

(Dzongkha Title)

DRAFT BHUTAN STANDARD

Buckwheat Grain



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DRAFT BHUTAN STANDARDS FOR PUBLIC COMMENTS

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FOREWORD

This Bhutan Standard for buckwheat grain was adopted by Bhutan Standards Bureau after the draft finalized 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 is subjected to systematic review after five years to keep pace with the market trends, industrial and technological developments. Any suggestions and further information may be directed to the concerned Technical Committee.

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Introduction

Buckwheat (*Fagopyrum spp*) is a pseudo cereal that belongs to the family Polygonaceae and is one of the important cereals among the nine traditional cereals (Drunga ghu) grown in Bhutan. There are two types of commonly grown buckwheat, sweet buckwheat (*Fagopyrum esculentum*) and bitter buckwheat (*Fagopyrum tataricum*). The grains are gluten free and considered as a nutrient dense food. The most common dietary use of buckwheat in Bhutan are for processing flour (*Bokpi*), noodles (*putang*) and snacks. The young shoots of buckwheat are also eaten as vegetables and dried straws are used as cattle feeds.

The use of standard remains voluntary and when referenced by regulatory authorities as a basis for legislation, the standards become mandatory.

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BHUTAN STANDARD**Buckwheat Grain****1 Scope**

This Bhutan Standard specifies the requirements for both sweet buckwheat (*Fagopyrum esculentum*) and bitter buckwheat grain (*Fagopyrum tataricum*) intended for human consumption.

This Bhutan Standard does not apply to any product prepared from buckwheat grain.

2 Normative References

The following 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 amendments) applies.

ISO 24333: 2009 *Cereals and cereal products — sampling*

CXS 193-1995 *General Standards for Contaminants and Toxins in Food and Feed*

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

BTS 268: 2020 CXS 1-1985 *Bhutan Standard for the Labelling of Prepackaged Foods*.

BTS 291 ISO 712:2009 *Cereals and cereal products — Determination of moisture content — Reference method*

3 Terms and Definitions

For the purpose of this standard, the following terms and definitions shall apply;

3.1 Appearances

The characteristics of the produce when inspected visually, such as sizes, shapes, and others.

3.2 Buckwheat Grain

Are the seeds of buckwheat plants in its natural form for human consumption.

3.3 Contaminant

Contaminant means any biological or chemical agent, foreign matter not intentionally added which may compromise food safety or suitability.

3.4 Extraneous Matters

All organic and inorganic matter other than the produce.

3.5 Immature Grain

Are the seeds of buckwheat which are not fully developed, light in weight and greenish in color.

4 Quality Factors**4.1 Quality Factors - General**

The produce shall meet the following general requirements as listed below:

4.1.1 Shall have the characteristic colours and appearances

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4.1.2 Shall be free from objectionable odours

4.1.3 Shall be free from living or dead insects and/or its parts

4.1.4 Shall be free from extraneous matter as specified in **table 1**.

4.2 Quality Factors - Specific

4.2.1 The produce shall conform to the following specific quality factors as specified under **table 1**;

Table 1 – Quality Factors-Specific

S/N	Parameters	Limit	Recommended Test Methods
1	Moisture	13-15%	BTS 291 ISO 712: 2009
2	Extraneous Matter other than stones, max	1.0 %	Visual Examination
3	Stones, Max	0.03%	Visual Examination
4	Immature Grains, max	1.5 %	Visual Examination

4.2.2 The test methods are only recommendation and laboratories may use any validated method of analysis.

5 Contaminants

5.1 Heavy Metal

The produce shall be free from heavy metals limits established by the General Standards for Contaminants and Toxins in Food and Feed (GXS 193-1995) or relevant national regulations.

5.2 Pesticide Residues

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

5.3 Mycotoxins

The produce shall be free from Mycotoxins in amounts which may represent a hazard to health. If present, it shall not exceed the limits specified in **table 2**;

Table 2 – Mycotoxins

S/N	Parameter	Limit, Max (mg/kg)
1	Total Aflatoxin (B1, B2, G1, G2)	0.005

5.4.1 Laboratories may use any validated method of analysis.

6 Hygienic Requirement

The produce 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.

7 Storage

- 7.1** The produce shall be stored in a clean, hygienic, and food grade container.
- 7.2** The packing material and the packed produce shall be stored in a dry, cool and away from the direct sun exposure.
- 7.3** Suitable pest and rodent control program shall be in place and be effective to ensure that there are no signs of pest infestation.
- 7.4** Suitable waste management and waste disposal shall be in place.

8 Sampling

Sampling shall be carried out in accordance with ISO 24333 or any internationally accepted methods.

9 Packaging

9.1 Packing Material

- 9.1** The produce shall be packed in a clean and airtight food grade packing materials which will safeguard the hygienic and nutritional qualities of the produce.
- 9.2** The packing material shall be made of substances which are safe and suitable for their intended use.
- 9.3** When the produce is packed in sacks, they shall be thermoplastic lined, clean, sturdy and properly sewn or sealed.

9.2 Labelling

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

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