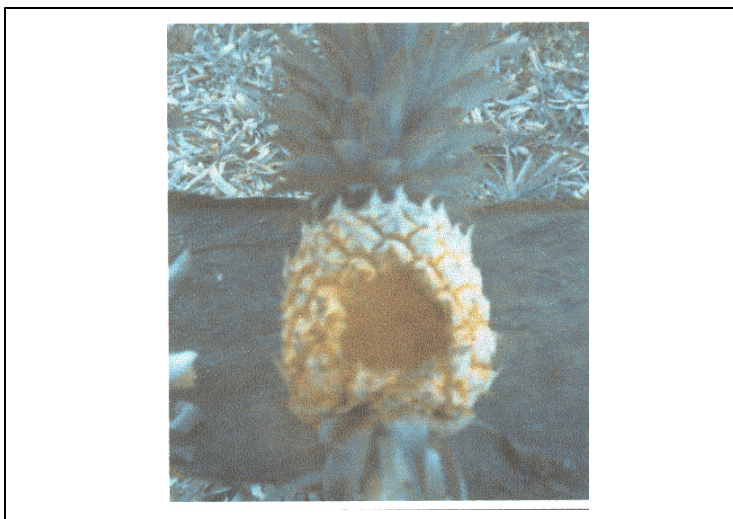
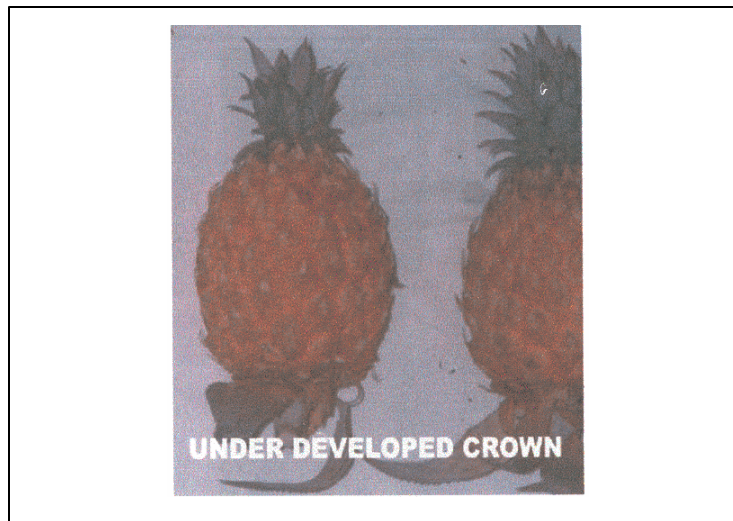
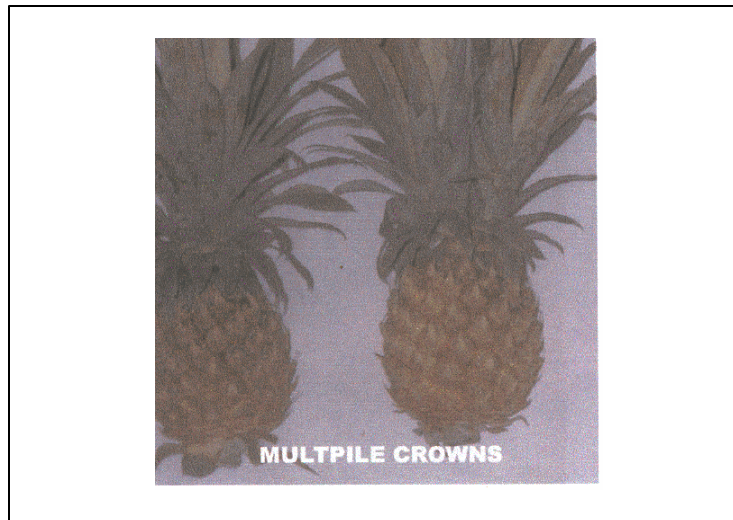
Annex A

