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KENYA STANDARD

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Banana crisps — Specification

PUBLIC REVIEW DRAFT

TECHNICAL COMMITTEE REPRESENTATION

The following organizations were represented on the Technical Committee:

University of Nairobi-Department of Food Science, Nutrition and Technology
Agriculture and Food Authority- Food Cop directorate
Kenya Agricultural & Livestock Research Organization
Kenya Industrial Research & Development Institute
National Potato Council of Kenya
Food Science and Technology platform of Kenya
International Potato Council
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Banana crisps- Specification

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Foreword

This Kenya Standard was developed by the Technical Committee on Processed Fruits and Vegetables.. It was revised by the Tubers and Tuber Products Technical Committee.

Banana crisps are a deep-fried snack food prepared from green fresh mature bananas of the cooking variety. This standard will guide the manufacturer to produce good quality product that is safe for human consumption.

Contributions made by the Technical Committee members during the preparation of this standard are acknowledged with thanks.

During the development of this standard reference was made to KS 2841 Arrowroots crisps - Specification

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KENYA STANDARD

Banana Crisps- Specification

1 SCOPE

This draft Kenyan Standard specifies the requirements, methods of sampling and test for crisps made from bananas (*Musa acuminata* and *Musa balbisiana*) intended for human consumption.

2. Normative reference

The following referenced 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 any amendments) applies.

EAS 38, *General standard for the labelling of pre-packaged foods*

EAS 39, *Hygiene in the food and drink manufacturing industry — Code of practice*

EAS 103, *General standard for food additives*

CODEX STAN 193, *Codex general standard for contaminants and toxins in food and feed* EAS 103, *Schedule for permitted food additives*

EAS 321, *Edible fats and oils* EAS 35, *Edible salt — Specification*

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

ISO 11085 *Cereals, cereals-based products and animal feeding stuffs — Determination of crude fat and total fat content by the Randall extraction method*

ISO 3960 *Animal and vegetable fats and oils — Determination of peroxide value — Iodometric (visual) endpoint determination*

ISO 6888-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase- positive staphylococci (Staphylococcus aureus and other species) — Part 1: Technique using Baird-Parker agar medium*

ISO 6579-1- *Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of Salmonella — Part 1: Detection of Salmonella spp.*

ISO 21527-2 *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 2: Colony count technique in products with water activity less than or equal to 0,95*

ISO 7251, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of presumptive Escherichia coli — Most probable number technique*

3. Terms and definitions

For the purpose of this Kenya Standard the following definition shall apply:

3.1 **Banana crisp** — A fragile but firm slice of banana cooked by deep frying in vegetable oil.

3.2 Food grade material

Material which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product

3.3 Rancidity

Unpleasant taste or odour in foods resulting from deterioration in the fat or oil portion of the food.

3.4 Blisters

Air/ fluid-filled and slightly sunken spots found on the surface of banana crisps

4. Requirements

4.1. Raw materials

4.1.1 Bananas used for processing crisps shall be mature, and clean.

4.1.2 Vegetable Oil used for frying Shall comply with EAS 321, *Edible fats and oils*

4.2 Optional Ingredients

4.2.1 Edible Salt used Shall comply with EAS 35, *Edible salt – Specification*

4.2.2 Spices used Shall comply with EAS 103, *General standard for food additives*

4.3 General requirements

Banana crisps shall be :

- a) firm, free from sogginess and excessive oil
- b) uniform in symmetry.
- c) of good flavour, free from rancidity, bitterness, foreign matter and any other adulterant.

4.4 Specific quality requirements

4.4.1 The banana crisps shall be uniform in size and have a thickness of between 1.0 mm - 1.5 mm

4.4.2 Banana crisps shall not contain more than 10 % by mass of small pieces, slivers and irregular pieces.

4.4.3 Packaged banana crisps shall have not more than 1 % of the crisps with the following defects:

- a) surface or internal pigmentation;
- b) blisters;
- c) callous area; and
- d) black specks and spots.

4.4.4 Banana crisps shall conform to the specified compositional requirements in Table 1.

TABLE 1. Specific quality requirements for Banana Crisps

Parameter	Requirement	Method of test
(i) Moisture content, % (max.)	4.7	ISO 712
(ii) Fat content, % on dry weight basis (max.)	35	ISO 11085
(iii) Free fatty acids, % in dry weight basis(Max)	0.5	EAS 321
(iv) Salt, % on dry weight basis (max.)	2.0	EAS 35
(v) Acid insoluble ash,% by mass, (max)	0.05	KS EAS 82
(vi) Peroxide value, mEq peroxide oxygen/kg oil, (max.)	10	ISO 3960

5 Food additives

Banana crisps shall contain only permitted additives at the level of good manufacturing practice as quoted in accordance with EAS 103.

6 Contaminants**6.1 Pesticide residues**

Banana Crisps shall conform to those maximum residue limits for pesticide residues established by Codex Alimentarius Commission for this commodity.

6.2 Other contaminants

Banana crisps shall conform to those maximum levels of the Codex General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193).

7 Hygiene

Banana crisps shall be prepared and handled in hygienic manner in accordance with EAS 39 shall conform to microbiological limits in Table 3.

Table 3. Microbiological Limits for Banana Crisps

-Micro -organism(s)	Maximum limit	Method of test
<i>Escherichia coli</i> , CFU per gram	Shall be absent	ISO 7251
<i>Staphylococcus aureas</i> CFU/ per g max	Shall be absent	ISO 6888-1
<i>Salmonella</i> CFU per gram	Shall be absent	ISO 6579
Yeasts and moulds, CFU per gram	10 ³	ISO 21527-2

8. Packaging

8.1 Before packaging the crisps excess oil shall be removed. The crisps shall be packaged within a short time after frying so as to keep the crispy taste and texture of the crisps.

8.2 Banana crisps shall be packed in food grade packaging materials which will safeguard the hygienic, nutritional, and organoleptic qualities of the products.

8.3 Each package shall be securely closed and sealed

9. Labelling

9.1 In addition to the requirements of EAS 38, the following specific labelling requirements shall apply and shall be legibly and indelibly marked:

- a) common name of the product 'Banana Crisps';
- b) name, and physical address of the manufacturer/ distributor and /or trade name/ brand name;
- c) date of manufacture;
- d) list of ingredients;
- e) batch identification;
- f) expiry date;
- g) the net weight in metric units;
- h) storage instructions;
- i) declaration of additives used
- j) instructions on disposal of used package.

9.2 When labelling non-retail packages, information for non-retail packages shall either be given on the packages or in accompanying documents, except that the name of the product, lot identification and the name and address of the manufacturer or packer shall appear on the packages.

10 Methods of sampling and test

Banana Crisps shall be tested according to the methods of test indicated in this standard.

11 Criteria for conformity

A lot shall be declared as conforming to this standard if each sample inspected or analyzed for quality requirement conforms to the provision of this standard.