

**KENYA STANDARD**

DKS 2994:2023

ICS ##.###

First Edition

Pumpkin seeds — Specification



Kenya Bureau of  
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Consumer Information Network

Government Chemist's Department

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Kakuzi PLC

Kenya Agricultural and Livestock Organization

Kenya Nut Company Limited

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Kenya Plant Health Inspectorate Service (KEPHIS)

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In order to keep abreast of progress in industry, Kenya Standards shall be regularly reviewed. Suggestions for improvements to published standards, addressed to the Managing Director, Kenya Bureau of Standards, are welcome.

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## **Foreword**

This Kenya Standard was prepared by the Edible Nuts and Seeds Technical Committee under the guidance of the Standards Projects Committee, and it is in accordance with the procedures of the Kenya Bureau of Standards

Pumpkin seeds refer to the edible seeds of a pumpkin (*Cucurbita pepo* L.). Pumpkin seeds are rich in lipids, protein, and crude fibre. In addition, the seed is a good source of minerals like phosphorous, sodium, calcium, copper, zinc, magnesium, potassium, and iron that are important for our health.

This Kenya Standard is intended to guide farmers/traders in achieving quality of pumpkin seeds required for internal and external market

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

TZS 2499: 2019 Pumpkin Seeds- Specification

Acknowledgement is hereby made for the assistance derived from this source

Public review draft

## Pumpkin Seeds — Specification

### 1 Scope

This draft Kenya Standard specifies requirements and methods of sampling and test for seeds obtained from pumpkin (*Cucurbita pepo L.*) intended for human consumption or for other use in the food industry. This standard applies to raw and roasted pumpkin seeds.

### 2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies:

Codex Stan 193, General Standard for Contaminants and Toxins in Food and Feed.

KS EAS 38, Labelling of pre-packaged foods — General requirements.

KS EAS 39, Hygiene in the food and drink manufacturing industry — Code of practice

KS EAS 803, Nutrition labelling — Requirements

KS EAS 804, Claims — General requirements

KS EAS 805, Use of nutrition and health claims — Requirements

KS ISO 542, Oilseeds — Sampling

ISO 660, Animal and vegetable fats and oils — Determination of acid value and acidity

KS ISO 665, Oilseeds — Determination of moisture and volatile matter content

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

KS ISO 7251, Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of presumptive Escherichia coli — Most probable number technique

KS ISO 16050, Foodstuffs — Determination of aflatoxin B1, and the total content of aflatoxins 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 document, the following terms and definitions apply.

#### 3.1 pumpkin (*Cucurbita pepo L.*)

hard and roundish fruit vegetable of the squash family that usually comes in a bright orange colour or also green and yellow depending on how ripe and grown it is.

#### 3.2 pumpkin seed

edible seed of a pumpkin (*Cucurbita pepo* L.)

### 3.3 Roasted pumpkin seed

Edible seed of a pumpkin which has been subjected to heat

### 3.4 foreign matter

Any visible and/or apparent matter or material not usually associated with raw and roasted pumpkin seeds

## 4 Requirements

### 4.1 General requirements

#### 4.1.2 Pumpkin Seeds shall be.

- a) dry flat and oval in shape.
- b) free from dead or living insects, insect fragments and mites.
- c) free from foreign matter such as stones, dirt, or any contamination.
- d) free from foreign odours and undesirable flavour and/or taste.
- e) free from decayed and mould -damaged seeds

#### 4.1.2 Raw Pumpkin seeds may be brown or green in colour.

### 4.2 Specific Requirements

Pumpkin seeds shall comply with specific requirements given in Table 1 when tested in accordance with the methods specified therein.

**Table 1- Specific requirements for pumpkin seeds**

S/No	Characteristic		Requirement	Test method
1.	Moisture content, % (m/m) max	Raw	8.0	KS ISO 665
		Roasted	5.0	
2.	Free fatty acids, m/m, max.		2	KS ISO 729



#### 4.4 Grading requirements

Raw pumpkin seeds shall comply with the grading requirements given in Table 2 when tested in accordance with the test methods specified therein.

**Table 2 — Grading requirements for raw pumpkin seeds**

S/No.	Characteristic	Requirement			Test Method
		Grade 1	Grade 2	Grade 3	
i)	Damaged seeds, % m/m, max.	0.5	1.5	<3	ISO 605
ii)	Other defects, % m/m, max.	0.5	1.5	<3	
iii)	Split and broken seeds, % m/m, max.	1.0	2.0	3.0	
iv)	Foreign matter, % m/m, max.	0.1	0.2	0.3	

#### 5 Food additives

Food additives when used in pumpkin seeds shall comply with CXS 192.

#### 6 Flavouring agents

Flavouring agents when used in pumpkin seeds shall comply with CXG 66.

#### 7 Contaminants

##### 7.1 Aflatoxin

Aflatoxin levels in pumpkin seeds shall not exceed the limits given in Table 3 when tested in accordance with the test methods specified therein.

**Table 3 — Aflatoxin limits for groundnut kernels**

S/N	Aflatoxin	Maximum Limit	Test Method
i)	Total aflatoxin µg/kg	10	KS ISO 16050
ii)	aflatoxin B1 µg/kg	5	

## 7.2 Pesticide residues

Pumpkin seeds shall comply with those maximum residue limits established by the Codex Alimentarius Commission.

## 7.3 Other contaminants

Pumpkin seeds shall comply with those maximum limits for other contaminants established in CXS 193.

## 8 Hygiene

8.1 Pumpkin seeds shall be produced, processed, handled, and stored in accordance with KS EAS 39

Roasted pumpkin seeds shall comply with the microbiological requirements given in Table 4 when tested in accordance with the test methods specified therein.

**Table 4 — Microbiological requirements for pumpkin seeds**

S/N	Organism	Maximum Limit	Test Method
i)	Escherichia coli, MPN/g	Absent	KS ISO 7251
ii)	Salmonella per 25 g	Absent	KS ISO 6579-1
iii)	Staphylococcus aureus, CFU/g	Absent	Ks ISO 6888-1

## 9 Packaging

Pumpkin seeds shall be packaged in containers made from food grade packaging material and sealed in a manner that will safeguard the hygienic, nutritional, and organoleptic properties of the product.

## 10 Labelling

### 10.1 General

In addition to the requirements given in EAS 38, the product shall be legibly and indelibly labelled with the following information:

- a) name of the product as “Raw pumpkin seeds” or “Roasted pumpkin seeds
- b) where grading is applied, it shall be in accordance to clause 4.4 of this standard.

## 11 Nutrition and health claims

Nutrition labelling and health claims shall comply with the requirements given in EAS 803, EAS 804 and EAS 805.

## 12. Sampling

Sampling shall be done in accordance with KS ISO 21294

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