

PHILIPPINE NATIONAL STANDARD

PNS/BAFPS 16 :2005
ICS 65.020.20

**Vegetables – Broccoli (*Brassica oleracea* L. var. *italica* Plenck) –
Grading and classification**

Foreword

The formulation of this **PNS/BAFPS 16:2005**, Philippine National Standard for Vegetables - Broccoli (*Brassica oleracea* L. var. *italica* Plenck) – Grading and classification, was initially drafted by the Bureau of Agriculture and Fisheries Product Standards (BAFPS) with reference to US Standards for Grades of Broccoli (1997) and CBT Product Grades, Packaging, Storage and Seasonality (1994).

This standard was reviewed by the BAFPS' Technical Committee prior to its presentation in a public consultation in the three major islands of the country. Comments from the stakeholders were carefully evaluated and were inputted accordingly in the final draft.

The Technical Committee created by BAFPS for this purpose was composed of experts from DA-AMAS, DA-NAFC, PHTRC-UPLB, IPB-UPLB and the Vegetables Growers Association.

Vegetables – Broccoli (*Brassica oleracea* L. var, *italica* Plenck)**Grading and classification**

1 Scope

This standard applies to fresh broccoli, *Brassica oleracea* L. var, *italica* Plenck

2 References

The titles of the standards publications referred to in this standard are listed on the inside back cover.

3 Definitions**3.1 Product definition****3.1.1****broccoli**

usually a deep green vegetable that comes in tight clusters of tiny flower buds or beads (inflorescence) that sit on stout, edible stalk

3.1.2**bunch head**

composed of stalks bound together to form a unit

3.1.3**bunch stem**

portion of the broccoli that holds the bunch head and the leaves

3.1.4**diameter**

the average measurement across the bunch head

3.1.5**stalk**

portion of the bunch head that holds the inflorescence

3.1.6**stem length**

the total length of the bunch stem measured from the top of the bunch head down to the bunch stem

3.2 Essential composition and quality factors**3.2.1 Quality factors****3.2.1.1****clean**

the beads in the bud cluster are practically free from dirt or other foreign matter, including live or dead insects

3.2.1.2

compact

individual beads in the bead cluster are generally small tightly crowded together, and the bead clusters on the stalk are generally close together and fairly and moderately resistant to pressure

3.2.1.3

fairly compact

the individual beads and bead clusters on the stalk are generally close together so that the top portion of the clusters does not have a ragged appearance or slightly yields to pressure

3.2.1.4

shape

dome shaped

3.2.1.5

trimmed

portion of the bunch stem and leaves were cut off and degree of trimming may be classified as follows:

3.2.1.5.1

closely trimmed

stem is cut no more than 3 cm from the base of the last major stalk

3.2.1.5.2

fairly well-trimmed

leaves are cut off from the stem; the stem is cut no more than 12.5 cm from the base of the last major stalk

3.2.1.5.3

well-trimmed

leaves are cut off from the stem; the stem is cut no more than 7.5 cm from the base of the last major stalk

3.2.2 Defects

Examples of broccoli with and without defect are shown in Annex A.

3.2.2.1

compression

deformation that materially affects the shape of the bunch due to bending of the flower buds as a result of physical injuries

3.2.2.2

cuts

one or more stalks in the bunch have broken off

3.2.2.3

decay

soft, mushy or water-soaked areas on any part of the bunch head or stem

3.2.2.4

discoloration of bud cluster

the appearance of the bunch is materially affected by buds which have a noticeably yellowish, brownish or reddish cast in contrast to desirable good green color. A bluish or purplish cast over the green is often the characteristic of good broccoli and shall not be considered as damage

3.2.2.5

discoloration of the leaves

the appearance of the bunch is materially affected by yellowing and/or browning of the leaves or parts of the leaves.

3.2.2.6

hollow stem

hole along the stem extending into the head bunch which may be discolored or water-soaked

3.2.2.7

insect damage

any severe feeding injury on the bunch head by pests

3.2.2.8

overmature

the appearance of the bunch head is materially affected by the presence of enlarged flower buds on the verge of opening and/or open flower buds

4 Classification

4.1 Broccoli shall be classified according to Table 1 – Size classification of fresh broccoli.

5 Grading

Fresh broccoli shall be graded according to its general appearance, quality and conditions as follows:

5.1 Grade 1 – Consists of the bunch of broccoli which meets the following requirements:

5.1.1 Bunch shall be clean and generally compact. The bunch stem must closely trimmed to well trimmed.

5.1.2 Free from damage due to:

- a) Overmaturity
- b) Discoloration of bud clusters
- c) Cuts
- d) Decay
- e) Compression
- f) Insect damage

5.2 Grade 2 – Consists of heads of broccoli which meet the requirements for the Grade 1 except that the bunch heads are fairly well trimmed to closely well trimmed, as well as for the increased tolerances for defects.

5.3 Unclassified – Consists of broccoli that has not been classified in accordance with either of the Grades.

Table 1 – Size classification of fresh broccoli

Classification	Bunch head diameter (cm)
Small	6-7
Medium	8-10
Large	11-12
Extra Large	>12

6 Tolerance

6.1 Defects

6.1.1 Grade 1

Five percent (5%) total defects.

6.1.2 Grade 2

Ten percent (10%) total defects.

7 Sampling and method of analyses

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

8 Packing

Fresh broccoli of the same variety shall be packed in plastic crate, wooden crates or carton boxes lined with polyethylene bags to protect them against mechanical damage and to facilitate handling and transport. The net weight of the commodity must be within the capacity of the container, but not to exceed 30 kg.

9 Marking

Each container shall be properly labeled using legible characters grouped on the same side, stamped to provide the following:

- 9.1** Name of the product;
- 9.2** Grade ;
- 9.3** Name and address of grower (s)/supplier(s); and
- 9.4** Net weight in kilograms.

10 Contaminants

Pesticide residues

Fresh Broccoli shall comply with the maximum residue levels established by the Codex Alimentarius Commission for this commodity.

11 Hygiene

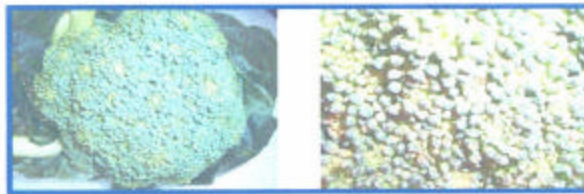
It is recommended that the produce covered by the provisions of this standard be prepared and handled in accordance with appropriate sections of the Recommended International Code of Practice General Principles of Food Hygiene (CAC/RCP 1 – 1969, Rev. 3 – 1997, Amd. (1999), and other relevant Codex texts such as Codes of Hygiene practice and Codes of Practice.

Annex A

Examples of Broccoli with and without defect



Without Defect



Over-mature



Loose Curd



Yellowing



Insect Damage

References

PNS/BAFPS 16:2005

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

CAC Vol. 2 (1993) –Pesticide Residue in Foods

CAC/RCP 1 – 1969, Rev. 3 – 1997, Amd. (1999) - Recommended International Code of Practice General Principles of Food Hygiene

PNS/ISO 874-Sampling and Methods of Analysis

US Standards for Grades of Broccoli (Revised 1997)

CBT Product Grades, Packaging, Storage and Seasonality (1994)

BPS

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