



**THAI AGRICULTURAL STANDARD**

**TAS 3-2003**

**DURIAN**

**National Bureau of Agricultural Commodity and Food Standards  
Ministry of Agriculture and Cooperatives**

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Rambutan and Long Kong**

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(3)

The durian fruit is an agricultural commodity that Thailand has been producing and exporting as an important world fruit. In order to have the fruit better accepted nationally and internationally in term of food safety and export promotion. The Ministry of Agriculture and Cooperatives of Thailand encourages the establishment of a standard for durian fruits.

The provisions of this standard are based upon the information of the following document.

Office of Agricultural Commodity Standards and Inspection. B.E. 2544 (2001). Notification of the Ministry of Agriculture and Cooperatives on Thailand Standard for Durian Fruits. B.E. 2544 (2001). Notified on 29 March 2001 (B.E. 2545).

***Remark:***

The standard title has been revised from “Thai Agricultural Commodity and Food Standard (TACFS X-XXXX)” to “Thai Agricultural Standard (TAS X-XXXX)” in accordance with the application of the Agricultural Standards Act B.E. 2551 (2008).



**NOTIFICATION OF THE NATIONAL COMMITTEE ON  
AGRICULTURAL COMMODITY AND FOOD STANDARDS  
SUBJECT: THAI AGRICULTURAL COMMODITY AND FOOD STANDARD:  
DURIAN  
B.E. 2546 (2003)**

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It is appropriate to establish the national standard for durian for the benefit of quality improvement, trade facilitation and consumer protection. Therefore, the National Committee on Agricultural Commodity and Food Standards notifies the establishment of Thai Agricultural Commodity and Food Standard entitled Durian to be used as a voluntary standard as attached herewith.

Notified on 6 November B.E. 2546 (2003)

Mr. Sora-at Glinpratun

Minister of Agriculture and Cooperatives

Chairperson of the National Committee on Agricultural Commodity and Food Standards

**THAI AGRICULTURAL STANDARD**  
**DURIAN**

**1 DEFINITION OF PRODUCE**

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

**2 DEFINITIONS**

For the purpose of this standard:

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

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

2.3 *Water core or Wet core* means fruit core is very moist or watery and fruit pulp could be affected.

2.4 *Fertile locule* means the external appearance of durian locule is visibly fully filled throughout the length of the fruit.

**3 PROVISIONS CONCERNING QUALITY**

**3.1 MINIMUM REQUIREMENTS**

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

3.1.1.1 Whole with sound peduncle and there may be fruit stem intact.

3.1.1.2 External appearance is sound and no decay.

3.1.1.3 Practically free from visible defects and internal quality is not affected.

3.1.1.4 Practically free from pests affecting the general appearance of the produce.

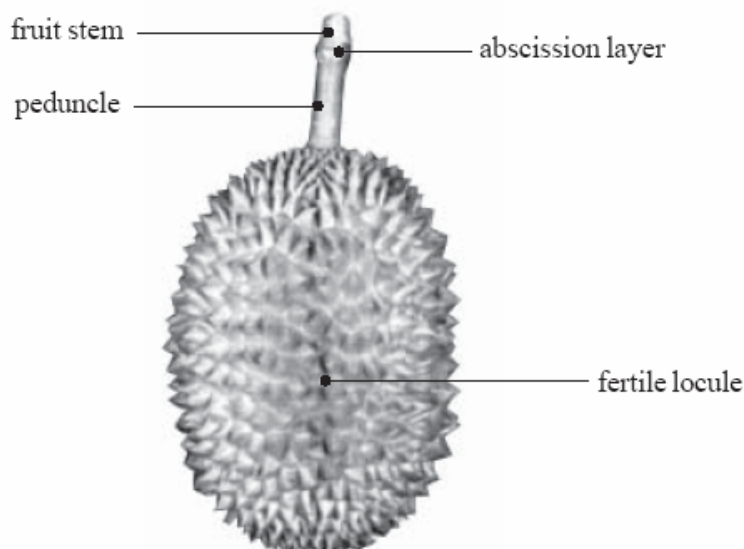
3.1.1.5 Practically free from damage caused by pests.

3.1.1.6 Free from damage caused by low or high temperature.

3.1.1.7 Free of any foreign smell and / or taste.

3.1.1.8 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.

3.1.2 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.



**Figure 1 External characteristics of a durian fruit.**

**Source:** Chantaburi Horticulture Research Center, Department of Agriculture

## 3.2 CLASSIFICATION

Durians are classified in 3 classes defined below:

### 3.2.1 “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 with the exception of Garnyao and Gradoomtong varieties which should carry 5 fertile locules.

