



EAST AFRICAN COMMUNITY



EDICT



OF

GOVERNMENT

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EAS 44 (2011) (English): Milled maize  
(corn) products - Specification

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**EAS 44:2011**  
**ICS 67.060**

## **EAST AFRICAN STANDARD**

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**Milled maize (corn) products — Specification**

**EAST AFRICAN COMMUNITY**

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## Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in East Africa. It is envisaged that through harmonized standardization, trade barriers which are encountered when goods and services are exchanged within the Community will be removed.

In order to meet the above objectives, the EAC Partner States have enacted an East African Standardization, Quality Assurance, Metrology and Test Act, 2006 (EAC SQMT Act, 2006) to make provisions for ensuring standardization, quality assurance, metrology and testing of products produced or originating in a third country and traded in the Community in order to facilitate industrial development and trade as well as helping to protect the health and safety of society and the environment in the Community.

East African Standards are formulated in accordance with the procedures established by the East African Standards Committee. The East African Standards Committee is established under the provisions of Article 4 of the EAC SQMT Act, 2006. The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the procedures of the Community.

Article 15(1) of the EAC SQMT Act, 2006 provides that “Within six months of the declaration of an East African Standard, the Partner States shall adopt, without deviation from the approved text of the standard, the East African Standard as a national standard and withdraw any existing national standard with similar scope and purpose”.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

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East African Community

P O Box 1096

### **Arusha**

Tanzania

Tel: 255 27 2504253/8

Fax: 255-27-2504481/2504255

E-Mail: [eac@eachq.org](mailto:eac@eachq.org)

Web: [www.each.int](http://www.each.int)

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## Introduction

The standard stipulates the grading and quality requirements for milled maize products destined for human consumption. During the preparation of this standard, some amendments have been made on the definitions of different maize meal products. The microbiological requirements for dry milled maize products have been incorporated in an endeavour to safeguard the health and safety of consumers of these products.

## Milled maize (corn) products — Specification

### 1 Scope

This East African Standard specifies the requirements and methods of sampling and testing for milled maize (corn) products intended for human consumption.

### 2 Normative references

The following normative documents contain provisions which, through reference in this text constitute provisions of this East African Standard

EAS 38, *Labelling of prepackaged foods — Specification*

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

EAS 2, *Maize (grains) — Specification*

EAS 41, *Fruits, vegetables and derived products*

EAS 74, *Methods of test for animal feedstuffs*

EAS 82, *Milled cereal products — Methods of test*

EAS 217, *Methods for the microbiological examination of foods*

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*

CODEX Stan 193, *Codex general Standards for contaminants and toxins in Food and Feed*

ISO 13690, *Cereals, pulses and milled products — Sampling of static batches*

### 3 Terms and definitions

For the purposes of this standard the following definitions shall apply:

#### 3.1

##### **whole maize meal**

product obtained by grinding clean whole maize kernel by the use of mill or other grinding methods excluding roller *milling*

#### 3.2

##### **granulated maize meal**

the product obtained by roller milling and sifting of shelled clean maize and complying with requirements indicated in Table 1

#### 3.3

##### **sifted maize meal**

the product obtained by roller milling and sifting shelled clear maize and complying with the requirements Indicated in Table 1

#### 3.4

##### **sifting**

the particle size separation by sieving and aspiration of roll-milled products

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## 3.5

### **cleaned maize**

the shelled maize that shall have been subjected to a cleaning process for the removal of foreign and objectionable matter originally present

## 3.6

### **maize flour**

product obtained by removing the germ and bran followed by grinding, clean maize kernels using roller mills or other methods and sifting the resulting product to suitable degree of fineness.

## **4 Quality requirements**

### **4.1 Raw materials**

Maize meal shall be made from shelled maize conforming to the requirements given in EAS 2.

### **4.2 General requirements**

**4.2.1** Maize meal shall be of natural colour conforming to the colour of maize from which it was prepared.

**4.2.2** Maize meal shall not contain any foreign matter such as insects, fungi, dirt or other contaminants above the level permitted in EAS 2.

