

**BHUTAN STANDARD**

**Coffee Bean**



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**BHUTAN STANDARDS BUREAU**

**The National Standards Body of Bhutan**

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## **NATIONAL FOREWORD**

Bhutan Standards Bureau (BSB) is a National Standards Body (NSB) of Bhutan. This standard for Coffee Bean was developed by Subcommittee on Tea (SC02) under Bhutan Standards Bureau after the draft finalization by the Food and Agriculture Technical Committee, TC 02 and approved by the Bhutan Standards Bureau Board (BSB Board) on date Month Year.

This standard specifies requirements for grading, packaging and labelling for Coffee Bean. This standard is drafted in accordance with the BSB Rule for Structure and Drafting of Bhutan Standards, 2018. Some of the elements of this standard may be the subject of copyrights.

This standard is subject to systematic review after five years to keep pace with the market trends, industrial and technological developments. Amendments are issued to standards as the need arises on the basis of comments.





## BHUTAN STANDARD

### Coffee Bean

#### 1 Scope

This standard applies to dried coffee beans of commercial varieties of *Coffea arabica* L. and *Coffea robusta* L. (*Coffea canephora*) for human consumption after processing.

#### 2 Normative References

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

BTS 139: 2019 SARS 00014: 2018 *Bhutan Standard for Food Hygiene-General Principles-Code of Practice*.

BTS 268:2020 CODEX STAN 1-1985, *General Standards for the Labelling of Prepackaged Foods*

BTS 271 CXS 192 *General standard for food additives*

#### 3 Terms and Definition

For the purposes of this document, the following terms and definitions shall apply:

##### 3.1 Whole Bean

coffee beans are complete and not crushed or fragmented.

##### 3.2 Black Bean

coffee beans has black colour inside or external or partially (more than 1/2).

##### 3.3 Off-odour Bean

Fermented bean, acrid, ~~sour taste~~ or foreign odour.

##### 3.4 Mouldy Bean

coffee beans has mould internal or external.

##### 3.5 Broken Bean

Broken bean less than half coffee bean.

##### 3.6 Immature Bean

Abnormal shape, lightweight bean, wrinkled bean.

##### 3.7 Infested Bean

Bean with holes bored by insects.

##### 3.8 Dried Cherry

Dried coffee cherries or semi husk coffee.

##### 3.9 Foreign Matter

All organic or inorganic matter including coffee husk and parchment other than the coffee bean unintentionally added.

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## 3.10 Total Defects

Weight of total defect (Black bean, mouldy bean, broken bean, immature bean, infested bean, dried cherries and foreign matter).

## 4 General Requirement

### 4.1 Minimum Requirement

The produce shall be:

- 4.1.1 Whole
- 4.1.2 characteristics of varieties
- 4.1.3 dry with not more than 12 % moisture content
- 4.1.4 clean, practically free from any visible foreign matter
- 4.1.5 sound, free from defects and deterioration in quality that may make it unfit for brewing
- 4.1.6 practically free of physical damage
- 4.1.7 practically free of abnormal external moisture
- 4.1.8 free from mycotoxin (ochratoxin A)
- 4.1.9 practically free from pests and damage caused by them affecting the general appearance of the produce
- 4.1.10 free of any foreign smell and/or taste

4.2 Coffee cherries shall be harvested and have reached an appropriate degree of maturity, in accordance with the variety, season and the area in which they are grown.

4.3 The development and condition of the dried coffee bean shall be such as to enable them to arrive in satisfactory condition at the place of destination.

### 4.4 Uniformity

The content of each package or lot shall be uniform and contain only coffee beans of the same origin, variety, quality and size. The visible part of the content of each package or lot shall be representative of the entire content.

## 5 Classification

Classification of coffee beans shall be based on the percentage of defects contained in a 300 - gram sample.

Dried coffee bean is classified in three classes as defined below:

### 5.1 Extra Class

- 5.1.1 Dried coffee beans in this class shall be of superior quality.
- 5.1.2 It shall be practically free of defects provided these do not affect the general appearance of the product, the quality, the keeping quality and presentation in the package.
- 5.1.3 The total allowable of defects shall not be more than 7%.

## 5.2 Class I

5.2.1 Dried green coffee beans in this class shall be of good quality.

5.2.2 The following defects in table\_1 however, may be allowed, provided these do not affect the general appearance of the product, the quality, the keeping quality and presentation in the package.

5.2.3 The total allowable defects should not be more than 15%.

## 5.3 Class II

5.3.1 Dried green coffee beans in this class do not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in clause 5 above.

