

# BHUTAN STANDARD FOR BHUTAN RED RICE

## 1. PREAMBLE

This standard is issued pursuant to the Food Rules and Regulations of Bhutan 2007. This standard is based mainly on the Codex General Standard for Rice (CODEX STAN 198-1995).

## 2. SCOPE

This standard applies to red rice varieties grown in Bhutan.

## 3. DESCRIPTION

**3.1 Bhutanese red rice** is a unique medium-grain red japonica and indica variety of rice oryza sativa linn. grown in the Kingdom of Bhutan. Both bold and slender varieties are found.

3.2 Matshob – best taste with the right degree of milling.

Officially notified varieties of red rice include – Bajo maap I, Bajo maap II, Khangma map, Yusi Rey Maap 1 and Yusi Rey Maap 2. It is semi milled; some of the reddish bran is left on the rice. When cooked, the rice is pale pink, soft and slightly sticky. When paddy is hulled, the reddish bran and germ is retained and it is not polished. When cooked the red colour fades to pink.

## 4. DEFINITIONS

**4.1 Broken rice** - Kernels of rice which are less than three-fourths the size of whole kernels.

**4.2 Chalky kernels** - Whole or large broken kernels of rice which are one-half or more chalky. Chalky means whitish chalky appearance of kernel nearly half the size with brittle in texture.

**4.3 Damaged rice**- Unsound kernels, whole or broken, distinctly discoloured or damaged by insects, fungi, water and by any other means.

**4.4 Red rice** - Whole or large broken kernels of rice on which there is an appreciable amount of red barn.

**4.5 Degree of milling** - Determines how well kernels have been polished and dehusked.

**4.6 Discolored kernels** - Discolored appearance of kernel from original colors as a result of heating and exposure to other agent.

**4.7 Foreign matters** - Presence of matters other than specific commodity is regarded as foreign matters.

**4.8 Other varieties:** Varieties other than specified varieties.

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

### **5.1 Quality factors – general**

5.1.1 Rice shall be safe and suitable for human consumption.

5.1.2 Rice shall be free from abnormal flavours, odours, living insects, mites and colouring matter.

### **5.2 Quality factors – specific**

5.2.1 **Moisture content** - 12% m/m max (obtained using moisture meter).

5.2.2 **Foreign matter** - Not more than 1 percent by weight of which not (extraneous matter organic and inorganic components other than kernels of rice) more than 0.25 percent by weight shall be mineral matter and not more than 0.10 percent by weight shall be impurities of animal origin.

5.2.2.1 **Filth** - impurities of animal origin (including dead insects) 0.1% m/m max

5.2.2.2 **Other organic extraneous matter** such as foreign seeds, husk, bran, fragments of straw, etc. shall not exceed the following limits:

Maximum level - Husked Rice	1.5% m/m
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Milled Rice	0.5% m/m
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5.2.2.3 **Toxic or noxious seeds**

The products covered by the provisions of this standard shall be free from the following toxic or noxious seeds in amounts which may represent a hazard to human health.

- a. *Echinochloa cras-gallis*
- b. *Monochoria vaginalis*
- c. *Cyperus* sp.
- d. *Potamogeton distinctus*

5.3 It shall also conform to the following standards, namely:—

a. Damaged grains	Not more than 5 percent by weight
b. Broken grains	May not exceed 20 percent by weight
c. Other varieties of rice other than Bhutan rice	Not more than 5 per cent
d. Paddy count (per Kg)	30 grains
e. Discoloured grains/black tip grains	Not more than 5 percent
f. Chalky grains	Not more than 4 percent
g. Weevilled grains	Not more than 3-5 percent
h. Uric acid	Not more than 100 mg per kg.

Provided that the total of foreign matter and damaged grains shall not exceed 6 per cent by weight

## 6. CONTAMINANTS

6.1 **Aflatoxin** - Not more than 10 micrograms per kilogram.

### 6.2 **Heavy metals**

The grains shall be free from heavy metals in amounts which may represent a hazard to human health.

### 6.3 **Residues of crop protectants**

The limit for the following pesticides/weedicides are prescribed

i. Chloropyrifos	0.5mg/kg
ii. Cypermethrion	2.0mg/kg
iii. Butachlor	0.5 mg/kg

Rice shall comply with those maximum residue limits established by the Codex Alimentarius Commission for rice.

## 7. HYGIENE

7.1 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 *Recommended International Code of Practice – General Principles of Food Hygiene* (CAC/RCP 1-1969), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

7.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

## **8. PACKAGING**

Rice shall be packed in packages which prevent deterioration during transport and storage.

## **9. LABELLING PROVISIONS**

Rice shall be labelled as “Rice Grown in Bhutan” and conform to the provisions of the standard for labelling of pre-packaged foods.