

BTS 319:2021

འབྲུག་སྤྱི་ཚེ་གནས་ཚད།

BHUTAN STANDARD

Honey



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Contents

FOREWORD.....	iv
Introduction.....	v
1 Scope.....	1
2 Normative references	1
3 Terms and definitions	1
3.1 Honey	1
4 Essential composition and quality factors	2
5 Contaminants.....	3
5.1 Heavy metal contaminants	3
5.2 Residues of pesticides and veterinary drugs.....	3
6 Hygiene.....	3
7 Packaging	3
8 Labelling	3
9. Sampling.....	3
BIBLIOGRAPHY	4

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BTS 319:2021

FOREWORD

This Bhutan standard for honey was developed 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 [Day Month](#) 2021.

Honey is a popular food and its popularity reflects increasing consumer appreciation for its health properties. Therefore, there is need to have a standard that provides common understanding of honey to promote free trade in the world market; to improve consumer's knowledge about these products; and to guide the manufacturers and traders respectively on safety and quality during production and importation of the honey and enable to export the honey products.

This standard is subject 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

Honey is well known food and it is consumed in many ways around the world with wider consumer preference for its health properties. The desired characteristics of honey depends on honey bee species, floral origin or source and mode of processing and on individual tastes. The bee keeping methods also influences the quality of honey and also certain malpractices such as adulteration of honey affects the quality of honey.

The purpose of this Bhutan standard for honey are to specify the requirements viz. essential composition and quality factors, contaminants and labelling of honey which, if met, are an indication that the honey had been subjected to good production practice.

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 FOR HONEY

1 Scope

This standard prescribes the requirements and the methods of sampling and tests for extracted honey obtained from honey bees intended for marketing or direct consumption.

2 Normative references

The following documents are indispensable for 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.

- 2.1** AOAC 920.180 *Sample preparation*
- 2.2** AOAC 920.183B *Determination of reducing sugars in honey*
- 2.3** AOAC 920.184 *Determination of sucrose in honey*
- 2.4** AOAC 958.09 *Determination of diastatic activity*
- 2.5** AOAC 962.19 *Determination of acidity (Free Acid)*
- 2.6** AOAC 969.38B *Determination of moisture content in honey*
- 2.7** AOAC 980.23 *Determination of Hydroxymethylfurfural (HMF)*
- 2.8** BTS 139:2019 SARS 0014:2018 *Food hygiene- General principles – Code of practice.*
- 2.9** BTS 268:2020 CODEX STAN 1-1985 *General standards for the labelling of prepackaged foods.*

3 Terms and definitions

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

3.1 Contaminants

Contaminant means any physical, chemical and biological agent or other substances not intentionally added to food which may compromise the food quality.

3.2 Honey

Honey is the natural sweet substance produced by honey bees from the nectar of plants or from secretions of living parts of plants or excretions of plant sucking insects on the living parts of plants, which the bees collect, transform by combining with specific substances of their own, deposit, dehydrate, store and leave in the honey comb to ripen and mature.

BTS 319:2021

3.3 Extracted honey

Extracted honey is obtained by centrifuging decapped broodless combs.

3.3.1 Description of honey

Fructose and glucose are the predominant sugars present in honey. Apart from these sugars honey also consist of organic acids, enzymes and solid particles derived from honey collection. The consistency of honey can be either fluid, viscous or partly to entirely crystallized. The flavour and aroma vary, but are all derived from the plant origin and the colour of honey also varies from nearly colourless to dark brown.

3.4 Ripened honey

Honey is considered ripened, when more than 80% of honey comb is sealed/capped.

4 Essential composition and quality factors

4.1 Honey shall be ripened and uniform colour throughout

4.2 Honey sold as such shall not have added to it any food ingredient, including food additives, nor shall any other additions be made other than honey. Honey shall not have any objectionable matter, flavour, aroma, or taint absorbed from foreign matter during its processing and storage. The honey shall not have begun to ferment or effervesce. No pollen or constituent particular to honey may be removed except where it is unavoidable in the removal of foreign inorganic or organic matter

4.3 Honey shall not be heated or extracted to such an extent that its essential composition is changed and/ or its quality is impaired

4.4 Chemical or biochemical treatments shall not be used to influence honey crystallization

4.5 The minimum requirement of extracted honey shall be as indicated in *table 1* below.

Table 1 –Essential composition for extracted honey

Si. No.	Characteristics	Limit	Test Methods
1	Moisture Content,	≤ 20%	AOAC 969.38B
2	Sugar Content		
	2.1 Sucrose	≤ 5g/100g	AOAC 920.184
	2.2 Glucose and Fructose	≥ 60g/100g	AOAC 920.183B
3	Acidity (expressed as formic acid)	≤0.2 %	AOAC 962.19
4	Water insoluble content	≤0.1 g/100g	—
5	Electrical conductivity	≤0.8mS/cm	—
6	Diastatic activity	≥ 8 (as per schade unit)	AOAC 958.09
7	Hydroxymethylfurfural (HMF)	≤ 40mg/kg	AOAC 980.23

Note: Sample preparation - sample shall be prepared in accordance to AOAC 920.180

Specific methods for determination of water insoluble content and electrical conductivity are not prescribed. Laboratories may use any validated method of analysis, provided the selected method meets the specific performance criteria.

5 Contaminants

5.1 Heavy metal contaminants

Honey shall be free from heavy metals in amounts which may represent a hazard to human health. The products covered by this standard shall conform to those maximum levels for heavy metals established in the *table 2*. Specific methods for determination of listed heavy metals are not prescribed. Laboratories may use any validated method of analysis, provided the selected method meets the specific performance criteria.

Table 2 – Requirement for heavy metal contaminants limit

Si. No.	Characteristics	Limit
1.	Arsenic (As)	Negative
2.	Copper (Cu)	Negative
3.	Lead (Pb)	Negative

*Note - The term 'Negative' under requirements indicate the contaminants tested are **not detected** by the test methods.*

5.2 Residues of pesticides and veterinary drugs

The products covered by this Bhutan standard shall conform to those maximum residue limits for honey established by the Codex Alimentarius Commission.

6 Hygiene

The honey should be prepared and handled in accordance with BTS 139:2019 SARS 0014:2018, *Food hygiene- General principles – Code of practice*.

7 Packaging

All packaging materials used shall be sterilized or free of contamination. Primary packaging (the layer of packaging in immediate contact with the product) materials shall be non-reactive to the product and properly sealed.

8 Labelling

The labelling shall be carried out in accordance with BTS 268:2020 CODEX STAN 1-1985, *General standards for labelling of prepackaged Foods*.

9. Sampling

Honey should be sampled from various points of the production and supply chain (border inspection posts, producers, importers and wholesalers, storage/processing/packaging establishments, distribution and retail level). For imported honey, official controls should be performed, where possible, at the earliest stages of the supply chain, starting at the first point of introduction in the country.

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