

DRAFT UGANDA STANDARD

Second Edition
2016-mm-dd

Milled maize (corn) products — Specification

PUBLIC REVIEW DRAFT



Reference number
DUS DEAS 44: 2016

Compliance with this standard does not, of itself confer immunity from legal obligations

A Uganda Standard does not purport to include all necessary provisions of a contract. Users are responsible for its correct application

© UNBS 2016

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilised in any form or by any means, electronic or mechanical, including photocopying and microfilm, without prior written permission from UNBS.

Requests for permission to reproduce this document should be addressed to

The Executive Director
Uganda National Bureau of Standards
P.O. Box 6329
Kampala
Uganda
Tel: 256 417 333 250/1/2/3
Fax: 256 414 286 123
E-mail: info@unbs.go.ug
Web: www.unbs.go.ug

National foreword

Uganda National Bureau of Standards (UNBS) is a parastatal under the Ministry of Trade, Industry and Cooperatives established under Cap 327, of the Laws of Uganda, as amended. UNBS is mandated to coordinate the elaboration of standards and is

- (a) a member of International Organisation for Standardisation (ISO) and
- (b) a contact point for the WHO/FAO Codex Alimentarius Commission on Food Standards, and
- (c) the National Enquiry Point on TBT Agreement of the World Trade Organisation (WTO).

The work of preparing Uganda Standards is carried out through Technical Committees. A Technical Committee is established to deliberate on standards in a given field or area and consists of representatives of consumers, traders, academicians, manufacturers, government and other stakeholders.

Draft Uganda Standards adopted by the Technical Committee are widely circulated to stakeholders and the general public for comments. The committee reviews the comments before recommending the draft standards for approval and declaration as Uganda Standards by the National Standards Council.

This Draft Uganda Standard, DUS DEAS 44: 2016, *Milled maize (corn) products — Specification*, is identical with and has been reproduced from a Draft East African Standard, DEAS 44: 2016, *Milled maize (corn) products — Specification*, and is being proposed for adoption as a Uganda Standard.

This standard cancel and replaces US EAS 44:2011, *Milled maize (corn) products — Specification*, which has been technically revised.

This standard was developed by the Food and agriculture Standards Technical Committee (UNBS/TC 2).

Wherever the words, "East African Standard" appear, they should be replaced by "Uganda Standard."



DEAS 44:2016

ICS 67.060

DRAFT EAST AFRICAN STANDARD

Milled maize (corn) products — Specification

PUBLIC REVIEW DRAFT

EAST AFRICAN COMMUNITY

PUBLIC REVIEW DRAFT

Copyright notice

This EAC document is copyright-protected by EAC. While the reproduction of this document by participants in the EAC standards development process is permitted without prior permission from EAC, neither this document nor any extract from it may be reproduced, stored or transmitted in any form for any other purpose without prior written permission from EAC.

Requests for permission to reproduce this document for the purpose of selling it should be addressed as shown below or to EAC's member body in the country of the requester:

© East African Community 2016 — All rights reserved
East African Community
P.O. Box 1096
Arusha
Tanzania
Tel: 255 27 2504253/8
Fax: 255 27 2504481/2504255
E-mail: eac@eachq.org
Web: www.eac-quality.net

Reproduction for sales purposes may be subject to royalty payments or a licensing agreement. Violators may be prosecuted.

PUBLIC REVIEW DRAFT

Contents

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Requirements	2
4.1 General requirements	2
4.3 Specific requirements	2
5 Food additives	3
6 Hygiene	3
7 Contaminants	4
7.1 Heavy metals	4
7.2 Pesticide residues	4
7.3 Mycotoxins	4
8 Weights and measures	4
9 Packaging	4
10 Labelling	4
11 Methods of sampling	5
Bibliography	6

Foreword

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

In order to achieve this objective, the Community established an East African Standards Committee mandated to develop and issue East African Standards.

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.

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.

EAS 44 was prepared by Technical Committee EAS/ TC 014, *Cereals and pulses*.

This second/third/... edition cancels and replaces the first/second/... edition (EAS nnn-n:19xx), [clause(s) / subclause(s) / table(s) / figure(s) / annex(es)] of which [has / have] been technically revised.

PUBLIC REVIEW DRAFT

Milled maize (corn) products — Specification

1 Scope

This draft East African Standard specifies the requirements, methods of sampling and test for whole maize meal, granulated maize meal, sifted maize meal, maize grits and maize flour from the grains of common maize (*Zea mays L.*) intended for human consumption. Maize grits intended for brewing, manufacturing of starch and any other industrial use are not covered.

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.

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 terms and definitions shall apply.

3.1

milled maize (corn) products

products obtained from maize grains *Zea mays L.* through milling process. These include whole maize meal, granulated maize meal, sifted maize meal and maize flour.

3.2

whole maize meal

food prepared from fully mature, sound, un-germinated, whole kernels of maize, *Zea mays L.*, by a grinding process in which the entire grain is comminuted to a suitable degree of fineness.

