



THAI AGRICULTURAL STANDARD

TAS 1506-2008

FRESH SHIITAKE MUSHROOM

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

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Fresh Shiitake mushroom is a Thai agricultural commodity which has a potential for production due to its high nutritive value, aroma and good taste. It is continuously demanded by consumers which leads to increased production. The production is mainly for domestic market to compensate the import. However, its volume still does not meet the demand, so the mushroom has been occasionally imported in some season. Therefore it is deemed necessary for the Ministry of Agriculture and Cooperatives to establish the standard on fresh shitake mushroom so as to be reliable and recognized both domestically and internationally. More importantly, it will be of great benefits for consumer's safety as well as for export promotion.

The provisions of this standard are based upon the information of the following documents :

The Study on the Produce of Important Characteristic Indices which are used as Criteria for Quality Classification and Size Code Determination of the Mushroom Project. National Bureau of Agricultural Commodity and Food Standards B.E. 2549 (2006) in cooperation with Kasetsart University.

UNECE 2004. The UNECE Standard for Cultivated Mushroom (*Agaricus*) (UNECE STANDARD FFV-24). The United Nations Economic Commission for Europe.

Remark:

The standard title has been revised from "Thai Agricultural Commodity and Food Standard (TACFS)" to "Thai Agricultural Standard (TAS)" in accordance with the enforcement 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:
FRESH SHIITAKE MUSHROOM
B.E. 2551 (2008)**

The resolution of the 1/2551 session of the National Committee on Agricultural Commodity and Food Standards dated 11 August B.E. 2551 (2008) endorsed the Thai Agricultural Commodity and Food Standard entitled Fresh Shiitake Mushroom for the benefit of development of agricultural commodity and food which is safe and in accordance with the standard.

By virtue of the Cabinet Resolution on Appointment and Authorization of the National Committee on Agricultural Commodity and Food Standards dated 5 August B.E. 2551 (2008), the Notification on Thai Agricultural Commodity and Food Standard entitled Fresh Shiitake Mushroom is hereby issued as voluntary standard, the details of which are attached herewith.

Notified on 14 August B.E. 2551 (2008)

Mr. Somsak Prissana-nanthakul

Minister of Agriculture and Cooperatives

Chairperson of the National Committee on Agricultural Commodity and Food Standards

THAI AGRICULTURAL STANDARD

FRESH SHIITAKE MUSHROOM

1 SCOPE

This standard applies to the commercial varieties of Shiitake mushroom or black mushroom grown from *Lentinus edodes* (Berk.) Sing. or *Lentinula edodes* (Berk.) Pegler of the Tricholomataceae family to be supplied fresh.

2 QUALITY

2.1 MINIMUM REQUIREMENTS

2.1.1 In all classes, subject to the special provisions for each class and the tolerances allowed, the mushroom shall be:

- (1) whole (cap including stalk),
- (2) fresh in appearance with natural aroma,
- (3) free from rotting or deterioration such as to make it unfit for consumption,
- (4) clean, practically free of any visible foreign matter,
- (5) practically free of mushroom pests affecting the general visible appearance of the produce,
- (6) practically free of damage caused by pest affecting the general appearance of the produce, and it is acceptable by the consumer,
- (7) free of any foreign smell and/or abnormal flavor, and
- (8) free of abnormal external moisture, excluding vapor from respiration and condensation following removal from cold storage.

2.1.2 The trimming at the stalk base shall be clean and a slight discoloration of the cut surface due to storage is acceptable.

2.1.3 The mushroom shall be carefully harvested, postharvest handled, packed and transported in order to obtain the produce in acceptable condition on arrival at the destination.

2.2 CLASSIFICATION

Shiitake mushroom in this standard is classified in three classes defined below:

2.2.1 Extra Class

The mushrooms in this class shall be of superior quality. They shall be characteristics¹ of the variety, with the edge of the mushroom cap curved down, the veil under the cap is not broken. They shall be free of conspicuous defects, with the exception of defects that do not affect the general appearance of the produce, the quality, the keeping quality, and presentation in the package.

2.2.2 Class I

The mushrooms in this class shall be of good quality. They shall be characteristics of the variety, with the edge of the mushroom cap curved down, and slightly broken veil under the cap is allowed. Slight defects of this class may be allowed at 5 % in shape, color, the surface of mushroom and slight bruising scars on the surface; provided these do not affect the general appearance of the produce, the quality, the keeping quality, and presentation in the package.

2.2.3 Class II

This class includes mushrooms which do not qualify for the inclusion in the higher classes, but satisfy the minimum requirements specified in Section 2.1. Defects of this class may be allowed at 10 % in shape, color, the surface of mushroom, slight bruising, and torn scar on the stalk ; provided these do not affect the general appearance of the produce, the quality, the keeping quality, and presentation in the package.

3 SIZING

Shiitake mushroom size is determined of its diameter at the widest part of the cap, stalk length is not longer than its diameter as in the following Table 1:

Table 1 Shiitake mushroom size

Size Code	Diameter (cm)
1	> 4
2	> 3 to 4
3	> 2 to 3
4	≤ 2

The classification and provisions concerning sizing in this standard may be applied in the trade deal. The classification may be jointly implemented with the sizing provisions in order to provide the trade grading which the trading partners may call it differently. This depends on the requirements of the trading partners or the seasonal limitation.