5.3.2 The following defects in tabke\_1 however, may be allowed provided the coffee bean retains its essential characteristics as regards the quality, the keeping quality and presentation.

5.3.3 The total allowable defects should not be more than 25%.

## 6 Provisions Concerning Tolerances

Tolerances in respect of quality and size shall be allowed in each package (or in each lot for produce presented in bulk) for produce not satisfying the requirements of the class indicated.

### 6.1 Quality Tolerance

Table 1: Quality Tolerance as per the percentage per defect

Type of Defect	Percentage of Defect by Weight		
	Extra Class	Class I	Class II
Black Bean	<4.0	4.0-6.0	>6.0 – 15.0
Mouldy (Other than mycotoxin producing mould) and infested bean	<5.0	5.0-6.0	>6.0-8.0
Immature bean	<2.0	2.0-3.0	>3.0-8.0
Broken bean	<3.0	3.0-5.0	>5.0-10.0
Dried Cherries	<0.5	0.5-1.0	>1.0-2.0
Foreign matter	<1.0	1.0-1.5	1.5-2.0
Total allowable for defects	7.0	15.0	25.0

### 6.2 Grading

Bean size is determined by passing the ~~green~~ coffee beans over a perforated screen, which retains beans of a certain size while letting smaller beans pass through. The screen size is given in terms of 1/64 of an inch, where screen size 10 is 10/64 of one inch, screen size 12 is 12/64 of one inch, and so forth.

Screen sizes are also given in metric units below.

Table 2- Size classification for green coffee beans

Size Code	Screen Number	Bean size (mm)
1	10	4
2	12	4.75
3	13	5
4	14	5.6
5	15	6
6	16	6.3
7	17	6.70
8	18	7.10
9	19	7.5
10	20	8

Note 1- For Bean size above 8mm will fall under size code 10

### **6.3 Size Tolerance**

For all classes, 10% by weight for beans corresponding to the size immediately above and/or below that indicated on the package.

## **7 Packaging**

7.1 Green Coffee bean shall be properly packed in such a way as to protect the produce. The materials used inside the package shall be clean and of food grade quality such as to avoid causing any external or internal damage to the produce.

7.2 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.

## **8 Labelling**

The labelling shall be in accordance with BTS 268: 2020 CXS 1-1985 Bhutan Standard for the labelling of Prepackaged Foods.

## **9 Sampling**

Sampling shall be carried out according to internationally accepted methods or national methods recognized internationally.

## **10 Contaminants**

### **10.1 Pesticide Residues**

The product shall comply with those maximum residue limits established by the available Codex Alimentarius Commission or relevant national regulations on pesticide residues.

## 10.2 Heavy Metals

Green Coffee beans shall comply with maximum residual levels of heavy metals as given in table\_1.

Table 1 -Heavy Metal Requirements for Coffee Bean

Sl. No	Test Parameters	Maximum Residual Limits	Recommended Test Methods
1	Lead	0.1 mg/l	AOAC
2	Cadmium	0.05 mg/l	AOAC
3	Zinc	5 mg/l	AOAC

The test methods are recommended but laboratories may use any validated methods.

## 11 Food Additives

Permissible food additives and preservatives may be added within the permissible level in accordance with BTS 271 CXS 192 *General standard for food additives*.

## 12 Hygiene

The product shall be prepared and handled in accordance with the BTS 139: 2019 SARS 0014: 2018 Bhutan Standard on Food Hygiene - General Principles - Code of Practice or relevant national regulations.

**Bibliography**

- [1] ASEAN STANDARD FOR COFFEE BEAN
- [2] Philippines National standard for Green Coffee Beans-Specification
- [3] EAST AFRICAN STANDARD Green coffee beans – Specification
- [4] IS 7236 : 2013 COFFEE AND COFFEE PRODUCTS — VOCABULARY
- [5] IS 3581: 2019 Green Coffee — Specification

## Annex A

Defects  
(Normative Reference)



Figure 1 Black Bean

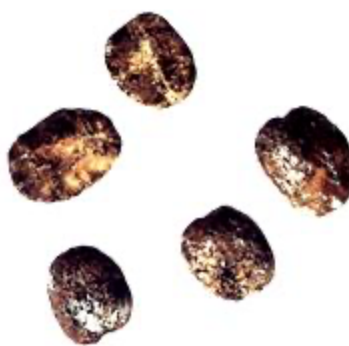


Figure 2 Mouldy bean



Figure 3 Broken bean



Figure 4 Dried cherries



Figure 5 Infested bean

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