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DRAFT BHUTAN STANDARD

Ginger – Classification and Grading



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FOREWORD

This Bhutan Standard for Ginger - Classification and Grading was adopted by Bhutan Standards Bureau after the draft finalized by the Food and Agriculture Technical Committee TC 02 and approved by the PPMC.

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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DRAFT BHUTAN STANDARD

Ginger – Classification and Grading

1 Scope

This standard applies to the fresh rhizome of commercial varieties of ginger from *Zingiber officinale* Roscoe, of the Zingiberaceae family, intended for consumer consumption following preparation and packaging.

This document does not apply to ginger for industrial processing.

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 applies including amendments.

CAC/RCP 44-1995, *Code of Practice for the Packaging and Transport of Fresh Fruits and Vegetables*.

CODEX STAN 193-1995, *Codex General Standard for Contaminants and Toxins in Food and Feed*.

BTS 139:2020 SARS 0014:2018, *Food hygiene- General principles – Code of practice*.

3 Terms and Definitions

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

3.1 Classification

Involves grouping item into categories or classes based on shared quality.

3.2 Foreign matter

All organic or inorganic matter other than the product unintentionally added. For example - dirt, mould growth, insect infestation, etc.,

3.2 Grading

Assessing and assigning a numerical or descriptive rating to produce.

3.3 Horticultural maturity

Stage at which growth and development is optimum for specific use (stage acceptable for consumers/market oriented).

3.4 Suberized cracks

A suberized crack in ginger is a little split or crack in the ginger's skin where the ginger has patched it up with a waxy substance to protect itself.

3.5 Sound

Produce not affected by rotting or deterioration making it unfit for consumption.

4 Minimum Requirements

In all classes, subject to the special provisions for each class and the tolerances allowed, the ginger:

4.1 Shall be whole.

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4.2 Shall be sound.

4.3 Shall be firm.

4.4 Shall be free of abrasions, provided light abrasions which have been dried properly are not regarded as a defect.

4.5 Shall be sufficiently dry for the intended use; skin of rhizome and cuts inflicted during harvesting shall be fully dried.

4.7 Shall be clean, practically free of any visible foreign matter.

4.8 Shall be practically free of pests and damage caused by them affecting the general appearance of the produce.

4.9 Practically free of mechanical damage.

4.10 Free of damage caused by low and/or high temperature.

4.11 Shall be free of abnormal external moisture, excluding condensation following removal from cold storage.

4.12 Shall be free of any foreign smell.

4.13 The condition of the gingers shall be such as to enable it to withstand transportation and handling to ensure that they reach their destination in satisfactory conditions.

4.2 Minimum Maturity Requirements

The gingers shall reach an appropriate degree of horticultural maturity.

5 Classification

Gingers are classified into three classes, as defined below:

5.1 Extra Class

5.1.1 Ginger in this class shall be of superior quality.

5.1.2 Shall be characteristic of the variety.

5.1.3 The rhizomes shall be clean.

5.1.4 The rhizomes shall be without evidence of shriveling or dehydration and without evidence of sprouting.

5.1.5 They shall be free of defects, with the exception of very slight superficial defects, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

5.1.6 Slight skin defects due to rubbing provided they are healed and dry and the total surface area affected shall not exceed 5%.

5.2 Class I

5.2.1 Ginger in this class shall be of good quality.

5.2.2 Shall be characteristic of the variety.

5.2.4 The rhizomes shall be without evidence of shriveling or dehydration and without evidence of sprouting.

5.2.4 The following slight defects may be allowed, provided these do not affect the general appearance of the produce, quality, keeping quality and presentation in the package:

a) Slight skin defects due to rubbing provided they are healed and dry and the total surface area affected not exceeding 10%.

5.3 Class II

This class includes gingers which does not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in **Section 4**:

5.3.1 The following defects may be allowed, provided the gingers retains their essential characteristics with regards to the quality, keeping quality and presentation:

- a) Skin defects due to rubbing provided they are healed and dry and the total surface area affected not exceeding 15%;
- b) Early signs of sprouting not more than 10% by weight by unit of presentation.
- c) Slight traces of soil.
- d) Healed suberized cracks, provided they are completely dry.
- e) Bruises.

6 Grading

6.1 Size is determined by weight based on the individual weight of each rhizome.

| Size Code | Weight (g) |
|-----------|------------|
| 1 | >250 |
| 2 | >150-250 |
| 3 | 50-150 |

7 Tolerances

7.1 General

Tolerances in respect of quality shall be allowed in each package or in each lot for produce not satisfying the requirements of the class indicated.

7.2 Quality Tolerances

7.2.1 Extra Class

A total tolerance of 5 percent, by number or weight, of ginger not satisfying the requirements of the class but meeting those of Class I may be allowed. Within this tolerance, not more than 0.5 percent in total may consist of produce satisfying the requirements of Class II quality.

7.2.2 Class I

A total tolerance of 10 percent, by number or weight, of ginger not satisfying the requirements of the class but meeting those of Class II may be allowed. Within this tolerance, not more than 1 percent in total may consist of produce satisfying neither the requirements of Class II quality nor the minimum requirements, or of produce affected by decay.

7.2.3 Class II

Ten percent by number or weight of ginger satisfying neither the requirements of the class nor the minimum requirements, with the exception of produce affected by rotting or any other deterioration rendering it unfit for consumption.

7.3 Size Tolerances

For all classes, 10% by number or weight of gingers not satisfying the requirements as regards sizing but falling within the size immediately above or below those indicated in **Section 6.1**:

8 Presentation

8.1 Uniformity

8.1.1 The contents of each package or lot shall be uniform and contain only ginger of the same origin, quality and size.

8.1.2 The visible part of the content of the package or lot shall be representative of the entire content.

8.1.3 The weight of the heaviest hand (rhizome) may not be more than twice the weight of the lightest hand (rhizome) in the same package.

8.2 Packaging

8.2.1 Ginger shall be packed in such a way as to protect the produce properly.

8.2.2 Ginger shall be packed in each package in compliance with the *Code of Practice for the Packaging and Transport of Fresh Fruits and Vegetables* (CAC/RCP 44).

8.2.3 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.

8.3 Labelling

In addition to the requirements of BTS 268: 2020 CXS 1-1985 Bhutan Standard for the labelling of Prepackaged Foods the following basic information is required for the purpose of labeling:

8.3.1 The name of the product and/or variety.

8.3.2 The trademark or brand name, if any.

8.3.3 The name and address of the producer and/or packer and/or distributor.

8.3.4 The code or lot number.

8.3.5 The net mass or gross mass (according to the request of the importing country) or Number of units.

8.3.6 The class of product.

8.3.7 Size range expressed as weight as specified in **section 6**:

8.3.8 The producing country.

8.3.9 Date of packaging.

8.3.10 Any other marking required by the purchaser.

8.3.11 A reference to this document, i.e. BTS (optional).

9 Sampling

Sampling shall be carried out in accordance with ISO 948 1980 or any internationally accepted methods.

10 Requirements for Contaminants

10.1 The produce shall comply with the maximum levels of the Codex General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193-1995).

10.2 The produce shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

10.3 The produce should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

11 Hygiene

The manufacturer shall comply in accordance with BTS 139: 2020 SARS 0014: 2018, *Food hygiene-General principles – Code of practice*.

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