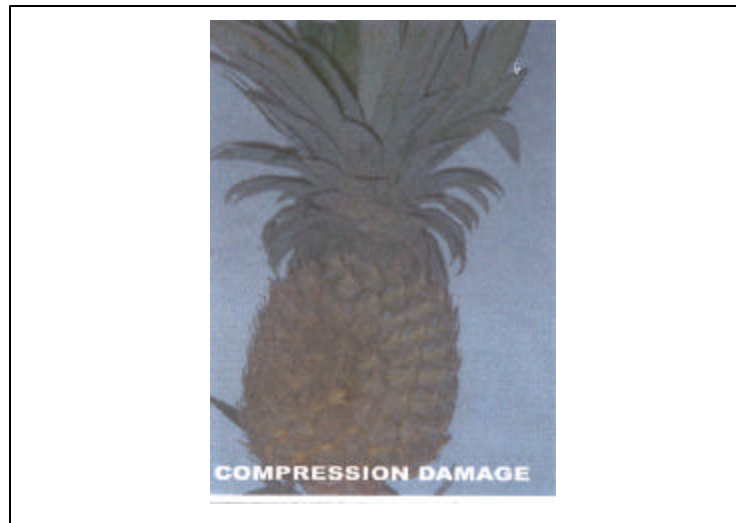
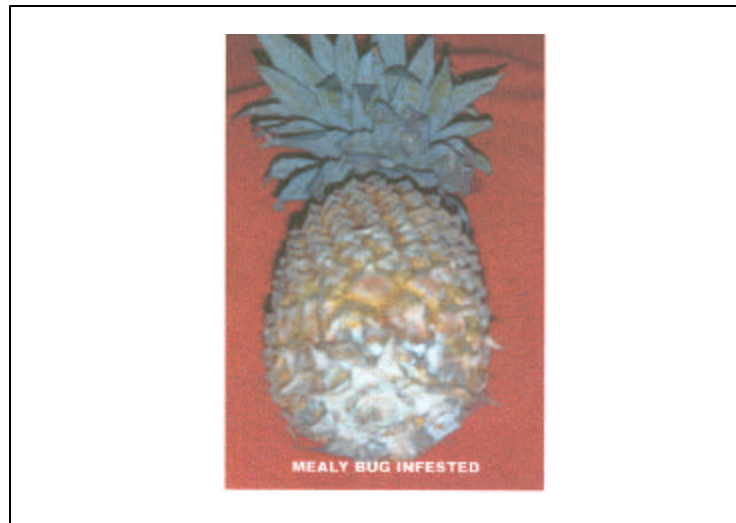
Maturity index of ‘smooth cayenne’ pineapple

