DEAS 128:2016

ICS 67.060

DRAFT EAST AFRICAN STANDARD

Milled rice — Specification

EAST AFRICAN COMMUNITY

Third Edition 2016

Copyright notice

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 128:2015 was prepared by Technical Committee EAS/TC 014, *Cereals, Pulses and related products*

This Third edition cancels and replaces the second edition (EAS 128:2013) which has been technically revised.

Milled rice — Specification

1 Scope

This Draft East African Standard specifies the requirements and methods of sampling and test for milled rice of the varieties grown from *Oryza spp*. intended for human consumption.

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 pre-packaged foods — Requirements*

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

EAS 764*, Rough (paddy) rice — Specification*

EAS 765*, Brown rice — Specification*

ISO 605, *Pulses — Determination of impurities, size, foreign odours, insects, and species and variety — Test methods*

ISO 711, *Cereals and cereal products — Determination of moisture content (Basic reference method)*

ISO 712, *Cereals and cereal products — Determination of moisture content — Routine reference method*

ISO 6579, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Salmonella spp.*

ISO 6888-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) — Part 1: Technique using Baird-Parker agar medium*

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

ISO 16050, *Foodstuffs — Determination of aflatoxin B_1, and the total content of aflatoxin B_1, B_2, G_1 and G_2 in cereals, nuts and derived products — High performance liquid chromatographic method*

ISO 21527, *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*

ISO 24333, Cereals and cereal products – Sampling

- CODEX STAN 193, *Codex general standard for contaminants and toxins in food and feed*
- ISO 5223, *Test sieves for cereals*
- ISO 6639-1, *Cereals and pulses — Determination of hidden insect infestation — Part 1: General Principles*

- ISO 6639-2, *Cereals and pulses — Determination of hidden insect infestation — Part 2: Sampling*

3 Terms and definitions

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

3.1
milled rice
whole or broken kernels of rice(oryza spp) from which the germ, embryo or at least the outer bran layer have been removed.

3.2
bran
by product from milling consisting of the outer (pericarp) layers of the kernel with part of the germ

3.3
broken kernels
pieces of rice that are less than three-quarters of a whole kernel and includes grains of rice in which part of the endosperm is exposed or rice without a germ. If the piece is more than three-quarters of a kernel, it is considered whole.

3.4
chalky kernels
head rice or broken kernel, except wax rice, whose whole surface has an opaque and floury appearance

3.5
damaged /defective
pest damaged, discoloured, stained, diseased, frost damaged, immature and shrivelled grains and broken grains

3.6
foreign matter
all organic and inorganic material(such as sand, soil, glass)other than rice, broken kernels and other grains

3.7
filth
impurities of animal origin

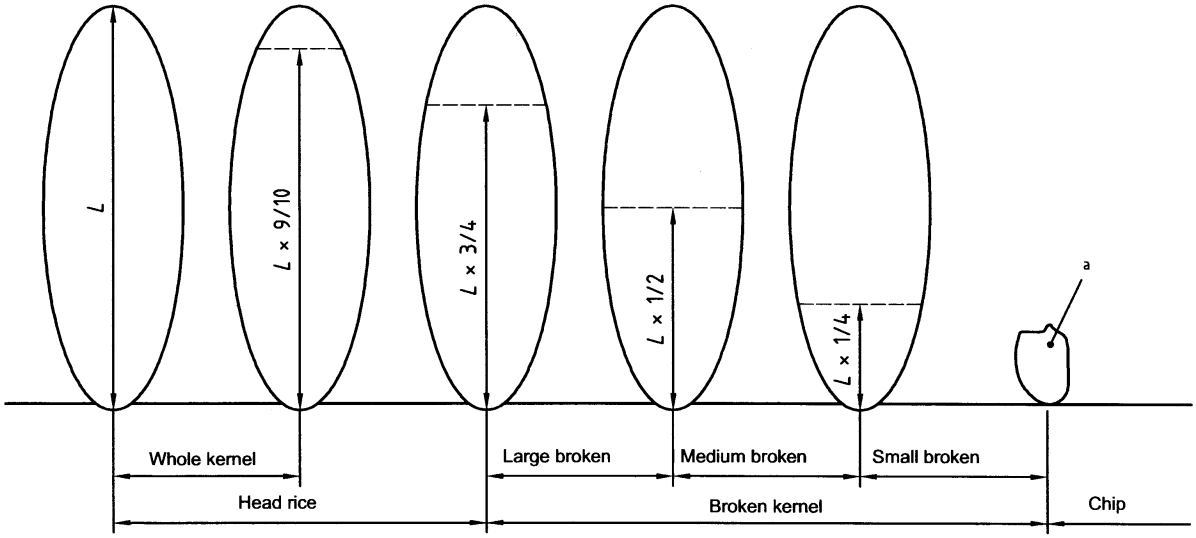
3.8
glutinous milled rice
special varieties of rice (*Oryza sativa* L. *glutinosa*) which contain more than 50 % chalky kernels and have a white and opaque appearance containing high amounts of amylopectin

