འབྲུག་གནས་ཚད་ཀྱི་འབྲུག་པའི་ཐིང་ངེ། - ཁ་གསལ།

**DRAFT BHUTAN STANDARD**

**Bhutanese Sichuan Pepper - Specification**



ICS 67.220.10

**© Copyright 2024**

**BHUTAN STANDARDS BUREAU**

**The National Standards Body of Bhutan**

**THIMPHU 11001**

**August 2024 Price group A**

འབྲུག་གནས་ཚད་ཀྱི་འབྲུག་པའི་ཐིང་ངེ། - ཁ་གསལ།

**DRAFT BHUTAN STANDARD**

**Bhutanese Sichuan Pepper - Specification**

**PDF disclaimer**

This PDF may contain embedded typefaces. In accordance with Adobe’s Licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe’s licensing policy. The Bhutan Standards Bureau accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

**COPYRIGHT PROTECTED DOCUMENT**

© BSB 2024

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from BSB at the address below in the country of the requester.

Director General

Bhutan Standards Bureau

Rijug Lam

Thimphu-11001

Tel: 00975-2-325104/325401

Fax: 00975-2-323712/328298

Web: [www.bsb.gov.bt](http://www.bsb.gov.bt)

Published in Thimphu, Bhutan

Table of Contents

[FOREWORD iv](#_Toc190721533)

[~~Introduction~~ v](#_Toc190721534)

[Bhutanese Sichuan Pepper - Specification 1](#_Toc190721535)

[1 Scope 1](#_Toc190721536)

[3 Terms and Definition 1](#_Toc190721537)

[3.1 Extraneous Matter 1](#_Toc190721538)

[3.2 Food additives 1](#_Toc190721539)

[4 Quality Factors 1](#_Toc190721541)

[4.1 Quality Factors - General 1](#_Toc190721542)

[4.2 Quality Factors - Specific 1](#_Toc190721543)

[5 Contaminants 2](#_Toc190721544)

[5.1 Heavy Metal 2](#_Toc190721545)

[5.2 Pesticide Residues 2](#_Toc190721546)

[5.3 Mycotoxins 2](#_Toc190721547)

[5.4 Microbiological 3](#_Toc190721548)

[6. Food additives 3](#_Toc190721549)

[7 Hygienic Requirement 3](#_Toc190721550)

[8 Storage 3](#_Toc190721551)

[10 Packaging 4](#_Toc190721552)

[11 Labelling 4](#_Toc190721553)

[Bibliography 5](#_Toc190721554)

[ISO 959-1:1998(E) Pepper (Piper nigrum L.), whole or ground — Specification 5](#_Toc190721555)

# 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 Body) 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 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 commercial purpose.

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

འབྲུག་གནས་ཚད་ཀྱི་འབྲུག་པའི་ཐིང་ངེ། - ཁ་གསལ།

**DRAFT BHUTAN STANDARD**

# 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 Contaminant**

Any biological or chemical agent, foreign matter, or other substances not intentionally added to food which may compromise food safety and suitability.

**3.2 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.

## 3.3 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.

## 3.4 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.

**3.5 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.

**4.14** 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

## 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 |

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

## 5.2 Pesticide Residues

The product shall comply with those maximum residue limits established by the available Codex Alimentarius Commission (CXM 2-2023).

## 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 *(μg/kg), max*** | **Limit *(μg/kg), max*** |
| 1 | Total Aflatoxin | 10 | 10 | IS 16287 |
| 2 | Aflatoxin B1 | 5 | 5 | IS 16287 |

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

## 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 *(max)*** | **Limit *(max)*** |
| 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 |

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

# 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 BFDA GHP/GMP criteria.

# 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.

# 10 Packaging

**10.1** All packaging materials used shall be free from any physical, chemical and microbiological 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

CODEX COMMITTEE ON SPICES AND CULINARY HERBS (CRD32)

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*

FOOD SAFETY AND STANDARDS (CONTAMINANTS, TOXINS AND RESIDUES) REGULATIONS, 2011

Xiang L, Liu Y, Xie C, Li X, Yu Y, Ye M, Chen S. The Chemical and Genetic Characteristics of Szechuan Pepper (Zanthoxylum bungeanum and Z. armatum) Cultivars and Their Suitable Habitat. Front Plant Sci. 2016 Apr 19;7:467. doi: 10.3389/fpls.2016.00467. PMID: 27148298; PMCID: PMC4835500.

PRODUCT SPECIFICATION- Szechuan Pepper Whole (CHREP500)

Sichuan Peppercorns - Product Specification

**FOOD AND AGRICULTURE TECHNICAL COMMITTEE (TC02)**

|  |  |
| --- | --- |
| *Organization* | *Representative(s)* |
| National Dairy Development Centre, MoAL, Thimphu | Mr. Phuntsho T Norbu (Chairperson) |
| Bhutan Agro Industries Limited, Thimphu | Ms. Tashi Dema |
| Bhutan Exporters Association, Phuentsholing | Mr. Tshering Yeshi |
| Bhutan Food and Drug Authority, MoH, Thimphu | Ms. Thinley Penjor |
| Bhutan Livestock Development Corporation Limited,  Thimphu | Mr. Birendra Dhakal |
| Department of Agriculture, MoAL, Thimphu | Mr. Bal Bdr Rai |
| Department of Agriculture, MoAL, Thimphu | Mr. Choney Zangmo (Alternate) |
| Department of Agricultural Marketing and Cooperatives, MoAL, Thimphu | Mr. Dorji Rinchen |
| Department of Agricultural Marketing and Cooperatives, MoAL, Thimphu | Mr. Jamyang Lophyal (Alternate) |
| Department of Industry, MoICE, Thimphu | Mr. Tashi Dorji |
| National Post Harvest Centre, DAMC, MoAL, Paro  National Post Harvest Centre, DAMC, MoAL, Paro | Ms. Sonam Lhamo  Mr. Sujan Pradhan |
| Competition and Consumers Affairs Authority, MoICE, Thimphu | Mr. Jigme Dorji |
| Competition and Consumers Affairs Authority, MoICE, Thimphu | Ms. Tshewang Choden (Alternate) |
| Bhutan Standards Bureau, Thimphu | Mr. Karma Wangdi,  Offtg. Director General  (Ex-officio member) |

**Member Secretary**

Yangki

Standardization Division

Bhutan Standards Bureau

**SUB COMMITTEE ON SPICES, CULINARY HERBS AND CONDIMENTS (TC02/SC013)**

|  |  |
| --- | --- |
| *Organization* | *Representative(s)* |
| Department of Agriculture and Marketing Cooperatives, DAMC, MoAL, Thimphu  National Post Harvest Centre, DAMC, MoAL, Paro | Mr. Dorji Rinchen (Chairperson)  Mr. Sujan Pradhan |
| Bhutan Food and Drug Authority, MoH, Samtse | Ms. Ugyen Tashi |
| Druksell Private Limit, Thimphu | Mr. Sangay Phuntsho |
| Department of Agriculture, MoAL, Thimphu | Mr. Bal Bdr Rai |

**Member Secretary**

Yangki

Standardization Division

Bhutan Standards Bureau