

# **BHUTAN STANDARD FOR HOME PROCESSED VEGETARIAN PICKLE**

## **1. PREAMBLE**

This standard is issued pursuant to the Food Rules and Regulations of Bhutan 2007. This standard is based mainly on the Codex standard for pickled fruits and vegetables (CODEX STAN 260-2007).

## **2. SCOPE**

The products covered by this standard include homemade pickles available in the market such as chilli, mango, bamboo shoot, gooseberry, tomato, lime, ginger, radish, garlic and mushrooms.

## **3. DESCRIPTION**

### **3.1 Product Definition**

Pickled fruits and vegetables is the product:

- a. Prepared from sound, clean and edible fruits and/or vegetables, with or without seeds, spices, aromatic herbs and/or condiments
- b. Processed or treated to produce an acid or acidified product preserved in salt, sugar through natural fermentation. Depending on the type, appropriate ingredients are added in order to ensure preservation and quality of the product
- c. Processed in an appropriate manner, before or after storing them in a container, so as to ensure the quality and safety as well as to prevent spoilage
- d. Packed with or without a suitable liquid packing medium (e.g., oil, brine or acidic media such as vinegar) to ensure an equilibrium pH of less than 4.6

## **4. ESSENTIAL COMPOSITION AND QUALITY FACTORS**

### **4.1 Composition**

#### **4.1.1 Ingredients**

Fruits and vegetables and liquid packing medium when appropriate, as defined earlier, in combination with one or more of the other permitted ingredients such as onion, garlic, ginger, sugar, edible vegetable oil, green or red chillies, spices, spice extracts/oil, lime juice, vinegar/ acetic acid, citric acid.

## **4.2 Quality Criteria**

- a. The product shall have colour, flavour, odour and texture characteristic of the product
- b. It shall be free from blemishes - means any characteristic including, but not limited to, bruises, scab, and dark discolouration, which adversely affects the overall appearance of the product
- c. It shall have no harmless extraneous material- means any vegetable part (such as, but not limited to, a leaf or portion thereof, or a stem) that does not pose any hazard to human health but affects the overall appearance of the final product
- d. It shall be free from copper, mineral acid, alum, synthetic colours and shall show no sign of fermentation
- e. It shall be free from any visible mold layer

### **4.2.1 Other Quality Criteria**

#### ***4.2.1.1 Pickled fruits and/or vegetables in edible oil***

The percentage of oil in the product shall not be less than 10% by weight. Fruits and vegetable pieces shall practically remain submerged in oil.

#### ***4.2.1.2 Pickled fruits and/or vegetables in brine or an acidic medium***

The percentage of salt in the covering liquid or the acidity of the media shall be sufficient to ensure the keeping quality and proper preservation of the product.

## **5. PERMITTED FOOD ADDITIVES**

### **5.1 Preservatives**

- a. Benzoic acid and its sodium or potassium salt or both calculated as benzoic acid : 250 ppm maximum
- b. Sulphur dioxide: 100 ppm maximum

## **6. LIMIT FOR CONTAMINANTS**

### **6.1 Pesticide Residues**

The products covered by the provisions of this standard shall comply with those maximum pesticide residue limits established by the Codex Alimentarius Commission for these products and the standard for contaminants, food additives and adulterants.

### **6.2 Microbiological Contaminants**

- |                      |                     |
|----------------------|---------------------|
| a. Mould count       | absent in 25gm/ml   |
| b. Total plate count | maximum 1000/gm     |
| c. Coliform count    | absent in each gram |

### **6.3 Other Contaminants**

The products covered by the provisions of this standard shall comply with those maximum levels for contaminants established by the Codex Alimentarius Commission for these products and the standard for contaminants, food additives and adulterants.

## **7. HYGIENE**

### **7.1 Hygienic Requirements**

The material shall be prepared and handled under strict hygienic conditions by persons free from contagious and infectious diseases and only in premises maintained in thoroughly clean and hygienic conditions, having adequate and safe water supply, and duly approved and licensed by the concerned authorities. All workers shall use clean and washed clothing. Necessary precautions shall be taken to prevent incidental contamination of the product from soiled equipment or from personnel suffering from injuries.

7.2 All equipment coming in contact with raw materials or products in the course of manufacture shall be kept clean. An ample supply of steam and water, hoses, brushes and other equipment necessary for proper cleaning of machinery and equipment shall be available. The equipment may be sterilized by immersing in or swabbing with hypochlorite solution or other suitable chlorine solution.

## **8. PACKAGING**

Pickles need to be packaged preferably in bottles with tight caps. High density food grade polythene pouches of 300 gauge may be used. The HDPE pouches shall be packed in suitable cases sufficiently strong to withstand rough handling during transit.

## **9. LABELLING**

- 9.1 The product shall be appropriately labelled as per the Bhutan Standard for Labelling of Prepackaged Foods.
- 9.2 Pickled fruits and/or vegetable shall be labelled according to the type and in combination with the name of the major ingredient. For example, a pickle made from ginger shall be labelled as “*Pickled Ginger in Brine.*”