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Cakes — Specification

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In order to match with technological development and to keep continuous progress in industries, standards are subject to periodic review. Users shall ascertain that they are in possession of the latest edition

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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.

RS 78 was prepared by Technical Committee RSB/TC 003, *Cereals, pulses, legumes and cereal products.*

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

1) KS 05-1042:1994, Cakes — Specification

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

This thirdedition cancels and replaces the second edition (RS 78: 2018), which has been technically revised.

Committee membership

The following organizations were represented on the Technical Committee on *Cereals, pulses, legumes and cereal products.* (RSB/TC 003) in the preparation of this standard.

Enterprise URWIBUTSO/SINA GERARD

MANOSALIWA Food Industries Ltd

MINIMEX Ltd

National Agricultural Export Development Board (NAEB)

National Industrial Research and Development Agency (NIRDA)

Nyarutarama Business Incubation Center

One Acre Fund-Tubura

Rwanda Food and Drugs Authority

Zamura Feeds Ltd

Rwanda Standards Board (RSB) – Secretariat

Cakes — Specification

1 Scope

This Draft Rwanda Standard specifies the requirements, sampling and test methods for cakes intended for human consumption.

This standard applies to plain cake, fruit cake, sponge cake andspeciality cake.

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.

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 CAC/RCP 1, *General principles of food hygiene*

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

RS EAS 1, *Wheat flour — Specification*

RS EAS 12, *Potable water — Specification*

RS EAS 36, *Honey — Specification*

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

RS EAS 5, *Refined white sugar — Specification*

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 24333, *Cereals and cereal products — Sampling*

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

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

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

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

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

3 Terms and definitions

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

3.1

cake

soft baked flour confectionery product made from wheat flour, baking agents or leaveners, eggs, shortenings, sugar and other food ingredients .

3.2

plain cake

cake baked from basic ingredients with or without the addition of the permitted food additives

3.3

fruit cake

plain cake to which fruits in either dry or preserved form have been added.

3.4

sponge cake

plain cake in which more eggs have been used as an ingredient

3.5

speciality cake

decorated cake, which has been baked for a special function, or purpose into which other ingredients are added such as, cake fillings. Examples include birthday cakes, wedding cakes and others.

3.6

baking agents/leaveners

product that causes dough to expand

3.7

food grade packaging material

packaging material, made of substances which are safe and suitable for their intended use and which will not impart any toxic substance or undesirable odour or flavour to the product.

4 Requirements

4.1 Ingredients

4.1.1 Essential ingredients

In making cakes, the essential ingredients to be used depend on the type of the cake and shall be as follows:

a) Plain cakes

1) wheat flour complying with RS EAS 1;

2) sugar complying with RS EAS 5 or RS EAS 16 or RS EAS 749;

3) baking agents/leaveners as raising agents

4) shortening; and

5) eggs.

b) Sponge cakes

1) wheat flour complying with RS EAS 1;

2) sugar complying with RS EAS 5 or RS EAS 16 or RS EAS 749;

3) baking agents/leaveners as raising agents; and

4) eggs.

c) Fruit cakes

1) wheat flour complying with RS EAS 1;

2) sugar complying with RS EAS 5 or RS EAS 16 or RS EAS 749;

3) baking agents/leaveners as raising agents

4) shortening;

5) eggs; and

6) fruits (dry or preserved).

d) Speciality cakes

1) wheat flour complying with RS EAS 1;

2) sugar complying with RS EAS 5 or RS EAS 16 or RS EAS 749;

3) baking agents/leaveners as raising agents;

4) shortening;

5) eggs; and

6) icing sugar, Spices and food colour; and cake filings.

4.1.2 Optional Ingredients

Optional ingredients including but not limited to the following may be added during the preparation of cakes and shall comply with relevant standards :

a) Potable water complying with RS EAS 12

b) candied peel (orange, lemon and grape fruits);

c) glazed cherries;

d) crystallized ginger;

e) dry fruits and nuts such as sultana, black sultana, raising, currants dates, walnuts, cashew nuts, almonds; and peanuts;

f) desiccated coconut;

g) flavouring agents;

h) edible oilseeds, oilseeds flours or oilseed concentrates;

i) honey complying with RS EAS 36;

j) liquid glucose;

k) milk and milk products;

l) spices and herbs;

m) edible starches;

n) glycerine;

o) semolina;

p) defatted or lecithinated soya flour;and

q) sorbitol liquid or sorbitol powder.

4.2 General requirements

Cakes shall:

a) be of characteristic appearance, taste and odour;

b) be suitably baked with due allowance for heat penetration of the edges;

c) not show signs of under baking or overbaking;

d) be moist, uniform in texture and with even distribution of added ingredients;

e) have the colour, texture, flavour and aroma characteristics of typical well-baked cake;

f) be free from any rancidity;

g) be free from off flavours and odours; and

h) be free from insect or fungus and mould infestation.

4.3 Specific requirements

Cakes shall comply with the specific requirements stipulated in Table 1 when tested in accordance with test method specified therein.

Table 1 — Specific requirements for cakes

S/N	Characteristics	Requirements				Test method
		Plain cake	Fruit cake	Sponge cake	Specialty cake	
i.	Fruit content, %, by	Not applicable	7.0	Not	Not	Annex A

	mass, min.			applicable	applicable	
ii.	Moisture, %, by mass	15 - 25	15 - 25	20 - 27	15 - 25	RS ISO 712
iii.	Acid insoluble ash (on dry matter basis), % by mass, max.	0.1	0.1	0.1	0.1	RS ISO 5985
iv.	Acidity of extracted fat (as oleic acid), % by mass, max.	1.0	0.5	1.0	1.0	Annex B

4.4 Microbiological limits

Cakes shall comply with the microbiological limits indicated in Table 2 when tested in accordance with test method specified therein.