3.3

granulated maize meal

coarse product obtained from milling and sifting of clean shelled maize

3.4

sifted maize meal

form of granulated maize meal that has been reduced to a certain degree of fineness

3.5

sifting

particle size separation by sieving and aspiration of milled products

3.6

cleaned maize

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

3.7

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

3.8

food grade container

container which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product

3.9

foreign matter

organic or inorganic material other than wheat flour

4 Requirements

4.1 General requirements

4.1.1 Maize grain

Milled maize (corn) products shall be made from maize grain complying to EAS 2.”

4.1.2 Milled maize (corn) products shall;

- a) be of characteristic colour conforming to the colour of maize from which it was prepared;
- b) not contain any foreign matter such as insects, fungi, dirt or other contaminants;
- c) be free from fermented musty or other objectionable odour and colours;
- d) be wholesome and fit for human consumption in all aspects.

4.3 Specific requirements

Milled maize (corn) products shall conform to the requirements given in Table 1.

Table 1 — Specific requirements

S/ No.	Characteristic	Type					Test methods
		Sifted maize meal	Granulated maize meal	Whole maize meal	Maize flour	Maize grit	
i)	Crude fibre content, % by m/m, max.	0.7	1.0	3.0	0.7	1.0	EAS 82
ii)	Crude fat on moisture free basis, % by m/m, max.	3.0	3.0	3.1*	3.0	3.0	
iii)	Moisture content, % by m/m, max.	14	14	14	14	14	
iv)	Total ash, % by m/m, max.	1.0	1.0	3.0	1.0	1.0	
v)	Acid insoluble ash, % by m/m, max.	0.15	0.35	0.40	0.15	0.15	
vi)	Fat acidity, mg KOH per 100g of product, on dry mass basis, max.	80	80	80	80	80	

*Minimum crude fat on moisture free basis for whole maize meal

5 Food additives

Milled maize (corn) products may contain only the permitted food additives in the Codex Stan 192.

6 Hygiene

6.1 Milled maize (corn) products shall be prepared and handled in accordance with the provisions of appropriate sections of EAS 39.

6.2 The product shall conform to the microbiological limits in Table 2.

Table 2 — Microbiological limits

S/No.	Micro-organism	Maximum limit	Methods of test
i)	Total aerobic count per g	10 ⁵	ISO 4832
ii)	<i>E. Coli</i> per 1 g	Absent	ISO 16649-1
iii)	<i>Salmonella</i> per 25 g	Absent	ISO 6579
iv)	Yeast and Moulds cfu/g	10 ⁴	ISO 7954
v)	<i>S.aureus</i> per 25 g	10 ²	ISO 6888-1

7 Contaminants

7.1 Heavy metals

Milled maize (corn) products shall conform to those maximum limits for heavy metals established by the Codex Alimentarius Commission as specified in Table 3.

Table 3 — Heavy metals limits

S/No.	Heavy metal	Limits (mg/kg)	Test methods
i)	Arsenic (As)	0.1	ISO 27085
ii)	Lead (Pb)	0.2	ISO 6633
iii)	Cadmium (cd)	0.1	ISO 6561-1 or ISO 6561-2

7.2 Pesticide residues

Milled maize (corn) products shall conform to those maximum residue limits established by the Codex Alimentarius Commission for this commodity.

7.3 Mycotoxins

Milled maize (corn) products shall conform to those maximum mycotoxin limits established by the Codex Alimentarius Commission as specified in Table 4.

Table 4 — Mycotoxins limits

S/No.	Mycotoxins	Limits	Test methods
i)	Total aflatoxins, µg/kg, max	10	ISO 16050.
ii)	Aflatoxins B1, µg/kg, max	5	
iii)	Fumonisin, µg/kg, max	2000	AOAC 2001.04

8 Weights and measures

The fill and the weight of the product shall conform to the weights and measures regulations of the importing partner state.

9 Packaging

Milled maize (corn) products shall be packaged in food grade containers. When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

10 Labelling

Labelling shall be done in accordance with EAS 38. At the minimum, the following information shall be displayed:

- a) name of product as "Whole Maize Meal, Sifted Maize meal, Maize Flour or Granulated Maize Meal";
- b) name and address of the manufacturer/packer/importer;

- c) brand name/registered trade mark;
- d) batch or code number;
- e) net weight in metric units;
- f) the statement "storage instructions
- g) the statement "Human Food";
- h) country of origin;
- i) date of manufacture;
- j) expiry date;
- k) instructions for disposal of used package.

11 Methods of sampling

Sampling shall be done in accordance with the ISO 24333.

PUBLIC REVIEW DRAFT

Bibliography

CODEX STAN 154:1985(Rev.1:1995), Standard for whole maize (corn) meal

PUBLIC REVIEW DRAFT

PUBLIC REVIEW DRAFT