¹ Shiitake mushroom characteristics: the mushroom consists of a cap resembling a brown-color umbrella, the cap surface is smooth or crack in pattern by nature. The cap flesh is dense of white or cream color, the stalk is creamy white or light brown. Under the cap lined with white or cream color gills.

4 TOLERANCES

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

4.1 QUALITY TOLERANCES

4.1.1 Extra Class

Not more than 5% by number or weight of the produce not satisfying the requirements of Extra Class, but meeting those of Class I or, exceptionally, coming within the tolerances of Class I.

4.1.2 Class I

Not more than 10% by number or weight of the produce not satisfying the requirements of class I, but meeting those of class II or, exceptionally, coming within the tolerances of Class II.

4.1.3 Class II

Not more than 10% by number or weight of the produce satisfying neither the requirements of Class II nor the minimum requirements, with the exception of no mushroom unfit for consumption.

4.2 SIZE TOLERANCES

For all size codes, 10% by number or weight of larger or smaller size of the class immediately above or below as indicated in Section 3.

5 PACKING AND PRESENTATION

5.1 UNIFORMITY

The contents of each package shall be uniform in respect of quality, size, and color. The visible part of shiitake mushroom in the package shall be representative of the entire contents.

5.2 PACKAGING

The shiitake mushroom shall be packed in such a way as to maintain the quality of the produce properly. The materials used inside the package shall be new, clean and of a quality such as to protect the shiitake mushroom from any damage affecting its quality. The use of materials, in particular paper or stamps bearing trade specifications is allowed, provided that the printing or labeling has been done with non-toxic ink or glue.

5.3 DESCRIPTION OF CONTAINERS

The containers shall be of good quality, hygiene, good ventilation, with the exception of closed container under temperature control, free of abnormal smell and foreign matter and have resistant characteristics to withstand transportation and preserving the produce.

6 MARKING AND LABELLING

6.1 CONSUMER PACKAGES

Each package shall bear the following particulars, legible, and without false or deceptive information.

(1) Nature of Produce

The word of “Fresh Shiitake Mushroom” shall be indicated,

(2) Class,

(3) Size and diameter, if classified by size,

(4) Net weight in gram or kilogram,

(5) Day/month/year of Packing,

(6) Producer’s and Distributor’s Information

Name and site address of producer or re-packer or distributor and operation site. Name and address of the head office of the producer or of the re-packer may be labeled. In case of import, there shall be name and site address of the importer,

(7) Origin of Produce

Indicate country of origin, except the shiitake mushroom domestically produced for local market, and

(8) Language

Label of produce shall be in Thai. Produce label for export can be in any language.

6.2 NON-RETAIL CONTAINERS

Each container shall bear statement indicated in the accompanying document, labels or displayed on the container. The statement shall be legible, indelible and without false or deceptive information as following:

(1) Nature of Produce

The word of “Fresh Shiitake Mushroom” shall be indicated,

(2) Class,

(3) Size and diameter, if classified by size,

(4) Net weight in gram or kilogram,

(5) Day/month/year of Packing,

(6) Producer’s and Distributor’s Information

Name and site address of producer or re-packer or distributor and commercial identification code (if any). Name and address of the head office of the producer or of the re-packer may be labeled. In case of import, there shall be name and site address of the importer,

(7) Origin of Produce

Indicate country of origin, except the shiitake mushroom domestically produced for local market, and

(8) Language

Label of produce shall be in Thai. Produce label for export can be in any language..

6.3 CERTIFICATION MARK

Certification mark of this standard shall be complied with criteria and conditions provided by the Committee on Agricultural Standards.

7 CONTAMINANTS

In compliance with the provisions of the relevant laws and requirements under the Thai Agricultural Standard on Contaminants.

8 PESTICIDE RESIDUES

In compliance with the provisions of the relevant laws and requirements under the Thai Agricultural Standard on Pesticide Residues: Maximum Residue Limits (TAS 9002) and Pesticide Residues: Extraneous Maximum Residue Limits (TAS 9003).

9 HYGIENE

Harvesting, handlings including storage, packing and transportation shall be hygienically practiced in order to prevent any contaminations which will be harmful to the consumer.

10 METHODS OF ANALYSIS AND SAMPLING

In compliance with the provisions of the relevant laws and requirements under the Thai Agricultural Standard on Analytical and Sampling Methods.

ANNEX A

FRESH SHIITAKE ILLUSTRATION



Figure A1 Shiitake mushroom with complete veil under the cap



Figure A2 Partly broken veil under the cap



Figure A3 Completely broken veil under the cap



Figure A4 Malformation of shiitake mushroom

ANNEX B**UNIT**

The unit and symbol used in this standard and the unit of SI (International System of Units or *Le Système International d'Unités*) recognized to be used are as follows:

Measurement	Unit	Symbols
Length	centimeter	cm