

## BHUTAN STANDARD

### Standard for Jam, Jellies and Marmalades



**DRAFT**

**(DOCUMENT NO: N 019)**



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#### **FOREWORD**

This Bhutan Standard for Jam, Jellies and Marmalades was developed by Sub-Committee on Food and Agricultural Products, adopted by Food and Agriculture Technical Committee and approved by the Standardization Council and endorsed by BSB Board.

## DRAFT BHUTAN STANDARD

### Standard for Jam, Jellies and Marmalades

#### 1 Scope

This standard prescribes the requirements and tests for Jam, Jellies and Marmalades offered for direct consumption and prepared not only from single fruit but also prepared from two or more fruits.

This standard also applies to those if the above products are represented as “preserve” and “conserve”.

This standard applies to Jam, Jellies and Marmalades as defined under clause 3 offered for direct consumption. The standard does not apply to:

- (a) Products when indicated for further processing,
- (b) Product intended for special dietary use,
- (c) Reduced sugar/low sugar products,
- (d) When sweetening property of product is being replaced wholly or partially by food additive sweeteners,
- (e) Products in which other foods are mixed.

#### 2 Normative References

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

CODEX STAN 212-1999

SARS 0006:2017

CODEX STAN 193-1995

BTS 21: 2017

### 3 Terms and Definitions

For the purpose of this standard the following definitions shall apply

#### 3.1 Jam

Product prepared from a suitable fruit ingredient of one or two or more types, which may be:

- a) Whole fruit, pieces of fruit, fruit pulp or fruit puree,
- b) With or without fruit juice or concentrated fruit juice as an optional ingredient;
- c) Mixed with a carbohydrate sweetener, with or without water; and
- d) Processed to a suitable consistency.

#### 3.2 Jelly

Product prepared from a suitable fruit ingredient of one or two more types of fruit, which is:

- a) practically free from suspended fruit particles,
- b) Mixed with a carbohydrate sweetener, with or without water; and
- c) Processed to a semi-solid consistency.

#### 3.3 Marmalade

A mixture brought to a suitable gelled consistency of sugars and one or more of the following products obtained from citrus fruit: puree, pulp, juice, aqueous extracts and peel.

#### 3.4 Fruit

Means all the recognized fruits and vegetables that are used in making jams, either fresh, frozen, canned, concentrated, dried or otherwise processed and/or preserved which shall be sound, wholesome and clean and of suitable ripeness but free from deterioration and containing all its essential characteristics except that it has been trimmed, sorted and otherwise treated to remove any blemishes, bruises, toppings, tailings, cores, pits (stones) and may or may not be peeled.

#### 3.5 Fruit pulp

The edible portions of the fruit, mashed or cut into pieces, but not reduced to a puree.

#### 3.6 Fruit Puree

Fruit ingredient finely divided by sieving, screening or other mechanical means.

#### 3.7 Fruit Juice

The juice obtained from fruit, fermentable but unfermented, having the characteristics color, aroma and flavor typical of the juice from the fruit from which it comes.

#### 3.8 Aqueous Extract of Fruit

The aqueous extract of fruit is which (subject to the losses necessarily occurring in proper manufacturing) contains all the water-soluble constituents of the fruit used.

### **3.9 Total Soluble Solids (TSS)**

Percent by weight of soluble solids as measured by refractrometer.

### **3.10 Pit (Stone)**

A whole pit or stone in fruits, such as cherries, that are normally pitted; or a piece of pit.

### **3.11 Weeping Jellies**

Jellies that give out water after cooling due to syneresis.

### **3.12 Sugar Crystallization**

Appearance of sugar crystals in Jam, Jellies and Marmalades.

### **3.13 Citrus Fruit**

Fruits of Citrus L. family

## **4 Essential requirements and quality factors**

### **4.1 General requirements and composition**

- 4.1.1** Jam, Jellies and Marmalades can be prepared from one or more fruits with or without added potable water.
- 4.1.2** The prepared fruit content in Jam, Jellies and Marmalades shall not be less than 45 percent by mass except for strawberry, raspberry and ginger jams when the minimum fruit content shall not be less than 25 percent by mass. When two or more fruits are used in combination, the mass of each fruit shall not be less than 10 percent of the combined fruit ingredients.
- 4.1.3** Sugars extracted from fruits (fruit sugars), fructose syrups, brown sugar or honey as defined in CODEX STAN 212-1999, SARS 0006:2017 or relevant National Standard on Honey.
- 4.1.4** Pectin derived from any fruit but limited to 1 percent.
- 4.1.5** Acidifying Agents such as citric acid, malic acid and lactic acid. Tartaric acid, if used shall not exceed 600 parts per million.
- 4.1.6** The total soluble solids content for finished product shall be minimum 65 % or greater.
- 4.1.7** Sulphur dioxide and other suitable sulphites if used, the residual sulphur dioxide should not exceed 40 parts per million. Benzoic acid if used shall not exceed 200 parts per million.
- 4.1.8** Permitted food grade colors, if added may not exceed 200mg/kg.
- 4.1.9** Permitted fruit flavors and other permitted food additives may be added as per relevant National Standard on Food Additives.