3.9
head rice
whole kernel or part of the kernel with a length greater than or equal to 75 % of the average length of the test sample kernels (see Figure 1)

3.10
immature
unripe and/or undeveloped whole or broken kernel

3.11
pest damaged
grains which show damage owing to attack by rodents, insects, mites or other pests

3.12
large broken kernel
part of kernel with a length less than three-quarters but greater than one half of the average length of the test sample kernels



Key

a Not passing through a round perforation of 1.4 mm in diameter

L is the average length

Figure 1 — Size of kernels, broken kernels and chips

3.13
medium broken kernel
part of kernel with a length less than or equal to one half but greater than one quarter of the average length of the test sample kernels (Figure 1)

3.14
paddy kernels
whole or broken unhulled kernels of rice;.

3.15
noxious, toxic and/or harmful seeds
seeds which can have a damaging or dangerous effect on health, sensory properties or technological performance

3.16
red
head rice or broken kernel having a red bran covering more than 25 % of its surface

3.17
red-streaked kernel
head rice or broken kernel with red bran streaks of length greater than or equal to 50 % of that whole kernel, but where the surface covered by these red streaks is less than 25 % of the total surface

3.18
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

3.19
inorganic foreign matter
stones, glass, pieces of soil and other mineral matter

3.20
organic foreign matter
plant matter (husk, straws, weeds) other than kernels of rice, damaged rice kernels, other edible grains, and harmful/toxic seeds

3.21
filth
impurities of animal origin (including dead insects)

3.22
other contrasting varieties
Whole or broken kernels of rice with distinct grain characteristics in size, shape and aroma from the designated variety

4.1 Classification

If rice is classified as long grain, medium grain or short grain, the classification shall be in accordance with one of the following specifications:

a) Option 1 (Kernel length/width ratio):

i) Long grain rice:

- rice with a length/width ratio of 3.1 or more; and
- Milled rice or with a length/width ratio of 3.0 or more;

ii) Medium grain rice:

- with a length/width ratio of 2.1–3.0; and
- Milled rice with a length/width ratio of 2.0–2.9;

iii) Short grain rice:

- rice with a length/width ratio of 2.0 or less; and
- Milled rice with a length/width ratio of 1.9 or less;

b) Option 2 (Kernel length):

i) Long grain rice has a kernel length of 6.6 mm or more;

ii) Medium grain rice has a kernel length of 6.2 mm or more but less than 6.6 mm; and

iii) Short grain rice has a kernel length of less than 6.2 mm;

c) Option 3 (Combination of the kernel length and the length/width ratio):

i) Long grain rice has either:

- kernel length of more than 6.0 mm and with a length/width ratio of more than 2 but less than 3, or;
- kernel length of more than 6.0 mm and with a length/width ratio of 3 or more;

ii) Medium grain rice has a kernel length of more than 5.2 mm but not more than 6.0 mm and a length/width ratio of less than 3; and

iii) Short grain rice has a kernel length of 5.2 mm or less and a length/width ratio of less than 2.

