



## **ASEAN STANDARD FOR STRAW MUSHROOM** (ASEAN Stan 64: 2020)

### **1. DEFINITION OF PRODUCE**

This standard applies to commercial varieties of straw mushroom grown from *Volvariella volvacea* of the Pluteaceae family, to be supplied fresh to the consumer. Straw mushroom for industrial processing is excluded.

### **2. PROVISIONS CONCERNING QUALITY**

#### **2.1 MINIMUM REQUIREMENTS**

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

- whole;
- fresh;
- well-trimmed;
- sound, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- clean, practically free of any visible foreign matter;
- practically free of pests<sup>1</sup>;
- practically free of damage caused by pests affecting the general appearance of the produce;
- free of mechanical and/or physiological damage such as low and /or high temperature;
- free of abnormal external moisture, excluding condensation following removal from cold storage; and
- free of any foreign odour and/or taste.

The development and condition of the straw mushroom should be such as to enable them:

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

#### **2.1.1 Minimum Maturity Requirements**

Straw mushroom must have reached an appropriate degree of development in accordance with criteria proper to the variety and to the area in which they are grown.

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<sup>1</sup> Provisions for pests and damage caused by pests apply without prejudice to the applicable plant protection rules applied by governments in line with the International Plant Protection Convention (IPPC)

## **2.2 CLASSIFICATION**

Straw mushroom is classified into three classes defined below:

### **2.2.1 Extra class**

Straw mushroom in this class shall be of superior quality with a closed cap. They shall be characteristic of the commercial type and well-formed.

Straw mushroom shall be free from defects, with the exception of very slight superficial defects, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

### **2.2.2 Class I**

Straw mushroom in this class shall be of good quality with closed cap and/or the volva showing rupturing of not more than 10% of the total area of the volva or veil. They shall be characteristic of the variety and/or commercial type and well-formed.

The following defects may be allowed, provided these do not affect the general appearance of the produce, quality, keeping quality and presentation in the package:

- slight defects in shape;
- slight defects in color; and
- slight superficial bruising.

### **2.2.3 Class II**

This class includes straw mushrooms which do not qualify for inclusion in the higher classes but satisfy the minimum requirements specified in Section 2.1.

Straw mushroom in this class shall be of good quality with closed cap and/or the volva showing rupturing of not more than 20% of the total area of the volva or veil. They shall be characteristic of the variety and/or commercial type and well-formed.

The following defects may be allowed, provided these do not affect the general appearance of the produce, quality, keeping quality and presentation in the package:

- defects in shape;
- defects in color and
- slight bruising

### 3. PROVISIONS CONCERNING SIZING

Size is determined by weight in accordance with Table 1:

**Table 1: Classification of straw mushroom based on weight**

Size code	Weight (g)
1	> 40
2	20 - 40
3	< 20

### 4. PROVISIONS CONCERNING TOLERANCES

At all marketing stages, tolerances in respect to quality and size shall be allowed in each lot for produce not satisfying the requirements of the class indicated. Conformity assessment for the produce should be conducted in accordance with the relevant provisions in the *ASEAN Principles and Guidelines for National Food Control System (CAC/GL 82-2013- Principles and Guidelines for National Food Control Systems, MOD)*, *ASEAN Principles for Food Import and Export Inspection and Certification (CAC/GL 20-1995-Principles For Food Import And Export Inspection And Certification, MOD)* and/or the *Codex Guidelines for Food Import Control Systems (CXG 47-2003)*.

#### 4.1 QUALITY TOLERANCES

##### 4.1.1 Extra Class

Five percent by number or weight of straw mushroom not satisfying the requirements of the class, but meeting those of Class I or, exceptionally, coming within the tolerances of that class.

##### 4.1.2 Class I

Ten percent by number or weight of straw mushroom not satisfying the requirements of the class, but meeting those of Class II or, exceptionally, coming within the tolerances of that class.

##### 4.1.2 Class II

Ten percent by number or weight of straw mushroom satisfying neither the requirements of the class nor the minimum requirements, with the exception of produce affected by rotting or any other deterioration.

#### 4.2 SIZE TOLERANCES

For all classes, 10% by number or weight of straw mushroom not satisfying the requirements as regards sizing but falling within the size immediately above or below those indicated in Section 3.

## **5. PROVISIONS CONCERNING PRESENTATION**

### **5.1 UNIFORMITY**

The contents of each package (or lot for produce presented in bulk) shall be uniform and contain only straw mushroom of the same origin, quality and size. The visible part of the contents of the package (or lot for produce presented in bulk) shall be representative of the entire content.

### **5.2 PACKAGING**

Straw mushroom shall be properly packed in such a way as to protect the produce. The materials used inside the package shall be new, clean and of good quality such as to avoid causing any external or internal damage to the produce. The use of materials, particularly of paper or stamps bearing trade specifications is allowed, provided the printing or labelling has been done with non-toxic ink or glue.

Straw mushroom shall be packed in each container in compliance with the *Codex Code of Practice for Packaging and Transport of Fresh Fruits and Vegetables*. (CXC 44-1995).

#### **5.2.1 Description of Containers**

The containers shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the straw mushroom. Packages (or lot for produce presented in bulk) shall be free of all foreign matter and odour.