Table 2 — Microbiological limits for cakes

S/N	Microorganism	Maximum limit	Test method
i.	Total viable count, CFU/g	10^3	RS ISO 4833-1
ii.	Yeasts and moulds, CFU/g	10^2	RS ISO 21527-2
iii.	*Salmonella, spp*in 25g	absent	RS ISO 6579-1
iv.	*Escherichia coli,* CFU/g	Absent	RS ISO 16649-2
v.	*Staphylococcus aureus,*CFU/ g	Absent	RS ISO 6888-1

5 Hygiene

Cake shall be prepared and handled in accordance with RS CAC/RCP 1.

6 Food additives

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

7 Contaminants

7.1 Pesticides and veterinary drugs residues

Cakes shall comply to maximum residue limits for pesticides, antibiotics and other veterinary drugs limits set by Codex Alimentarius Commission.

7.2 Heavy metals

Cakes shall not exceed the maximum limits of Heavy metals specified in Table 3 when tested in accordance with test methods specified therein.

Table 3— Limits of heavy metals in Cakes

S/N	Heavy metal	Maximum limits(mg/kg)	Test method

i.	Lead (Pb)	0.2	AOAC 999.11
ii.	Cadmium	0.1	
iii.	Arsenic(Ar)	0.1	AOAC 942.17

7.3 Mycotoxins

Cakes shall not exceed the maximum limits of mycotoxins specified in Table 4 when tested in accordance with test methods specified therein.

Table 4— Limits of mycotoxins in Cakes

S/N	Mycotoxins	Maximum limit (µg/kg)	Test method
i.	Total aflatoxin	10	RS ISO 16050,
ii.	Aflatoxin B1	5	
iii.	Deoxynivalenol (DON)	2000	

8 Packaging

Cakes shall be packaged in food grade packaging material that ensures the integrity and safety of the product

9 Labelling

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

a) name of product as “cake” by type;

b) name and address of the manufacturer/packer/distributor/importer/exporter/vendor;

c) list of ingredients in descending order;

d) net contentshall be declared in the metric system;

e) batch number;

f) date of manufacture;

g) expiry date;

h) country of origin;

i) storage instructions;

j) declaration of allergens;

k) food additives used;

l) instructions for use;

m) the statement ‘Human Food’ shall appear on the package; and

n) instructions on disposal of used package.

10 Sampling

Sampling shall be done in accordance with RS ISO 24333.

Annex A
(normative)

Determination of fruit content

A.1 General

This method determines the contents of both dry fruits and preserved fruits in fruit cake.

A.2 Equipment

A.2.1 Bread or cake knife

A.2.2 Brush

A.2.3 Filter paper or clean cloth

A.2.4 weighing balance

A.3 Method

Weigh four cake slices (approximately 100 g) accurately. Pick the pieces of preserved fruit and dry fruit. Pick each piece of preserved fruit and dry fruit and wipe them with a hair brush or a filter paper or clean cloth. Weigh the fruits so collected and calculate the percentage of fruits from the mass of fruits picked out separately for preserved fruit and dry fruits.

Annex B
(normative)

Determination of acidity of extracted fat

B.1 Apparatus

Soxhlet Apparatus, with a 250-ml flat bottom flask.

B.2 Reagents

D.2.1 Petroleum Ether, boiling point 40 °C - 80 °C.

D.2.2 Benzene-Alcohol-Phenolphthalein Stock Solution, to one litre of distilled benzene add one litre of alcohol or rectified spirit and 0.4 g of phenolphthalein. Mix the contents well.

D.2.3 Standard Potassium Hydroxide Solutions, 0.05 N.

B.3 Procedures

Weigh accurately about 10 g of sample and transfer it to the thimble and plug it from the top with extracted cotton and filter paper. Dry the thimble with the contents for 15 min - 30 min; at 100 °C in an oven. Take the weight of the empty dry Soxhlet flask. Extract the fat in the Soxhlet apparatus for 3 h - 4 h and evaporate off the solvent in the flask on a water-bath.

Remove the traces of the residual solvent by keeping the flask in the hot air oven for about half an hour and weigh. Cool the flask and add 50 ml of mixed benzene-alcohol-phenolphthein reagent (see C.1.2) and titrate the contents to a distinct pink colour with the potassium hydroxide solution taken in a10-ml micro burette. If the contents of the flask become cloudy, during titration, add another 50 ml of the reagent (see C.1.2) and continue the titration. Make a blank titration of the 50 ml reagent. Subtract from the titre of the fat, the blank titre.

B.4 Calculations and expression of result

Acidity of extracted fat, (as oleic acid) per cent by mass=$\frac{1.41 \times V}{m1-m2}$

$$\frac{1.41 \times V}{m_1 - m_2}$$

Where

V = volume of 0.05 N potassium hydroxide solution used in the titration after subtracting the blank,

m_1 = mass, in g, of the Soxhlet flask containing fat, and

m_2 = mass, in g, of the empty Soxhlet flask.

Bibliography

[1] RS 78: 2018 Cakes—Specification (Second edition)

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