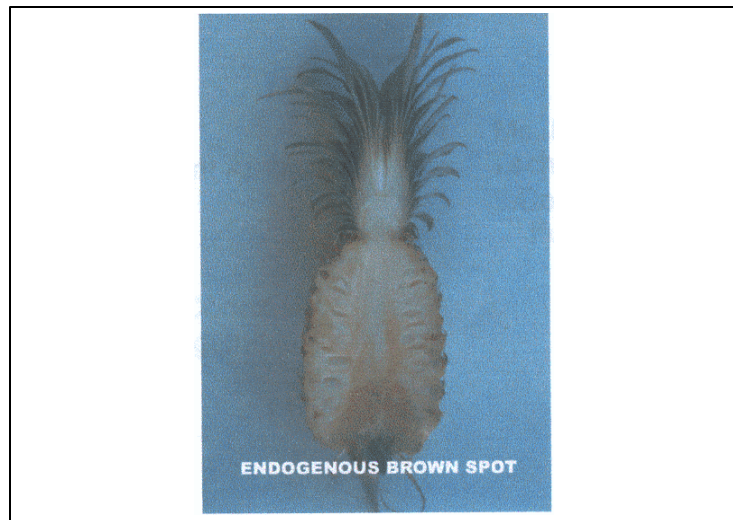
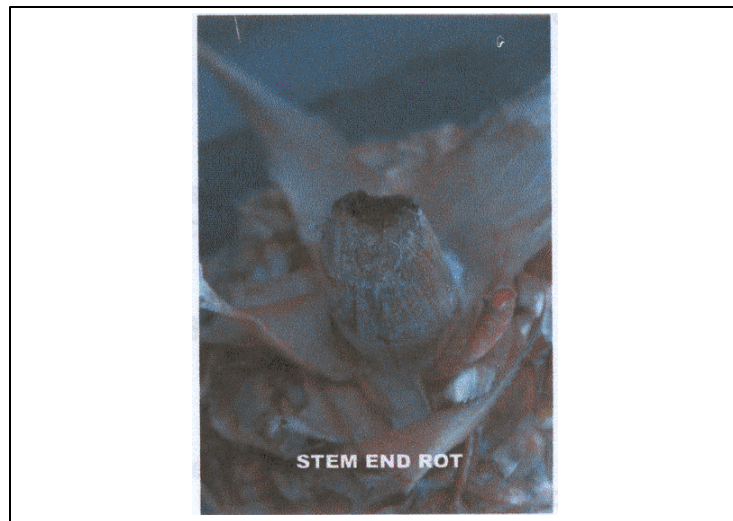
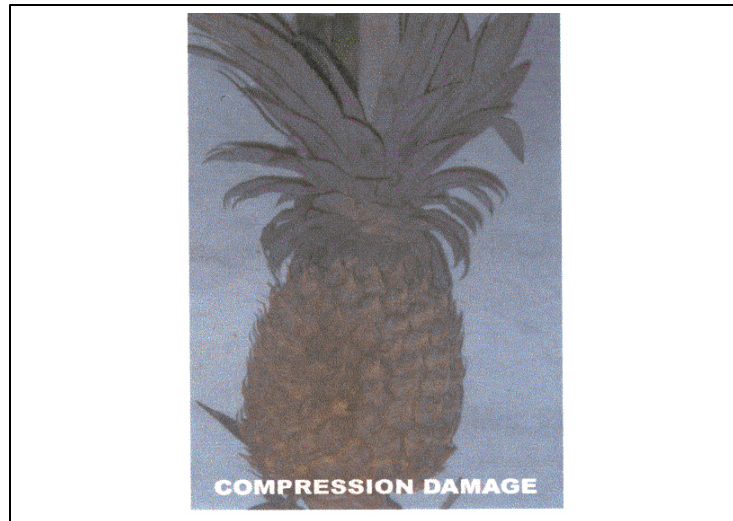
Peel Color Index	Description
1	All eyes green with tinge of yellow between the eyes at base, bracts are dry and whitish; flesh firm and sourish; suitable for canning and export fresh by sea
2	Eyes are green with 1-2 eyes yellowish green at the base; flesh firm, slightly juicy and sweet sour; edible fresh; suitable for canning and export fresh by sea
3	About 25% of the eyes are yellowish orange (quarter ripe fruit); flesh firm, juicy, sweet and slightly fragrant; good eating stage; suitable for export by air
4	About 50% of the eyes are yellowish-orange (half ripe fruit); Flesh less firm, juicy, sweet, fragrant; good eating stage; suitable for export by air
5	More than 75% of the eyes are yellowish orange (three quarter ripe fruit); flesh slightly soft, very juicy, sweet and fragrant
6	Fruit yellowish orange (fully ripe fruit); flesh soft, very juicy, sweet, sour, still edible fresh but not palatable; not suitable for export

Maturity index of 'queen' pineapple

Peel Color Index	Description
1	All eyes are green, whitish bracts are dry, grooves between 1 to 2 layers of eyes from the bottom show separation and yellowing (mature; best for dried/candied pineapple; suitable harvest stage for long term storage)
2	About 2 – 3 layers of the eyes at the base show yellowing; best for fresh consumption; suitable for processing into juice and jams
3	Fifty percent of the eyes are yellow
4	More than 75% of the eyes are yellow (overripe)
5	Full yellow (overripe)







References

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