NOTE: Traders should indicate which classification option is chosen.

4.2 Quality requirements

4.3 General requirements

4.3.1 Milled rice shall be obtained from rough or brown rice complying to EAS 764 or EAS 765 respectively.

4.3.2 Milled rice shall be:

a) the dried mature grains of edible *Oryza spp*;

b) clean, wholesome, uniform in size, colour and shape;

c) safe and suitable for human consumption;

d) free from abnormal flavours, musty, sour or other undesirable odour, obnoxious smell and discolouration; and

e) practically free from micro-organisms and substances originating from micro-organisms, fungi or other poisonous or deleterious substances in amounts that may constitute a hazard to human health.

f) free from live weevils

4.4 Specific requirements

Milled rice grains for human consumption may be graded into three grades and shall be on the basis of the tolerable limits established in Table 1.

Table 1 — Specific requirements

S/N	Characteristics	Maximum limits			test method
		Grade 1	Grade 2	Grade 3	
i)	Broken, %	5(15)KE (10)UG (5)RW	15(25 (25) (15)	25(35) (50) (25)	ISO 605(check the method) ISO 7301
ii)					
iii)	Damaged rice, %	1.5	2	3.0	
iv)	Chalky and immature grains %	2	4	10	
v)	Red or red streaked, %	2	6	12	
vii)	Other contrasting varieties, %	1	2	3	
	Foreign matter				
viii)					
ix)					
x)	Paddy grains, %	0.3			

xii)	Filth, %	0.1	
xiii)	Moisture content, %	14	ISO 711/ISO 712

5 Contaminants

5.1 Pesticide residues

Milled rice shall comply with those maximum pesticide residue limits established by the Codex Alimentarius Commission for this commodity

NOTE Where the use of certain pesticides is prohibited by some Partner States, it should be notified to all Partner States accordingly.

5.2 Other contaminants

5.2.1 Milled rice shall comply with those maximum limits for heavy metals established by the codex alimentarius commission for this commodity.

5.2.2 Milled rice shall comply with the limits for mycotoxins stated in table 2 below.

Table 2 Mycotoxin limits for milled rice

S/N	Mycotoxin	Limit	Methods of test
i)	Total Aflatoxin (AFB_1+AFB_2+AFG_1 +AFG_2)), µg/kg, max.	10	ISO16050
ii)	Aflatoxin B_1, µg/kg, max.	5	
iii)	Fumonisin mg/kg, max.	2	AOAC 2001.04

6 Hygiene

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

6.2 When tested by appropriate standards of sampling and examination listed in Clause 2, the products shall:

a) be free from microorganisms in amounts which may represent a hazard to health and shall not exceed the limits stipulated in Table 4;

b) be free from parasites which may represent a hazard to health; and

c) not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

7 Packaging

7.1 Milled rice shall be packed in food grade containers which will safeguard the hygienic, nutritional, and organoleptic qualities of the products.

7.2 Each package shall be securely closed and sealed.

8 Weights and measures

Milled rice shall be package in accordance with the weights and measures regulations in the destination country.

NOTE EAC Partner States are signatory to the International Labour Organizations (ILO) for maximum package weight of 50 kg where human loading and offloading is involved.

9 Labelling

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

a) product name as “Milled rice”;

b) classes;

i) Long grain milled rice

ii) Medium grain milled rice

iii) Short grain milled rice

c) iv)Mixed milled rice grade;

d) name, address and physical location of the manufacturer/ packer/importer;

e) lot/batch/code number;

f) net weight, in kilograms;

NOTE EAC Partner States are signatory to the International Labour Organizations (ILO) for maximum package weight of 50 kg where human loading and offloading is involved.

g) the declaration “Food for human consumption’’;

h) storage instruction as “Store in a cool dry place away from any contaminants’’;

i) crop year;

j) packing date;

k) instructions on disposal of used package;

l) country of origin; and

m) a declaration on whether the milled rice was genetically modified or not.

10 Sampling methods

Sampling shall be done in accordance with the ISO 24333.