**4.2.2** Maize meal shall be free from fermented musty or other objectionable colours.

**4.2.3** Maize meal shall be free from rancidity and foreign odours.

**4.2.4** Maize meal shall be wholesome and fit for human consumption in all aspects.

### **4.3 Specific requirements**

Milled Maize products shall conform to the requirements given in Table 1.



Table 1 — Specific requirements

SI No.	Characteristic	Type				Test method
		Sifted maize meal	Granulated maize meal	Whole maize meal	Maize flour	
i)	Fibre content, % by m/m, max.	0.7	1.0	3.0	0.7	EAS 82
ii)	Crude fat a moisture free basis, % by m/m, max.	2.25	2.25	3.1		
iii)	Moisture content, % by m/m, max.	13	13	13	13	
iv)	Total ash, % by m/m, max.	1.0	1.	3.0	1.0	
v)	Acid insoluble ash, % by m/m, max.	0.15	0.35	0.40	0.15	
vi)	Crude protein (N x 6.25) % min	7.0	7.0	8.0	7.0	
vii)	Iron mg/kg	7	7	8	8	
viii)	Fat acidity, mg KOH per 100g of product, on dry mass basis	50	50	50	50	
ix)	Total Aflatoxin (AFB1+AFB2+AFG1+AFG2), ppb max	10				ISO 16050
x)	Aflatoxin B1 only, ppb max	5				
xi)	Fumonisin ppm max	2				

## 5 Food additives

The product shall contain only permitted additives complying with EAS 103.

## 6 Hygiene

**6.1** Milled maize products shall be produced, prepared and handled in accordance with the provisions of appropriate sections of EAS 39.

**6.2** When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

**6.3** The product shall be free from pathogenic micro-organism and shall comply with microbiological limits in Table 2.

Table 2 — Microbiological limits

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Sl. No.	Micro-organism	Maximum limit	Methods of test
(1)	Total aerobic count per g	10 <sup>5</sup>	EAS 217
(11)	<i>E. Coli</i> per 1 g	Not detectable	EAS 217
(III)	<i>Salmonella</i> per 25 g	Not detectable	EAS 217
(iv)	Yeast and Moulds cfu/g	10 <sup>4</sup>	EAS 217
(V)	<i>S.aureus</i> per 25 g	Not detectable	EAS 217

### 7 Contaminants

#### 7.1 Heavy metals

Milled maize products shall comply with those maximum limits for heavy metals established by the Codex Alimentarius Commission for this commodity.

#### 7.2 Pesticide residues

Milled maize products shall comply with those maximum residue limits established by the Codex Alimentarius Commission for this commodity.

*Note:* where the use of certain pesticides is prohibited by some Partner States, then it shall be notified to all Partner States accordingly.

#### 7.3 Mycotoxins

Milled maize products shall comply with those maximum mycotoxin limits established by the Codex Alimentarius Commission for this commodity. The milled maize products shall not exceed total aflatoxin of 10 ppb and 5 ppb for aflatoxin B1 when tested in accordance with ISO 16050.

### 8 Packaging

**8.1** Maize meal shall be packed suitable packages which shall be clean, sound, free from insects, fungal infestation and the packing material shall be of food grade quality.

**8.2** Maize meal shall be packed in containers which will safeguard the hygienic, nutritional, technological and organoleptic qualities of the products.

**8.3** The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They shall not impart any toxic substance or undesirable odour or flavour to the product.

**8.4** Each package shall be securely closed and sealed.

### 9 Labelling

In addition to the requirements in EAS 38, each package shall be legibly and indelibly marked with the following:

i) name of product as "Whole Maize Meal, Sifted Maize meal , Maize flour or Granulated Maize meal";

iii) name and address of the manufacturer/packer/importer;

- iv) brand name/registered trade mark;
- v) batch or code number;
- vi) net weight in metric units;
- vii) the statement "Store in a Cool Dry Place";
- viii) the statement "Human Food";
- x) country of origin;
- xi) date of manufacture;
- xii) expiry date;
- xiii) instructions for disposal of used package.

**9 Methods of sampling**

Sampling shall be done in accordance with the ISO 13690.