## **6. MARKING OR LABELLING**

### **6.1 CONSUMER PACKAGES**

In addition to the requirements of the *Codex General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985), the following specific provisions apply:

#### **6.1.1 Name of Produce**

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

#### **6.1.2 Origin of Produce**

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

## **6.2 NON-RETAIL CONTAINERS**

Each package shall bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside, or in the documents accompanying the shipment. For produce transported in bulk these particulars shall appear on a document accompanying the goods.

### **6.2.1 Identification**

Name and address of Exporter, Packer and/or Dispatcher. Identification code<sup>2</sup> (optional).

### **6.2.2 Name of Produce**

Name of the produce “Straw mushroom” and the commercial type if the contents are not visible from the outside. Name of the variety (optional).

### **6.2.3 Origin of Produce**

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

### **6.2.4 Commercial Specification**

- Name of Produce;
- Origin of Produce;
- Variety name (optional);
- Class;
- Size;
- Number of units (optional); and
- Net weight (optional).

### **6.2.5 Official Inspection Mark (optional)**

## **7. FOOD ADDITIVES**

No food additives are permitted in this product.

## **8. CONTAMINANTS**

**8.1** Straw mushroom shall comply with maximum residue limits for pesticides established by the ASEAN Harmonized MRLs of Pesticides and/or Codex Alimentarius Commission. In cases where the MRLs of pesticide are not included in the databases of ASEAN and Codex Alimentarius Commission, the commodity shall conform with the established MRL of the national authority.

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<sup>2</sup> The national legislation of a number of countries requires the explicit declaration of the name and address. However, in the case where a code mark is used, the reference “packer and/or dispatcher (or equivalent abbreviations)” has to be indicated in close connection with the code mark.

**8.2** Straw mushroom shall comply with the maximum levels of the *Codex General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995).

## **9. HYGIENE**

**9.1** It is recommended that the product covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the *ASEAN Good Agricultural Practices (GAP)*, *ASEAN General Principle for Food Hygiene, Recommended International Code of Practice – General Principles of Food Hygiene* (CXC 1-1969), *Code of Hygienic Practice for Fresh Fruits and Vegetables* (CXC 53-2003), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

**9.2** The product should comply with any microbiological criteria established in accordance with the *Principles and Guidelines for the Establishment and Application of Microbiological Criteria for Foods* (CXG 21-1997).

## **10. METHODS 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 relevant text in Codex Methods of Analysis and Sampling.

**References:**

ASEAN General Principle for Food Hygiene, Recommended International Code of Practice – General Principles of Food Hygiene (CXC 1-1969)

ASEAN Good Agricultural Practices (GAP).

ASEAN Harmonized MRLs of Pesticides.

ASEAN Principles and Guidelines for National Food Control System.

ASEAN Principles for Food Import and Export Inspection and Certification (CAC/GL 20-1995-PRINCIPLES FOR FOOD IMPORT AND EXPORT INSPECTION AND CERTIFICATION, MOD)

Bureau of Agriculture and Fisheries Product Standards. 2017. Philippine National Standard for Mushroom - Specifications (PNS/BAFS 195:2017)

Codex Code of Hygienic Practice for Fresh Fruits and Vegetables (CXC 53-2003)

Codex Code of Practice for Packaging and Transport of Fresh Fruits and Vegetables. (CXC 44-1995).

Codex General Standard for Contaminants and Toxins in Food and Feed (CXS 193-1995).

Codex General Standard for the Labelling of Prepackaged Foods (CXS 1-1985)

Codex Guidelines for Food Import Control Systems (CXG 47-2003).

Codex Principles for the Establishment and Application of Microbiological Criteria for Foods (CXG 21-1997).

Codex Recommended International Code of Practice – General Principles of Food Hygiene (CXC 1-1969).

Information from Malaysia, 2019.

Indonesia Nasional Standard for Fresh Straw Mushroom (SNI 6945:2013)

Thailand Agricultural Standard for Straw Mushroom (TAS 1515-2015)

UNECE STANDARD FFV-24 concerning the marketing and commercial quality control of Cultivated mushrooms. 2017

## ANNEX 1

### VERNACULAR NAMES OF STRAW MUSHROOM IN THE ASEAN REGION

Country	Vernacular Name
Brunei Darussalam	Cendawan jerami Kulat padi
Cambodia	Phset chambeung
Indonesia	Jamur merang segar
Lao PDR	Hed Fuang
Malaysia	Cendawan volvariella Cendawan jerami
Myanmar	
Philippines	Kabuteng saging
Singapore	
Thailand	Hed Fang
Vietnam	

## ANNEX 2

### DEGREE OF DEVELOPMENT FOR STRAW MUSHROOMS



Figure 1- Examples of stages of straw mushroom development in Extra Class (1 & 2), in Class I (3), and in Class II (4)

- **Extra Class** – a straw mushroom whose current growth is during the button-shaped or egg-shaped stage (stages 1 and 2).
- **Class I** – a closed-cap straw mushroom which is currently during the elongation stage with the veils which confine the cap breaking open (stage 3).
- **Class II** – a straw mushroom from the stage of growth whereby the cap has erupted from its confining veils before the mature stage (stage 4).