



ASEAN STANDARD FOR DURIAN (ASEAN Stan 1:2006, Rev.1-2012)

1 DEFINITION OF PRODUCE

This standard applies to commercial varieties of durian grown from *Durio spp.* of the Bombacaceae family, to be supplied fresh to the consumer.

2 PROVISIONS CONCERNING QUALITY

2.1 MINIMUM REQUIREMENTS

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

- whole with sound peduncle intact
- External appearance is fresh, free from dirt and other foreign matters, and no decay.
- Practically free from visible defects such that the internal quality is not affected
- Practically free from pests affecting the general appearance of the produce.
- Practically free from damage caused by pests.
- Free from damage caused by low or high temperature.
- Free of any foreign smell and / or taste.
- When ripe, the following abnormal pulp is not allowed: hardened pulp, tip burn and water core. If present of any or mixed the total defects must not exceed 5% of the edible portion.

2.1.1 The fruits have reached an appropriate degree of development with criteria proper to the variety and to the area in which they are grown. The fruits are able to become ripe after harvest with acceptable quality. The fruit condition is acceptable upon arrival at the place of destination.

2.2 CLASSIFICATION

Durians are classified in 3 classes defined below:

2.2.1 "Extra" class

Durians in this class must be of superior quality with characteristics of the variety. Each fruit should carry a minimum of 4 fertile locules. For varieties namely Garnyao and Gradoomtong, each fruit should carry a minimum of 5 fertile locules. Thorns should be well developed with no splitting of thorn end. They

must be practically free from defects provided these do not affect the general appearance of the produce, the internal quality, the keeping quality and presentation in the package.

2.2.1 Class I

Durians in this class must be of good quality with characteristics of the variety. Each fruit should carry a minimum of 3 fertile locules without affecting the shape of the fruit. For varieties namely Garnyao and Gradoomtong, each fruit should carry a minimum of 4 fertile locules. Thorns should be well developed with no splitting thorn end. There are very slight superficial defects which do not affect the general appearance of the produce, the internal quality, the keeping quality and presentation in the package.

2.2.2 Class II

This class includes durians which do not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in section 2.1 with characteristics of the variety. Each fruit should carry a minimum of 2 fertile locules. For varieties namely Garnyao and Gradoomtong, each fruit should carry a minimum of 3 fertile locules. There are very slight superficial defects which do not affect the durian pulp.

3. PROVISIONS CONCERNING SIZING

The weight ranges of each fruit of durian varieties¹ is found in Annex 1 of this standard. Provisions concerning size codes are defined below:

Size code	Weight per fruit (kg)
1	>4
2	>3-4
3	>2-3
4	>1-2
5	0.5-1

4. PROVISIONS CONCERNING TOLERANCES

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

¹ ASEAN Member Countries are encouraged to notify the Philippines regarding other commercial Durian varieties, including minimum and maximum weights, that they want to be included in the list. Limit to only 4-5 varieties.

4.1 QUALITY TOLERANCES

4.1.1 "Extra" Class

A maximum of 5% by number in each shipment not satisfying the requirements of the class, but meeting those of class I, or exceptionally, coming within the tolerances of class I.

4.1.2 Class I

A maximum of 10% by number in each shipment not satisfying the requirements of the class, but meeting those of class II, or exceptionally, coming within the tolerances of class II.

4.1.3 Class II

A maximum of 10% by number in each shipment not satisfying the requirements of the class, but fruit affected by rotting or fruit condition unfit for consumption is excluded.

4.2 SIZE TOLERANCES

For all classes a maximum of 10% by number in each shipment of durians corresponding to the size immediately above or below the size indicated is allowed.

5. PROVISIONS CONCERNING PACKAGING AND PRESENTATION

5.1 UNIFORMITY

The contents of the package in each shipment should be uniform of both variety and quality.

5.2 PACKAGING

Durians should be packed in such a way as to keep the produce properly. The material used inside the packages must be clean, and of a quality such as to avoid causing any damage to the produce. The use of materials, particularly of paper or stamps bearing trade specification, is allowed, provided the printing or labelling has been done with a non-toxic ink or glue.

Durian shall be packed in each container in compliance with the Recommended International Code of Practice for Packaging and Transport of Fresh Fruit and Vegetables (CAC/RCP 44-1995).

5.2.1 Description of containers

The containers shall meet the quality, hygiene and resistance characteristics to ensure suitable handling, shipping and preserving of durian. Packages must be free of all foreign matter and smell.

6. MARKING OR LABELLING

6.1 CONSUMER PACKAGES

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Rev.1-1991), the following specific provisions apply:

6.1.1 Nature of Produce

Each package shall be labeled as to the name of the produce and may be labeled as to the name of the variety and/or commercial type

6.2 NON-RETAIL CONTAINERS

Each package must bear description which indicated in documents accompanying the shipment or labels or shows on the package. The information must be legible and indelible with the following details:

6.1.1 Identification

Name and address of Exporter, Packer and/or Dispatcher, Identification code (optional)

6.1.2 Nature of the Produce

Name of the produce, variety and/or commercial type

6.1.3 Origin of Produce

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

6.1.4 Commercial Identification

- Produce name
- Variety name (optional)
- Class;
- Size;
- Number of units (optional)
- Net weight (optional)

6.1.5 Official inspection mark (optional)

7. CONTAMINANTS

7.1 PESTICIDE RESIDUES

Durian shall comply with those maximum residue limits established by the Codex Alimentarius Commission, ASEAN Harmonized MRLs of Pesticides and /or by authority for this commodity.

