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Vegetable powder — 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.

DRS 448 was prepared by Technical Committee RSB/TC 038, *Processed fruits and vegetables*.

This second edition cancels and replaces the first edition (RS 448: 2021) which has been technically revised.

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

GSO 2011, Vegetable powder mix standard

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.

Amazon Nutrition Cabinet

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

Coca-Cola Indian Ocean Islands Ltd

Global Harmonization Initiative (GHI)

H. Gavin Company Ltd

Imfura y'imfura Ltd

Ishyo Foods Ltd

Kivu Choice Ltd

National Agricultural Export Development Board (NAEB)

National Industrial Research and Development Agency (NIRDA)

Norbert Business Group Ltd

Rwanda Consumer's Rights Protection Organization (ADECOR)

Rwanda Agriculture and Animal Resources Development Board (RAB)

Rwanda Polytechnic

Rwabuye Rice Ltd

Skai Foods

University of Rwanda – College of Agriculture, Forestry and Food Science (UR-CAFF)

VS, VeGeTSolutions

Winners together Ltd

Rwanda Standards Board (RSB) – Secretariat

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Vegetable powder — Specification

1 Scope

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

It does not apply to any vegetable powder/flour which is a subject of standard designated by a specific name.

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 CXS 193, *Codex general standard for contaminants and toxins in food and feed*

RS CXC 1, *General principles of food hygiene*

RS CXS 192, *General standard for food additives*

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

RS ISO 874, *Fresh fruits and vegetables – Sampling*

RS ISO 2171, *Cereals, pulses and by-products — determination of ash yield by incineration*

RS ISO 763, *Fruit and vegetable products — Determination of ash insoluble in hydrochloric acid*

RSISO 1026, *Fruit and vegetable products — Determination of dry matter content by drying under reduced pressure and of water content by azeotropic distillation*

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

RS ISO 5498, *Agricultural food products — Determination of crude fibre content — General method*

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. — Amendment 1: Broader range of incubation temperatures, amendment to the status of Annex D, and correction of the composition of MSRV and SC*

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: Technique using Baird-Parker agar medium*

RS ISO 16050, *Food stuffs — Determination of aflatoxin B1, B2, G1 and G2 in cereals, nuts and derived products — High-performance liquid chromatographic method*

3 Terms and definitions

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

3.1

vegetable powder

vegetable (one or more) which have been ground into powder without addition of other food ingredients

3.2

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 Vegetable (single or combination of different types) comprising 100 % of the whole mixture.

4.1.2 Vegetables to be used may be fresh, cooled or refrigerated, frozen or canned and shall comply with relevant standards

4.2 General requirements

Vegetable powder shall:

- a) have characteristic taste and odour of the designated vegetable; and
- b) be free from dirt, fungal growth and insect infestation.

4.3 Specific requirements

Vegetable powder shall comply with the specific requirements given in Table 1 when tested in accordance with the test methods specified therein.

Table 1 — Specific requirements for vegetable powder

S/N	Characteristic	Requirement	Test method
i.	Moisture content, %, by mass, max	15.0	RS ISO 1026
ii.	Total ash, %, m/m, max	6.0	RS ISO 2171
iii.	Acid insoluble ash in hydrochloric acid, % m/m, max.	1.0	RS ISO 763
iv.	Crude fibre, %, max.	15.0	RS ISO 5498

5 Food additives

Food additives when used in vegetable powder shall comply with RS CXS 192.

6 Hygiene

6.1 Vegetable powder shall be produced, prepared and handled under hygienic conditions in accordance with RS CXC 1.

6.2 Vegetable powder shall not exceed the microbiological limits given in Table 2 when tested in accordance with the test methods specified therein.

Table 2 — Microbiological limits for vegetable powder

S/N	Microorganism	Limit	Test Method
i.	Total Viable Count, CFU/g, max.	10^3	RS ISO 4833-1
ii.	Yeast and moulds, CFU/g, max.	10^2	RS ISO 21527-2
iii.	<i>Salmonella spp</i> per 25 g	Absent	RS ISO 6579-1
iv.	<i>E. coli</i> , CFU/g	Absent	RS ISO 16649-2
v.	<i>Staphylococcus aureus</i> , CFU/g	Absent	RS ISO 6888-1

7 Contaminants

7.1 Pesticide residues

Vegetable powder shall comply with those maximum pesticide residue limits established by Codex Alimentarius Commission for similar commodities.

7.2 Aflatoxins

The maximum content of aflatoxins in vegetable powder when determined in accordance the method described in RS ISO 16050 shall not exceed 10µg/kg for total aflatoxins and 5 µg/kg for aflatoxin B1.

7.3 Other contaminants

Vegetable powder shall comply with those other contaminants limits established in RS CXS 193.

8 Packaging

8.1 Vegetable powder shall be packaged in food grade materials that safeguard the hygienic, nutritional and organoleptic qualities of the product.

8.2 Vegetable powder shall be packaged in corrugated cardboard boxes with poly liners.

9 Labelling

9.1 General

In addition to the requirements in RS EAS 38, the following specific labelling requirements shall be legibly and indelibly labelled with the following information:

- a) name of the product to be declared on the label shall be "X powder", where X is the name of the vegetable used. In case more than 1 vegetables are used, the name shall be "Vegetable powder" followed by list of vegetables used;
- b) list of ingredients in descending order;
- c) net contents;
- d) name, location and physical address of the manufacturer and packer or distributor;
- e) country of origin;
- f) lot identification;
- g) storage conditions;
- h) instruction for use;
- i) date of manufacture;
- j) expiry date;
- k) instructions for disposal of used package; and

l) declaration of food containing allergens.

9.2 Nutrition Prohibition

9.2.1 No claims concerning medicinal (preventive, alleviative or curative) or other beneficial effects relating to the health of the consumer shall be made in respect of the properties of the product covered by the standard.

9.2.2 The way in which labels on the packaged are presented shall not cause confusion with other categories of vegetable powder.

9.2.3 The use of any statement or of any pictorial device, which may create confusion in the mind of the public or in any way mislead the public about the nature, origin, composition and properties of vegetable powder put on sale, is prohibited.

10 Sampling

Sampling shall be in accordance with RS ISO 874.

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Bibliography

[1] RS 448:2021, *Vegetable powder - Specification*

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