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**Plantbased alcoholic beverages—
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 gazetted as Rwanda Standards.

RSnnn-n was prepared by Technical Committee RSB/TC 017, *TC Beverage*. In the preparation of this standard, reference was made to the following standard (s):

1) XYZ: Title

2) XYZ: Title

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

This second/third/... edition cancels and replaces the first/second/... edition (RS nnn-n:yyyy), [clause(s) / subclause(s) / table(s) / figure(s) / annex(es)] of which [has / have] been technically revised.

(The first/second/third/... edition (RSnnn-n: yyyy) has been reaffirmed by the Board on dd-mm-yyyy.)

RSnnn consists of the following parts, under the general title *Introductory element — Main element*.

— Part n: Part title

— Part [n+1]: Part title

— Part [n+2]: Part title

Committee membership

The following organizations were represented on the Technical Committee on Beverages (RSB/TC 001) in the preparation of this standard.

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Introduction

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Plant-based alcoholic beverages— Specification

1 Scope

This Preliminary draft specifies the requirements and methods of sampling and test for plant wine.

2 Normative references

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.

RS EAS 303-2:2016: Ginger — Specification Part 2: Whole, dried and ground

RS EAS 12:2014: Potable water— Specification

RS CODEX STAN 212: 1999: Sugars— Specification

CODEX STAN 67-1981: Standard for raisins

CAC/GL 66:2008:Guidelines for the use of flavourings

RS EAS 164:2016 Honey— Specification

RS EAS 118:2011 Green tea— Specification

RS EAS 139: 2014 Fortified wine — Specification

RS EAS 138: 2014 Still table wine — Specification

RS EAS 140: 2014 Sparkling wine — Specification

RS EAS 143:2014: Brandy — Specification

RS EAS 104:2014: Alcoholic beverages—Methods of sampling and testing, 2nd Edition

ISO 5523:1981: Liquid fruit and vegetables — Determination of sulphur dioxide content (Routine method)

ISO 7952:1994: Fruits, vegetables and derived products — determination of copper content — Method using flame atomic absorption spectrometry

ISO 5517:1978: Fruits, vegetables and derived products— determination of iron content- 1,10 – phenanthrolinephotometric method

ISO 6636-2:1981: Fruits, vegetables and derived products — Determination of zinc content — Part 2; Atomic absorption spectrometric method

RS CODEXSTAN192: 1995 General standard for food additives.

EAS 100:2000: Food stuffs — Methods of determination of Lead

EAS 39:2000: Hygiene in the food and drink manufacturing industry— Code of practice

RS EAS 38:2014: Labelling of pre-packaged foods—Specification, 2nd Edition

CODEX STAN 67:1981 Standard for Raisins

RS ISO 4832: 2006 Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coliforms — Colony-count technique

RS ISO 4833-1:2013 Microbiology of the food chain —Horizontal method for the enumeration of microorganisms —Part 1: Colony count at 30 °C by the pour plate technique

3 Terms and definitions

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

3.1

Plant based alcoholic beverage

Alcoholic beverage obtained from fermentation of suitable agricultural products other than fruits.

3.2

extraneous matter

includes inorganic matter such as sand, glass, metal, gravel, dirt, pebbles, stones, lumps of earth, clay and mud and organic matter such as chaff, straw, weed seeds and fruit matter, insects or insects' fragments, rodent hairs or any other foreign matter.

4 Requirements

4.1 Ingredients

The ingredients for plant-based alcoholic beverages may include but not limited to the following:

- a) Suitable plant product or conforming to RS EAS 303-2.

- b) potable water conforming to RS EAS 12
- c) sugar and other carbohydrate source material conforming to relevant standards

4.2 General requirements

Before producing any Plant based alcoholic beverages the producer shall prove the safety and suitability of the used materials and the final product to the competent authority

Alcohol may be added in plant based alcoholic beverages

Plant based alcoholic beverages shall be:

- a) free from cloudiness and suspended/particulate matter and shall be clear; have typical flavour and taste characteristics of plant material

Note: Plant based alcoholic beverages may be flavoured and coloured by using natural flavouring and colouring to adjust the flavour and the test

- b) be free from any extraneous matter injurious to health.

4.3 Specific quality requirements

Plant-based alcoholic beverages shall meet the quality requirements specified in Table 1.

Table 1 — Quality requirements for plant based alcoholic beverages

S/N	Characteristic	Requirement	Test method
i.	Ethyl alcohol content, %, v/v, max	14	RS EAS 104
ii.	Total solids g/l	40-150	
iii.	Total sugar as invert sugars g/l, max	35	
iv.	Total Soluble Solids TSS(Brix), max	5.80-6.20	
v.	Total acids *as citric acid, g/L of absolute alcohol (other fortified wine)	4 - 12	
vi.	Volatile acids, as acetic acid, g/L of absolute alcohol, max.	2.04 - 2.16	
vii.	Sorbic acid, mg/kg, max.	1 000	
viii.	Copper, mg/L, max	2.0	ISO 7952
ix.	Iron, mg/L, max	8.0	ISO 5517
x.	Zinc, mg/L, max.	5	ISO 6636-2

5 Food additives

Food additives may be used in the production of ginger wine in accordance with RS CODEX STAN 192.

6 Heavy metal contaminants

Heavy metals in plant wine shall not exceed the maximum limits set in table 2

S/No.	Type of impurity	Limit	Test method
1.	Arsenic (as As), mg/L, max.	0.01	ISO 6634
2.	Lead (as Pb), mg/L, max.	0.2	AOAC 972.25
3.	Cadmium (as Cd) mg/L, max	0.1	AOAC 999.11

7 Hygiene

7.1 General

Plant-based alcoholic beverages shall be manufactured and handled in a hygienic manner in accordance with EAS 39.

7.2 Microbiological requirements

When the alcohol is less than 10%, Banana based alcoholic shall comply with limits for micro-organisms specified in Table 3.

Table 3 — Microbiological limits for Plant based alcoholic beverages

S/No.	Organism	Maximum limit	Test method
1	<i>Staphylococcus aureus</i> , cfu/ml,	100	ISO 6888-1
2	<i>Salmonella spp</i> , cfu/25 ml	Absent	ISO 6579
3	<i>E. Coli</i> , cfu/ml	Absent	ISO 11866-2
4	Total viable count, cfu/ml	100	ISO 4833-2
5	Yeast and moulds	100	

8 Packaging

Plant based alcoholic beverages shall be packaged suitable packaging materials that will maintain the quality and not impart toxic substances to the products.

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

- a) common name as 'Plantbased alcoholic beverages
- b) name, physical location and address of manufacturer;
- c) ethyl alcohol content, % by v
- d) list of ingredients in descending order
- e) net content;
- f) date of manufacture;
- g) best before date
- h) batch identification number/code;
- i) country of origin; and
- j) statutory warnings

9 Sampling and test

Sampling and tests shall be carried out in accordance with RS EAS 104.

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