Thorns should be well developed with no splitting of thorn end. There must be free from defects, with the exception of very slight superficial defects, provided these do not affect the general appearance of the produce, the internal quality, the keeping quality and presentation in the package.

### 3.2.2 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 with 2 infertile locules. This will not affect the shape of the fruit. However, Garnyao and Gradoomtong varieties should carry 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.

### 3.2.3 Class II

This class includes durians which do not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in section 3.1 with characteristics of the variety. Each fruit should carry a minimum of 2 fertile locules with 2 infertile locules. However, Garnyao and Gradoomtong varieties should carry 3 fertile locules and 2 infertile locules. There are very slight superficial defects which do not affect the durian pulp.

## 4 PROVISIONS CONCERNING SIZING

Each fruit of durain varieties must have the following weight:

- 4.1 CHANEE: a minimum of 1.5 kg and maximum of 4.0 kg.
- 4.2 MONTONG: a minimum of 1.5 kg and maximum of 6.0 kg.
- 4.3 GARNYAO: a minimum of 1.5 kg.
- 4.4 GRADOOMTONG: a minimum of 1.3 kg.

Provisions concerning size codes are defined below:

**Table 1 Provisions concerning durian size codes.**

Size Code	Weight per Fruit (kg)
1	> 4
2	> 3 - 4
3	> 2 - 3
4	> 1.3 - 2

## 5 PROVISIONS CONCERNING TOLERANCES

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

### 5.1 QUALITY TOLERANCES

#### 5.1.1 "Extra" Class

A maximum of 10% 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.

### 5.1.2 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.

### 5.1.3 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.

## 5.2 SIZE TOLERANCES

For all classes a maximum of 20% by number in each shipment of durians corresponding to the size immediately above or below the size indicated is allowed.

## **6 PROVISIONS CONCERNING PACKAGING AND PRESENTATION**

### 6.1 UNIFORMITY

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

### 6.2 PACKAGING

Durians should be packed in such a way as to keep the produce properly. The material used inside the packages must be new, 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.

#### 6.2.1 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.

## **7 MARKING OR LABELLING**

### 7.1 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:

#### 7.1.1 Identification

Name and address of wholesaler, packer and produce code (if any).

#### 7.1.2 Nature of the Produce

The word "Durian" and/or "Durian variety".

#### 7.1.3 Origin of Produce

Country of origin and/or location where grown within the country.

#### 7.1.4 Commercial Identification

7.1.4.1 Class;

7.1.4.2 Size;

7.1.4.3 Net weight (metric).

#### 7.2 LANGUAGE

Durian label must bear description in Thai. For export the label can be in any language.

#### 7.3 OFFICIAL INSPECTION MARK OR CERTIFICATION MARK

This shall comply with the provisions of inspection or certification body which is recognized by the Ministry of Agriculture and Cooperatives.

### 8 CONTAMINANTS

Durian shall comply with provisions in the relevant regulations and provisions concerning contaminants of the Thai Agricultural Standard.

### 9 PESTICIDE RESIDUES

Durian shall comply with provisions in the relevant regulations and provisions concerning pesticide residues of the Thai Agricultural Standard.

### 10 HYGIENE

Harvest, postharvest handling and treatments of different steps including storage and transport of durian must be hygienically carried out in order to prevent contamination which are harmful to consumers.

### 11 METHOD OF ANALYSIS AND SAMPLING

#### 11.1 METHODS FOR TESTING DURIAN FRUIT MATURITY

##### 11.1.1 External appearance of durian fruit maturity

(i) Peduncle springiness with high intense color, rough skin of peduncle. 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 Garnyao variety.

11.1.2 Internal characteristics of mature durian of each variety is indicated in Table 2

**Table 2. Internal minimum characteristics of mature durian of each variety<sup>1</sup>**

<b>Variety</b>	<b>Internal characteristics of mature durian (green durians)</b>	<b>Minimum dry weight (%)</b>
Gradoomtong <sup>2</sup>	Yellow pulp, brown seed skin	27
Chanee <sup>2</sup>	Yellow pulp, creamy-brown seed skin Yellowish	30
Montong <sup>3</sup>	white pulp, brownish cream seed skin	32

11.2 ANALYTICAL METHODS excluding Section 11.1 and sampling methods shall comply with the provisions in the relevant codes and the provisions of Thai Agricultural Commodity and Food Standard on methods of analysis and sampling.

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<sup>1</sup> equity with provisions concerning trading of durian fruit of 75% mature.

<sup>2</sup> about 4-5 days to become ripe after harvest in natural condition.

<sup>3</sup> about 6-9 days to become ripe after harvest in natural condition.