7.2 OTHER CONTAMINANTS

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

8. HYGIENE

8.1. It is recommended that the produce covered by 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.3-1997), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

8.2. The produce should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997)

9. METHOD OF ANALYSIS AND SAMPLING

Analytical and sampling methods to be used for ascertaining conformance to the requirements of this specification shall be in accordance with Annex 2 and/or relevant text in Codex Methods of Analysis and Sampling

References:

- Department of Agriculture – Ministry of Industry and Primary Resources, Brunei Darussalam. Durian Quality Management Manual – AAECF – Phase III:1999.
- Department of Standard Malaysia – Fresh Durian – Specification. MS 2431:2011
- Quality Assurance Systems for ASEAN Fruits Project (QASAF) – Fresh and Minimally Processed. DA – MIPR/1999. 98p.
- Hiranpradit, H., N. I. CC Ungulasatian, S. Chandraparnik and S. Jantajoo. 1992. Quality Standardization of Thai Durian, *Durio zibethinus* Murray. Acta Hortic. 321:695 -701.
- Indonesia National Standard for Durian SNI 01-3174-1998, ICS 67.080.20
- National Bureau of Agricultural Commodity and Food Standards.2003. Thai Agricultural Standard. TAS 3-2003. Ministry of Agriculture and Cooperatives. Bangkok, Thailand.
- Odtojan, Rufino C., Roman B. Armenio, Jr., Noel T. Estellena, Myrna S. Cantila and Juvy Astilla. 2000. Development of Quality Standard for Durian. RIARC, Department of Agriculture, Bago, Oshiro, Davao City.
- Pamplona, Pablito P. and Marisa E. Garcia. Technoguide to Durian Production University of Southern Mindanao (USM) and Central Mindanao Agriculture and Resources Research and Development Consortium (CEMARRDEC) 77 p.
- PNS/ISO 874:2001 (E) – Fresh Fruits and Vegetables- Sampling contains provisions which through reference in the text form part of this National Standard.
- Sonthat, Nanthachi (ed) 1994. Durian: Fruit Development, Postharvest Physiology, Handling and Marketing in ASEAN Food Handling Bureau, Kuala Lumpur, Malaysia. 156 p.

DEFINITION OF TERMS

For the purpose of this standard:

Pulp refers to aril or fleshy portion of the fruit

Hard pulp means durian pulp characteristic is hard in texture by portion(s) due to improper development of aril or uneven fruit ripening during fruit growth and development.

Tip burn means durian pulp characteristic especially the marginal end portion of aril turns brown or dark brown.

Water core or wet core means fruit core is very moist or watery and fruit pulp adjacent to the core could be affected.

Fertile locule means the external appearance of durian locule is visibly fully developed throughout the length of the fruit.

ANNEX 2**Weight Ranges of Commercial Durian Varieties² in the ASEAN Region**

Varieties	Weight (in kilograms)	
	Minimum	Maximum
Chanee	1.5	4.0
Montong	1.5	6.0
Garnyao	1.5	4.0
Gradoomtong	1.3	3.0
D24	1.0	3.0
D99	1.0	3.0
D145	1.0	3.0
D169	1.0	3.0
D197	1.0	3.0
Petruk	1.0	2.5
Sunan	1.5	3.0
Sukun	2.5	3.0
Sitokong	2.0	3.5
Matahari	2.0	4.0
D.Suluk	0.8	1.8
D. Kuning	0.5	1.5
D. Pulu	0.5	1.6
D. Sukang	0.7	1.3
Puyat	1.5	5.0
Duyayu	1.5	6.0
Arancillo	0.8	2.0
Marix	1.5	6.0
Ri6	1.5	5.0
Chin Hoa	1.5	5.0
D6	1.0	4.0
Doona	1.5	6.0
Ov Khak	1.0	4.0
San dang ket	1.0	4.0

² Durian varieties are from Brunei, Cambodia, Indonesia, Malaysia, Philippines, Thailand, Vietnam

METHODS FOR TESTING DURIAN FRUIT MATURITY

External appearance of durian fruit maturity

- (i) Peduncle springiness with high intense color and rough skin. Area around the joint between peduncle and fruit stem swells. The peduncle is strong and springy when the fruit is swayed by holding the peduncle.
- (ii) The groove between thorns becomes wider. Thorn tips are drying with brown color and are springy when squeezed.
- (iii) Lengthwise track on the husk of locule is more conspicuous with the exception of other varieties like Garnyao.

Vernacular Names of Durian

Country	Vernacular Names
Brunei Darussalam	Durian
Cambodia	Tu rian
Indonesia	Durian Lay
Laos PDR	Thurian
Malaysia	Durian
Philippines	Durian
Vietnam	Sau Rieng