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DRAFT BHUTAN STANDARD

Bhutanese Sichuan Pepper - Specification



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BHUTAN STANDARDS BUREAU

The National Standards Body of Bhutan

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FOREWORD

This Bhutan Standard for Bhutanese Sichuan Pepper - Specification 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 Governing Board (BSB Governing 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.

Introduction

The Sichuan Pepper is the aromatic berries harvested and dehydrated from the prickly ash shrubs of *Zanthoxylum* locally called Thingye in Bhutan that are popularly used as traditional spices in Bhutanese delicacies. The main part of this spice include their berries, seed and small parts of stalks either as whole or crushed. This Spice has the distinctive aromatic smell and flavour characteristics of being numbing and tingling sensation in mouth. There exist 250 species of *Zanthoxylum* varieties globally. However, in Bhutan there are only two types of Sichuan Armatica commonly called Singchu Thingye that are slightly bigger berries grown wildy in temperate regions and Menchu Thingye that are smaller and round berries found in the subtropical regions of Bhutan. In recent years, these two varieties have been increasingly cultivated by farmers both for household consumption and as a source of income through export.

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Bhutanese Sichuan Pepper - Specification

1 Scope

This standard shall apply to the requirements for Sichuan Pepper with seed (*Zanthoxylum armatum*) in both dehydrated and crushed form.

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 948:1980 *Spices and condiments — Sampling*.

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*.

3 Terms and Definition

For the purpose of this standard, the following terms and definition shall apply:

3.1 Crushed Sichuan Pepper

Sichuan pepper berries that have been subjected to mechanical or physical force to break them down into smaller particles, without a specified degree of fineness. The resulting product may range from coarse fragments to fine powder, including any intermediate crushed form.

3.1 Extraneous Matter

All organic or inorganic matter other than the product unintentionally added. For example - dirt, mold growth, insect infestation, etc., except components originating from product specifically stalks.

3.2 Food additives

Any substance not normally consumed as a food by itself and not normally used as a typical ingredient of the food, whether or not it has nutritive value, the intentional addition of which to food for a technological (including organoleptic) purpose in the manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food results, or may be reasonably expected to result (directly or indirectly), in it or its by-products becoming a component of or otherwise affecting the characteristics of such foods. The term does not include contaminants or substances added to food for maintaining or improving nutritional qualities.

3.4 Primary packaging

The layer of packaging in immediate contact with the product.

4 Quality Factors

4.1 Quality Factors - General

The product shall meet the following general requirements:

4.1.1 Shall have characteristic aroma and taste of Sichuan Pepper considering the geo-climatic factor/conditions.

4.1.2 Shall be safe and suitable for intended human consumption.

4.1.3 Shall be free from any extraneous matter.

4.1.4 Shall be free from any foreign flavor, especially from mustiness.

4.2 Quality Factors - Specific

4.2.1 The product shall conform to the following chemical compositional requirements as specified under **table 1**;

Table 1 – Quality Factors-Specific

S/N	Parameter	Dried Sichuan Pepper	Crushed Sichuan pepper	Recommended Test Method
		Limit (%)	Limit (%)	
1	Moisture, Max	<12	<12	AOAC 969.38B
2	Total Ash on dry basis, Max	<6	<6	AOAC 950.49
3	Acid Insoluble Ash on dry basis, Max	<1	<1	ISO 930:1997
4	Non- volatile ether extract, Min	>6	>6	ISO 1108:1992,
5	Volatile oil Content, Min	>3	>3	AOAC 962.17
6	Extraneous matter (stalks), Max	<2	<2	ISO 927:2009

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

5 Contaminants

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

5.1 Heavy Metal

The product shall be free from heavy metals in amounts which may represent a hazard to health. If present, they shall not exceed the limits specified in **table 2**;

Table 2- Heavy metal limit

S/N	Parameter	Dried Sichuan Pepper	Crushed Sichuan pepper	Recommended Test Method
		Limit (mg/kg), max	Limit (mg/kg), max	
1	Lead (pb)	0.1	0.1	IS 2860
2	Arsenic (As)	0.1	0.1	IS 2860

5.2 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.

5.3 Mycotoxins

The product 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 3**;

Table 3 – Mycotoxins

S/N	Parameter	Dried Sichuan Pepper	Crushed Sichuan pepper	Recommended Test Method
		Limit ($\mu\text{g/kg}$), <i>max</i>	Limit ($\mu\text{g/kg}$), <i>max</i>	
1	Total Aflatoxin	10	10	IS 16287
2	Aflatoxin B1	5	5	IS 16287

5.4 Microbiological

The product shall conform to the following microbiological limits specified in **table 4**;

Table 4 - Microbiological limit

S/N	Parameter	Dried Sichuan Pepper	Crushed Sichuan pepper	Recommended Test Method
		Limit (<i>max</i>)	Limit (<i>max</i>)	
1	Escherichia coli (cfu/g)	Absent	Absent	AOAC 989.12
2	Salmonella (detection / 25g)	Negative	Negative	AOAC 985.42
3	Yeast and mould (cfu/g)	1000	1000	ISO 7954
4	Coliforms (cfu/g)	500	500	AOAC 986.25
5	Total Plate Count (cfu/g)	200,000	200,000	IS 1797

6. Food additives

Permissible food additives and preservative maybe added within the permissible level in accordance with *General Standard for Food Additives* (CXS 192-1995).

7 Hygienic Requirement

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.

8 Storage

8.1 The storeroom shall be dry, well protected from sun, well ventilated, free from foreign odors and proofed against entry of insects and vermin.

8.2 The store shall have adequate lighting facility.

8.3 The product shall not be kept directly on the floor.

9 Sampling

Sampling shall be carried out according to ISO 948:1980, Spices and condiments — Sampling or any internationally accepted methods.

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10 Packaging

10.1 All packaging materials used shall be sterilized or free of contamination. Primary packaging materials shall be food grade materials that are non-reactive to the product and properly sealed.

10.2 The packaging material shall protect the product's safety and quality during transportation and storage.

11 Labelling

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

Bibliography

ISO 959-1:1998(E) Pepper (*Piper nigrum* L.), whole or ground — Specification

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PRODUCT SPECIFICATION- Szechuan Pepper Whole (CHREP500)

Sichuan Peppercorns - Product Specification

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