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Sugarcane wine — 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.

DRS 577 was prepared by Technical Committee RSB/TC 31, *Alcoholic beverages*.

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

PNS/BFAD 20: Sugar cane wine (BASI) — 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 *Alcoholic beverages* (RSB/TC 31) in the preparation of this standard.

AGASHINGURACUMU Ltd

African Society of Commerce and Management (ASCOM) Ltd

BUGANZA Wine Ltd

Centre de Formation et de Recherche pour le Development de technologies Appropriées (CFRDTA) Ltd

Cooperative de Valorisation de la Production de Banane (COVAPROBA) Ltd

Enterprise URWIBUTSO

GURA Business Company (GUBUCO) Ltd

IMPANO Products Ltd

INEZA Ayurvedic

Innovation in Production (INNOPRO) Ltd

Institut Catholique de Kabgayi-Business Incubation Center of Kabgayi (ICK BIKA Ltd)

Life Holistic Ltd

NSABIMANA Banana Wine Ltd

SOGONGERA Ltd

UWSS Ltd

Rwanda Food and Drugs Authority

Exalto Engineering and Supply Solutions Limited (2ES Ltd)

Rwanda Standards Board (RSB) – Secretariat

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Introduction

Over the years, sugarcane has been used as a source of sucrose however, due to the introduction of high fructose corn syrup, a cheaper sweetener, a dramatic reduction in the use of sucrose by the food industry has occur. The other important sugar crop, sugar beets (Amaranthaceae) was also used to produced sugar along with sugarcane in factories and extend their processing period such as in Egypt. Beetroot contains no fat, low calories, good source of fibre, high folate, iron, potassium, polyphenols, flavonoids (lycopene, leutin etc.) and vitamin C known for their antioxidant properties hence good for women and pregnancy. However, India being the second largest producer of sugarcane after Brazil the use of sugarcane in other processing needs to be encouraged other than using in food industries. Therefore, it calls for the need of the alternative use of these crops. The high sugar content of sugarcane and high antioxidants (flavonoids and Vitamine C), attractive colour and high sugar of beet root make it an ideal source for the production of wine from their blended juice.

Sugar cane wine prepared through the fermentation of sugar cane juice or its products, originated from the Philippines particularly in Northern Luzon particularly in Ilocos Region and locally known as "Basi". Sugar cane wine has been around for centuries. It is believed by various authors the likes of Dampier and PC Sanchez that Filipinos started making basi as early as the 17th century. Worldwide the enterprises are engaged in production of sugarcane wine in fact that the promising increase of production of sugar canes (*Saccharum officinarum* L.) and its benefits in sugar contents, high antioxidants (flavonoids and Vitamin C) and other health benefits.

The findings suggest that sugarcane juice can be used as an alternative to produce wine, once it is optimized to have appropriate characteristics for an alcoholic fermented beverage, such as an alcohol content varies 8%-17% and a general sensorial acceptance by consumers. Therefore, fermented sugarcane wine is eventually finding a place in the agro-industrial market.

Sugarcane wine — Specification

1 Scope

This Draft Rwanda Standard specifies the requirements, sampling and test methods for sugarcane wine prepared from sugarcane juice.

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.

RS EAS 104, *Alcoholic Beverages — Method of sampling and test*

AOAC 972.11, *Methanol in distilled liquors. Gas chromatographic method*

AOAC 986.15, *Arsenic, Cadmium, Lead, Selenium, and zinc in human and pet foods*

AOAC 999.10, *Lead, Cadmium, Copper, Iron, and Zinc in foods, Atomic Absorption Spectrophotometry after microwave digestion*

RS ISO 17240, *Fruit and vegetable products — Determination of tin content — Method using flame Atomic Absorption Spectrometry*

RS CAC/RCP 1, *Code of practice — General principle for food hygiene*

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

3 Terms and definitions

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

3.1

wine

alcoholic beverage produced by the complete or partial fermentation exclusively of fresh grapes, grape must, or products derived from fresh grapes.

3.2

sugarcane juice

unfermented but fermentable juice extracted from sugarcane *Saccharum officinarum* L by crushing and intended for human consumption.

3.3

sugarcane wine

alcoholic beverage produced by the natural fermentation of the sugarcane juice with or without the addition of optional additives.

4 Requirements

4.1 General requirements

4.1.1 The sugarcane wine shall have the characteristic colour, aroma and flavour of fermented sugarcane and shall be free from objectionable sensory characteristics.

4.1.2 The sugarcane wine shall be free from peels and any extraneous and foreign matters.

4.2 Specific requirements

Sugarcane wine shall comply with the specific requirements of given in Table 1 when tested in accordance with the test methods specified therein.

Table 1 — Specific requirements for sugarcane wine

S/N	Parameters	Requirement	Test method	
1	Ethyl alcohol content, %	7 – 16	EAS 104	
2	Titrateable acidity (lactic acid), % w/v, max.	0.67		
3	Soluble solids, % w/v, max.	8		
4	Volatile acidity (acetic acid content), g/l w/v, max.	3		
5	Phenol content (Gallic acid), g/l w/v, max.	10		
6	Total sugar as invert sugar, g/l	Dry wine		<4
		Medium dry wine/off dry		4 – 12
		Semi sweet	12 – 45	
		Sweet wine	>45	
7	Methanol content, w/v, mg/l, max.	400	AOAC 972.11	

5 Food additives

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

6 Contaminants

6.1 Pesticide residues

The sugarcane wine shall comply with the maximum residue limits for pesticides as established by the Codex Alimentarius Commission for the ingredients used in the manufacture of this product.

6.2 Heavy metals

The sugarcane wine shall not contain heavy metals in levels exceeding the limits indicated in Table 2 when tested in accordance with test methods specified therein.

Table 2 — Specific requirements for sugarcane wine

S/N	Heavy metals	Maximum limits, mg/L	Test methods
i.	Arsenic (as As)	0.01	AOAC 986.15
ii.	Lead (as Pb)	0.2	AOAC 999.10
iii.	Cadmium (as Cd)	0.1	
iv.	Tin (as Sn)	150	RS ISO 17240

7 Hygiene

The sugarcane wine shall be manufactured and handled under hygienic conditions in accordance with RS CAC/RCP 1.

8 Packaging

The sugarcane wine shall be packaged in food grade packaging material that ensures the integrity and safety of the product.

9 Labelling

In addition to RS EAS 38, the package of sugarcane wine shall also be labelled with the following particulars:

- a) Name of product shall be “sugarcane wine”;
- b) name, physical location and address of manufacturer;
- c) ethyl alcohol content, % by volume;
- d) country of origin;
- e) batch identification number/code;
- f) date of manufacture;

- g) declaration of food additives if used;
- h) Net content;
- i) Storage condition; and
- j) statutory warnings.

10 Sampling

Sampling shall be carried out in accordance with RS EAS 104

Annex A
(normative)

Annex title

A.1 General

A paragraph.

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Bibliography

- [1] ISO/IEC Directives, Part 2, *Rules for the structure and drafting of International Standards*, 2016

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