PHILIPPINE NATIONAL STANDARD

PNS/BAFPS 55:2007
ICS 065.020

Fresh fruits – Jackfruit – Grading and classification

BUREAU OF PRODUCT STANDARDS

Foreword

The revision of the Philippine National Standard for Jackfruit (PNS/BAFPS 55:2007**)** was undertaken in order to reflect the recent technology developments in the industry and the need for harmonization with Codex requirements in Heavy Metals, Pesticide Residues and Hygiene.

PNS/BAFPS 55:2007 supersedes the existing standard for Jackfruit developed by the Philippine Trade Standards through Administrative Order No. 96:1970.

A Technical Committee and Sub-Committee were organized by Bureau of Agriculture ans Fisheries Product Standards (BAFPS) through Special Order No. 411, series of 2001 and Special Order No. 169, series of 2007 to identify members and experts that shall be involved in the formulation of the revised PNS for Jackfruit. Modifications were made concerning definition of terms, minimum requirements, classification, sizing, packaging, marking and labeling. The draft standard was presented for technical reviews and public consultations in the three major islands of the country.

The PNS for Jackfruit aims to provide common understanding on the scope, definition, minimum requirements, cultivars, classification, size classification, tolerances, sampling, packaging, marking and labeling, contaminants and hygiene.

Fresh fruits – Jackfruit – Grading and classification

1 Scope

This standard establishes the system of grading and classifying commercial varieties of Jackfruit grown from *Artocarpus heterophyllus* Lam. of the family Moraceae. The fruit is known as "nangka" or "langka" in the Philippines.

2 References

The titles of standard 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 apply:

3.1
badly misshapen
the jackfruit is badly constricted or very stubby or malformed

3.2
clean
the fruit is practically free from stains, dirt and other foreign materials

3.3
damage
any defect or injury which materially affect the appearance, shipping and eating qualities of the jackfruit

3.4
mature
the jackfruit has spines which are separated far apart and well-developed and has aromatic odor

3.5
overripe
the pulp is soft and nashy

3.6
similar varietal characteristics
the jackfruits are similar in appearance and pulp characteristics

3.7
well-trimmed
the stem is firmly attached and cut off fairly smooth at approximately right angles to the longitudinal axis of the stem not more than 5 cm beyond the shoulder of the fruit

4 Minimum requirements

In all classes, subject to the special provisions for each class and the tolerances allowed, the jackfruit must be mature; not overripe; whole; firm; free of cracks; sound ; clean; free of any foreign matter; practically free of pests affecting the general appearance of the produce; free of any foreign smell and/or taste; fresh in appearance, and similar varietal characteristics. The peduncle, if present, should not exceed 5cm.

The development and condition of the jackfruit must be such as to enable them to: (a) withstand transport and handling; and (b) arrive in satisfactory condition at the place of destination.

5 Cultivars

5.1 Local cultivars

5.1.1 Tinumbaga – has thin pulp, strong aroma, sweet taste and has bright yellow or amber color.

5.1.2 Sinaba – has thick pulp, long aril, has small seed and good eating quality.

5.2 Jackfruit Cultivars in the Philippines (See Annex A).

6 Classification

6.1 Extra class – Jackfruits must be of superior quality. They must be characteristic of the variety and/or commercial type. They must be free of defects, with the exception of slight superficial defects, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

6.2 Class I – Jackfruits must be of good quality. They must be characteristic of the variety and/or commercial type. The following 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. These are: (a) slight defects in shape; and (b) slight defects such as cracks, bruising, scratches or other mechanical damage. The total area affected shall not exceed 10 % of the total surface. The defects must not, in any case, affect the pulp of the fruit.

6.3 Class II – Jackfruits which do not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in Clause 4. The following may be allowed, provided the jackfruit retain their essential characteristics as regards to the quality, the keeping quality and presentation in the package. These are: (a) defects in shape; (b) defects such as bruising, scratches or other mechanical damage. The total area affected shall not exceed 15 % of the total surface. The defects must not, in any case, affect the pulp of the fruit.

7 Size classification

Size	Weight/fruit (kg)
Extra Large	> 20
Large	16 - 20
Medium	8 - 15
Small	< 8

8 Tolerances

8.1 Quality tolerances

8.1.1 Extra class – Ten percent (10 %) by number or weight of jackfruits not satisfying the requirements of the class, but meeting those of class I or, exceptionally, coming within the tolerances of that class.

8.1.2 Class 1 – Ten percent (10 %) by number or weight of jackfruits 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.

8.1.3 Class II – Ten percent (10 %) by number or weight of jackfruits satisfying neither the requirements of the class nor the minimum requirements and without rotten fruit.

8.2 Size tolerances

For all classes, ten percent (10 %) by number or weight of jackfruits not satisfying the requirements as regards sizing, but failing within the size immediately above or below those indicated in Clause 7.

9 Sampling

Sampling method to be used for ascertaining conformance to the requirements of this specification shall be in accordance with PNS/ISO 874.

10 Packaging

Mature jackfruit shall be packed in wooden crates or other similar protective containers. The weight of each container must not be more than 20 kg to afford maximum protection from the normal hazard of transport and handling.

11 Marking and labeling

Each container shall be labeled with the following information:

11.1 Name of the produce and variety;

11.2 Class and size;

11.3 Net weight (kg);

11.4 Name and address of producer, trader and exporter;

11.5 Origin of produce (province); and

11.6 Product of the Philippines.

12 Contaminants

12.1 Heavy metals

Jackfruits shall comply with those maximum residue levels for heavy metals established by the Codex Alimentarius Commission and/or authority for this commodity.

12.2 Pesticide residues

Jackfruits shall comply with those maximum residue limits established by the Codex Alimentarius Commission and/or authority for this commodity**.**

13 Hygiene

13.1 It is recommended that the produce covered by the provisions of this standard be prepared and handled in accordance with appropriate sections of the Recommended International Code of Practice – General Provisions of Food Hygiene (CAC/RCP 1 –1969, Rev. 2 – 1985), and other relevant Codex texts such as Code of Hygienic Practice and Code of Practice.

13.2 The produce 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).

Annex A

Table 1 – Jackfruit cultivars grown in the Philippines.

Cultivars/ Constituents	AES Jak # 1	AES Jak # 2	AES Jak # 3	ACC # 4 Burabod
Height	5.0 m	5.5 m	8.0 m	4.5 m
Growth and habit	Spreading	Spreading	Spreading	Spreading
Leaf	Alternate Oblong Dark green	Alternate Oblong Dark green	Alternate Oblong Dark green	Alternate Oblong Dark green
Fruit				
Weight (kg)	5.20	10.25	6.90	12.30
Size	Medium	Medium	Medium	Large
Shape	Ovoid	Ovoid	Ovoid	Ovoid
Flesh Color	Rich yellow	Yellow	Yellow	Rich yellow
Skin thickness	Intermediate	Intermediate	Intermediate	Intermediate
Texture	Intermediate	Intermediate	Intermediate	Intermediate
% Edible portion	41.7	47.52	31.5	46.0
Total Soluble Solids (TSS)	20.7 °Brix	16 °Brix	22 °Brix	27 °Brix
Latex	Moderate	Moderate	Scanty	Moderate
Seeds				
Size	Small	Small	Small, Ovoid	Small, Ovoid
Weight (g)	4.6	4.6	4.5	4.8
Source: Jackfruit. Agriculture and Fisheries Info. Service . Dept. of Agriculture.				

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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