

# PHILIPPINE NATIONAL STANDARD

PNS/BAFPS 39:2008  
ICS 67.080

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**Fresh vegetables – Okra**



**BUREAU OF PRODUCT STANDARDS**

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## **Foreword**

The development of the Philippine National Standard for Okra, PNS/BAFPS 39:2008 was undertaken by the Bureau of Agriculture and Fisheries Product Standards (BAFPS) in view of the increasing demand of the commodity for both domestic and export markets.

PNS/BAFPS 39:2008 was based on the Standardization of Philippine Okra developed by the Philippine Trade Standards with PTS No. 054-0315.1969.

This standard cancels and replaces SAO 133:1971.

A Technical Committee (TC) and Sub-Committee (SC) organized by the Bureau of Agriculture and Fisheries Product Standards (BAFPS) through Special Order No. 411, series of 2001 and Special Order No. 169, series of 2007 created to identify members and expert that shall be involved in the formulation of the PNS for Okra. Modifications were made on the scope, definition of terms, minimum requirements, classification, sizing, packaging, marking and labeling. BAFPS, in collaboration with the TC conducted technical reviews and public consultations in three major islands of the country prior to its finalization.

The Philippine National Standard for Okra aims to provide a common understanding on the established grading and classification system of okra varieties or commercial types grown in the Philippines to be supplied fresh to the consumers.

## **1 Scope**

This standard establishes a system of grading and classifying okra of different varieties or commercial types grown from *Abelmoschos esculentus*, Linn. in the Philippines to be supplied fresh to the consumers.

## **2 References**

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

## **3 Definitions**

### **3.1**

#### **clean**

practically free from stain, dirt or other foreign materials

### **3.2**

#### **damage**

any defect which affects the appearance, eating and shipping qualities of the okra pods

### **3.3**

#### **discoloration**

is caused by fungus and insects which affect the appearance of okra

### **3.4**

#### **fairly well-formed**

the okra pod is not twisted or materially curved

### **3.5**

#### **fresh and crisp**

okra pod is firm, not dull in color, not soft, flabby or pliable

### **3.6**

#### **insect damage**

damage caused by wormholes, insect stings, and other insect infestations which penetrate the fleshy wall

### **3.7**

#### **mechanical damage**

cuts or bruises and other damages caused by mishandling or improper harvesting

**3.8**

**overmature**

the pod is tough, woody and/or fibrous and does not easily snap in two when bent at the lower end

**3.9**

**similar varietal characteristics**

okra pods are similar in color, shape and appearance

**3.10**

**young and tender**

okra pods are tender and young, not tough, woody or fibrous. A pod which easily snaps in two when bent at the lower end

**3.11**

**well-trimmed**

the pod is properly cut straight at least 2 cm from the stem-end

**4 Minimum requirements**

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

- whole;
- fresh, firm, young and crisp;
- clean and free of dirt, stains and other foreign matters;
- well-formed, free of decay, podspot, wormholes;
- free of damage caused by discoloration, disease, and insects; and
- free of damage caused by mechanical and other means.

The development and condition of okra must enable it:

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

**5 Classification**

Okra is classified into three classes as defined below:

**5.1 Extra class** – Okra must be of superior quality and have the characteristic of the variety and/or commercial type. It must be fresh, young and tender, clean, well-formed, free of decay, discoloration, dirt or other foreign matter, free of damages caused by diseases, insects, mechanical or other means. Very slight superficial defects are allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

**5.2 Class I** – Okra in this class must be of good quality. It must have the characteristic of the variety and/or commercial type. It must be fresh, young and tender, and clean. Slight defects in shape, insects and mechanical damages are

allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

**5.3 Class II** – This class includes okra which do not qualify for inclusion in the higher classes, but satisfies the minimum requirements specified in Clause 4.

## 6 Size classification

Size is determined by length of the okra pods.

Size	Length of okra pods (cm)
Small	< 9.0
Medium	9 - 11.4
Large	> 11.4

## 7 Tolerances

### 7.1 Quality tolerance

**7.1.1 Extra class** – Five percent by number of okra pods not satisfying the requirements of the class but meeting those of Class I or, exceptionally, coming within the tolerance of that class.

**7.1.2 Class I** – Ten percent by number of okra pods not satisfying the requirements of the class, but meeting those of class II or, exceptionally coming within the tolerance of that class.

**7.1.3 Class II** – Ten percent by number of okra pods not 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.

### 7.2 Size tolerance

**7.2.1 Extra class** – Five percent by number or weight of okra pods not satisfying the requirement as regards to sizing but falling within the size of class I.

**7.2.2 Class I** – Ten percent by number or weight of okra pods not satisfying the requirement as regards to sizing but falling within the size of class II.

**7.2.3 Class II** – Ten percent by number or weight of okra pods not satisfying the requirement of the class, but satisfying the minimum requirements specified in Clause 4.