### **4.2 Quality factors**

#### **4.2.1 General requirements**

The end product shall be of an appropriate gelled consistency, having normal color and flavor appropriate to the type or kind of fruit ingredient used in the preparation of the mixture, while taking into account any flavor imparted by optional ingredients or any permitted coloring agents used. It shall be free from defective materials normally associated with fruits. Jelly and extra jelly shall be reasonably being clear and transparent. Marmalades shall have a uniform suspension of peel. The end products should not be sticky, syrupy or gummy. The products should not be weeping.

- 4.2.2** In case of Jam TSS shall not be less than 68 Degree Brix and not less than 65 Degree Brix in Jellies and Marmalades.

#### **4.2.3 Defects and allowances for Jam**

The products covered by this standard shall be largely free of defects such as plant material skins (if peeled), pits (stones) and mineral matters. In the case of berry fruits, dragon fruit and passion fruit, seeds shall be considered a natural fruit component and not a defect unless the product is presented as “seedless”.

#### **4.2.4 Classification of defectives**

A container that fails to meet one or more of the applicable quality requirements as set out in sub-clause 4.2.3 should be considered as “defective”.

#### **4.2.5 Microbiological requirement**

The products shall be free from microorganism capable of development under normal conditions of storage and shall not contain substances originating from microorganisms which may represent a hazard to health.

#### **4.1.6 Contaminants**

- a.** The products covered by this standard shall comply with the maximum levels of the Codex General Standard for contaminants and toxins in food and feed (CODEX STAN 193-1995).
- b.** The products covered by this standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.



## **5. Hygiene**

It is recommended that the products covered by the provisions of this Standard be prepared in accordance with the National Standards on Food Hygiene (BTS 21: 2017)

## **6. Sampling and Testing**

**6.1** Methods of sampling shall be carried out as described in annexure A

**6.2** Determination of fill of container shall be carried out as described in annexure B.

**6.3** The total soluble solid (TSS) of the products can be measured by refractrometer (digital or hand refractrometer)

## **7 Packaging and labeling**

**7.1** The product shall be packed in hygienic, clean, dry and suitable containers so as to avoid any changes in its properties. The containers shall be properly sealed and shall not be buckled or dented.

**7.2** For fill of container, when the product is packed in a rigid container (e.g. glass containers and metal containers), the product shall occupy not less than 90% of the water capacity of the container as determined by the method in annexure B. The water capacity of the container is the volume of distilled water at 20 degree Celsius which the sealed container will hold when completely filled.

**7.3** The product shall be further identified by the name of fruit ingredient when prepared from single fruits. If more than one fruit is used, the product is identified as a mixed fruit product and shall be labeled accordingly.

**7.4** Each product package shall be marked or labeled with the following information:

- (a)** Name of the product with brand name if any.
- (b)** Indication of the source of manufacture. Net content in grams
- (c)** Month and year of manufacture
- (d)** Batch or code number if any
- (e)** List of ingredients in descending order
- (f)** List of additives if used. If the preservative is added the word "contain permitted preservatives" shall be written on the label.
- (g)** Date of expiry or best before
- (h)** Allergen information should be provided if any
- (i)** Nutrition Information Panel (NIP)

## **Annexure A**

### **(Clause 6.1)**

#### **Sampling**

**A1** All containers in a single consignment drawn from a single batch of manufacture shall constitute a lot. If a consignment is declared to consist of different batches of manufactures, the batches shall be grouped separately and the containers in each group shall constitute a separate lot.

**A2** Unless otherwise specified, the number of the containers to be taken for each lot as samples shall be agreed upon between purchaser and retailer.

## **Annexure B**

### **(Clause 6.2)**

#### **Determination of fill of container**

##### **B1 SCOPE**

This method applies to glass containers.

##### **B2 DEFINITION**

The water capacity of a container is the volume of distilled water at 20 °C which the sealed container will hold when completely filled.

##### **B3 PROCEDURE**

**B3.1** Select a container which is undamaged in all respects.

**B3.2** Wash, dry and weigh the empty container.

**B3.3** Fill the container with distilled water at 20 °C to the level of the top thereof and weigh the container thus filled.

##### **B4 Calculation and expression of results**

Subtract the weight found in B3.2 from the weight found in B3.3. The difference shall be considered to be the weight of water required to fill the container. Results are expressed as ml of water.

## **BIBLIOGRAPHY**

MS 596: 2011 Malaysian Standard on Jams, Jellies and Marmalades- Specifications (First Revision)

CODEX STAN 296-2009 Codex Standard for Jams, Jellies and marmalades

IS 5861 (1993) : Jams, Jellies and Marmalades (FAD 10: Processed Fruits and Vegetables)

DJS 261 : 2017 Draft Jamaican Standard Specification for Jams, Jellies and Marmalades

GSO 640/2011 Draft Gulf Standard Jams, Jellies and Marmalades

ISO 12824: 2016 Royal Jelly-Specifications

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