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Fried Plantain chips — Specification



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Foreword

Rwanda Standards are prepared by Technical Committees and approved by Rwanda Standards Board (RSB) Board of Directors in accordance with the procedures of RSB, in compliance with Annex 3 of the WTO/TBT agreement on the preparation, adoption and application of standards.

The main task of technical committees is to prepare national standards. Final Draft Rwanda Standards adopted by Technical committees are ratified by members of RSB Board of Directors for publication and gazettment as Rwanda Standards.

WD xxx was prepared by Technical Committee RSB/TC 038, *Processed fruits and vegetables*.

In the preparation of this standard, reference was made to the following standard:

- 1) US 998, Plantain — Specification

The assistance derived from the above source is hereby acknowledged with thanks.

Committee membership

The following organizations were represented on the Technical Committee on Processed fruits and vegetables (RSB/TC 038) in the preparation of this standard.

JD LIUAR

National Agricultural Export Development Board (NAEB)

NETRAPI Ltd

Nyarutarama Incubation Center

Shekina Enterprise

TUZAMURANE Cooperative

ZIMA Enterprise

Rwanda Standards Board (RSB) – Secretariat

Fried Plantain chips — Specification

1 Scope

This Draft Rwanda Standard specifies the requirements, sampling and test methods for fried plantain chips made from mature plantain cultivars in the genus *Musa*.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

AOAC 934.06, *Moisture in Dried Fruits*

AOAC 963.15, *Fat in Cacao Products — Soxhlet Extraction Method*

RS CODEX STAN 192, *General standard for food additives*

RS CODEX STAN 193, *Codex general standard for contaminants and toxins in food and feed*

RS EAS 321, *Edible fats and oils — Specification*

RS EAS 38, *Labelling of pre- packaged foods— General requirements*

RS EAS 803, *Nutrition labelling— Requirement*

RS EAS 805, *Use of nutrition and health claims — Requirements*

RS ISO 16649-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of beta-glucuronidase-positive Escherichia coli — Part 2: Colony-count technique at 44 degrees C using 5-bromo-4-chloro-3-indolyl beta-D-glucuronide*

RS 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*

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

RS ISO 4833-1, *Microbiology of the food chain — Horizontal method for the enumeration of micro-organisms — Part 1: Colony-count at 30 degrees C — Pour plate technique*

RS ISO 5985, *Animal feeding stuffs — Determination of ash insoluble in hydrochloric acid*

3 Terms and definitions

For the purposes of this standard, the following terms and definitions apply.

3.1

chips

thin slices of peeled fruits, deep-fried

3.2

plantain chips

chips prepared by frying the peeled sound and mature plantain fruit (*Musa* varieties) sufficient to attain a crispy texture with or without the addition of sweetening agent/s, salt/s or other food ingredients and additives packed in any suitable packaging materials.

3.3

food grade packaging materials

packaging material, made of substances which are safe and suitable for their intended use and which will not alter the quality and safety of the product

3.4

foreign matter

organic and inorganic materials (such as sand, soil, glass) other than extraneous matter in the fried plantain chips

3.5

extraneous matter

organic matter of plantain origin other than fried plantain chips

3.6

filth

impurities of animal origin including dead insects

4 Requirements

4.1 Essential ingredients

4.1.1. Plantain fruit to be used shall be sound, clean and mature from any cultivated variety conforming to the characteristics of the fruits of *Musa* spp. of the Musaceae family.

4.1.2 Edible oil or fat complying with RS EAS 321.

4.2 Optional ingredients

All optional ingredients which may be added to fried plantain chips shall comply with relevant standards, they include but are not limited to the following:

- a) sweetening agents such as one or more of the sugars, high intensity sweeteners or artificial sweeteners, and honey complying with RS 164;
- b) salt complying with RS EAS 35; and
- c) permitted flavouring agents.

4.3 Tolerance of defects

4.3.1 Defects of fried plantain chips, when packed, shall not contain more than 10 % by mass of small broken pieces, slivers and irregular pieces.

4.3.2 Packed fried plantain chips shall have not more than 1 % of the chips with the following defects:

- a) surface or internal pigmentation;
- b) black, dark brown or reddish discolouration; and
- c) blisters.

4.4 General requirements

Fried plantain chips shall:

- a) have undergone a frying process sufficient to ensure quality and shelf life stability at ambient conditions and shall be packed in any suitable packaging materials;
- b) The frying medium shall be regularly replaced with fresh batches of oil or fat, or combinations thereof, to comply with Good Manufacturing Practices. Temperature of the frying medium shall not exceed smoke point.

- c) have the characteristic colour, aroma, and flavour of plantain;
- d) have crispy texture with uniform size and shape;
- e) be free from any objectionable sensory characteristic;
- f) be free from foreign matter, filth and extraneous matter; and
- g) not appear mouldy.

4.5 Specific requirements

Fried plantain chips shall comply with the specific requirements given in Table 1 when tested in accordance with test methods specified therein.

Table 1—Specific requirements for Fried plantain chips

S/N	Characteristic	Requirements	Test method
i.	Moisture content,% max.	10.0	AOAC 934.06
ii.	Fat content, % by mass (on dry basis), max.	35	AOAC 963.15
iii.	Peroxide value, meq. Oxygen/kg, max.	5.0	RS ISO 3960
iv.	Acid insoluble ash, % by mass(on dry basis), max.	0.15	RS ISO 5985
v.	Free fatty acid content % by mass, max.	0.5	
vi.	Sodium chloride (NaCl) on dry weight basis, %, max.	2.0	

5 Food additives

Food additives which may be used in the manufacture of Fried plantain chips shall comply with RS CODEX STAN 192.

6 Hygiene

6.1 Fried plantain chips shall be manufactured and handled in accordance with the hygienic requirements stipulated in RS CAC/RCP 1.

6.2 Fried plantain chips shall not exceed the microbiological limits in Table 2 when tested in accordance with test methods specified therein.

Table 2 — Microbiological limits for Fried plantain chips

S/N	Microorganisms	Limit	Test method
i.	Total Plate Count, cfu/g max.	10 ³	RS ISO 4833-1
ii.	<i>Escherichia coli</i> , cfu/ g max.	Absent	RS ISO 16649-2

iii.	<i>Salmonella spp</i> in 25 g max.	Absent	RS ISO 6579-1
iv.	Yeasts and moulds, cfu/g, max.	10 ²	RS ISO 21527-2

7 Contaminants

7.1 Pesticides residues

Fried plantain chips shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

7.2 Other contaminants

Fried plantain chips shall comply with those maximum levels of the Codex General Standard for contaminants and toxins in food and feed RS CODEX STAN 193.

8 Packaging

8.1 Fried plantain chips shall be packaged in food grade materials which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

8.2 The packaging material shall comply with the environmental legislation of the destination country.

9 Labelling

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

- a) name of the product shall be "Fried plantain chips";
- b) name, location and address of the manufacturer; packer and/or distributor.
- c) date of manufacture;
- d) best before date;
- e) country of origin;
- f) list of ingredients;
- g) net content;
- h) lot/ batch number;
- i) if used, food additives shall be declared;

j) storage conditions; and

k) instructions for use.

10 Sampling

Sampling of fried plantain chips shall be done in accordance with

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Annex A
(normative)

Annex title

A.1 General

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Bibliography

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