## **8 Sampling**

Sampling to be used for ascertaining conformance shall be in accordance with PNS/ISO 874.

## **9 Storage**

Okra pods should be stored at 7° to 10 °C with relative humidity of 90 % to 95 % for 7 to 10 days. Greater than 10 °C, the pods begin to toughen, turn yellow and decay. Below 7 °C okra pods will develop chilling injury. The presence of pitting and pods discoloration occur. It is not advisable to use Ice because water from melting ice will cause spotting on the pods.

## **10 Packaging**

Okra pods must be packed in well-ventilated bags or other suitable containers as specified by the buyer that will protect from any external or internal damage. Packed okra can be stored in 5 % to 10 % carbon dioxide (optional) to increase the shelf-life of okra pods for one week. The containers shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of okra pods.

## **11 Marking and labeling**

Each container shall be legibly labeled with the following information:

- 11.1** Name of produce, variety and/or commercial type;
- 11.2** Class and size;
- 11.3** Net content, weight (kg)/pieces/pack;
- 11.4** Name and address of producer, trader and exporter;
- 11.5** Province where grown;
- 11.6** Date of harvest;
- 11.7** Product Certification (optional); and
- 11.8** Product of the Philippines.

## **12 Contaminants**

### **12.1 Heavy metals**

Okra pods shall comply with the maximum levels of heavy metals established by the Codex Alimentarius Commission and/or authority for this commodity.

## **12.2 Pesticide residues**

Okra pods shall comply with the 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 provision of this standard be prepared and handled in accordance with the 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** Okra pods shall comply with the microbial criteria established in accordance with the Principles for the Establishment of Microbiological Criteria for Foods (CAC/GL 21- 1997).

## Annex A

Table 1 – The varieties of Okra and their characteristics.

Variety	Pod shape	Days to mature	Main use	Other characteristics
Clemson spineless	Star	55	Fresh market	Good yields, spineless, bright green pods, good quality
Dwarf long pod	Star	49	Fresh market	Deep cut leaves, dark green pods, short to medium height plant, heavy yield, itchy spines
Louisiana green velvet	Round	56	Freezing	For fresh markets, pods packed with seeds
Annie oakley (Hybrid)	Star	53	Home garden	Early okra, chilling tolerant, narrow dark green pods
North and south (Hybrid)	Star	48	Home-fresh	Highest yields in trials, large stalk, extra effort required in picking, dark green pods
Cajun delight (Hybrid)	Star	57	Home-fresh	Good yields, dark green pods, moderate plant height
Green best	Star	55	Fresh	Dark green pod, early okra, good yields
Emerald	Round	57	Canning	Semi- cut leaf, dark green pods, larger pods remain tender
Lee	Angular	48 - 58	Processing or fresh	Deep bright green pods, semi-dwarf type
Jade	Regular	56	Processing or fresh	Early, tender, dark green pods, few branches on stem
Hastings Improved Perkins	Star	50	Fresh market	Deep cut leaf
UGA Red	Star	58	Home garden	Red pod-ornamental and home use



## Annex B

Table 2 – List of pesticides used in okra production

Active ingredients	MRL level (ppm)	Brand name
1. Beta Cyflutrin	0.5	Buldock
2. Carbaryl	10	Sevin, Chopper
3. Captan	5	Captan
4. Cartap	3	Cartap, Padan
5. Carbofuran	0.5	Furadan, Dimo
6. Cartap Hydrochloride	3	Boltrin
7. Cypermethrin	0.2	Boomirang, Zoom, Guard, Magnum, Knock Out Flash, Defensa, Chix, and Smash
8. Deltamethrin	0.5	Decida, Decis - R
9. Dinotefuran	5	Oshin, Starkle
10. Dithiocarbamate	0.2	Dithane, Benlate, Biozeb, Redeem
11. Etofenprox	5	Trebon
12. Fluazifop	0.2	Onecide
13. Glyphosate	0.2	Burndown, Kleen-Up
14. Imidacloprid	5	Confidor, Climax
15. Lambdacyhalotrin	0.5	Kriss
16. Methomyl	0.5	Lynette ( Lynatta) Lannate (Lannata)
17. Malathion	8	Malathion
18. Mancozeb	0.2	Dithane M-45

The Philippine Okra Exporters made a summary list of pesticides which all the okra farmers are using during their okra production to make sure that the active ingredients used are found in the recently approved Positive Lists System in Okra by the MHLW of Japan which has been implemented on May 30, 2006.

## References

**PNS/BAFPS 39:2008**

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.

Izekor, Steve and R. W. Katayama. 1999. Okra Production Update for Small Acreage Growers. Cooperative Extension Program. University of Arkansas at Pine Bluff. United States Department of Agriculture.

PNS/ISO 874 (e): Fresh Fruits and Vegetables – Sampling

Standardization of Philippine Okra. 1969. Philippine Trade Standard 054 – 03.15.

United States Standards for Grades of Okra. 1997. United States Department of Agriculture.

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