



DEAS 1092:2022

ICS 65.120

DRAFT EAST AFRICAN STANDARD

Compounded rabbit feed — Specification

EAST AFRICAN COMMUNITY

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 2022 — All rights reserved
East African Community
P.O. Box 1096,
Arusha
Tanzania
Tel: + 255 27 2162100
Fax: + 255 27 2162190
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.

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Requirements	2
4.1 General requirements	2
4.1.1 Ingredients for rabbit feeds	2
4.1.2 General quality requirements	3
4.2 Specific requirements	3
5 Feed additives and provisions related to their use	3
6 Contaminants	4
6.1 Aflatoxins	4
6.2 Pesticide residues	4
6.3 Heavy metals	4
7 Hygiene	5
8 Packaging	5
9 Labelling	5
10 Sampling	6
Annex A (normative) Rabbit feed ingredients	7
A.1 Grain products	7
A.2 Animal products	7
A.3 Plant products (other than cereal based)	8
A.4 Industrial by-products	8
A.5 Other ingredients	8
Annex B (informative) Vitamins in compounded rabbit feed	9
Annex D (normative) Method of test for nitrogen free extract	11
Bibliography	12

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.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. 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 Principles and procedures for development of East African Standards.

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.

The committee responsible for this document is Technical Committee EASC/TC 001, *Animal feeds and feeding stuffs*.

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.

Rabbit feed — Specification

1 Scope

This Draft East African Standard specifies requirements, sampling and test methods for compounded rabbit feed.

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.

ISO 6493, *Animal feeding stuffs — Determination of starch content — Polarimetric method*

ISO 5510, *Animal feeding stuffs — Determination of available lysine*

ISO 5983-1, *Animal feeding stuffs — Determination of nitrogen content and calculation of crude protein content — Part 1: Kjeldahl method*

ISO 5984, *Animal feeding stuffs — Determination of crude ash*

ISO 5985, *Animal feeding stuffs — Determination of ash insoluble in hydrochloric acid*

ISO 6490-1, *Animal feeding stuffs — Determination of calcium content — Part 1: Titrimetric method*

ISO 6491, *Animal feeding stuffs — Determination of phosphorus content — Spectrometric method*

ISO 6492, *Animal feeding stuffs — Determination of fat content*

ISO 6495, *Animal feeding stuffs — Determination of water-soluble chlorides content*

ISO 6496, *Animal feeding stuffs — Determination of moisture and other volatile matter content*

ISO 6497, *Animal feeding stuffs — Sampling*

ISO 6865, *Animal feeding stuffs — Determination of crude fibre content — Method with intermediate filtration*

ISO 9831, *Animal feeding stuffs, animal products, and faeces or urine — Determination of gross calorific value — Bomb calorimeter method*

ISO 13903, *Animal feeding stuffs — Determination of amino acids content*

ISO 14718, *Animal feeding stuffs — Determination of aflatoxin B1 content of mixed feeding stuffs — Method using high-performance liquid chromatography*

ISO 17375, *Animal feeding stuffs — Determination of aflatoxin B1*

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 standard, the terms and definitions shall apply

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <http://www.iso.org/obp>

- 3.1 rabbit female feed**
diet for does from first service, through gestation and lactation
- 3.2 rabbit weaner/pre-grower feed**
diet for weaner rabbits, both for meat and replacement, does to be fed between 4 weeks and 9 weeks of age
- 3.3 rabbit grower/finisher feed**
diet for meat rabbits after the weaner diet or from weaning to slaughter and until first service for reproduction does. This diet is also for male rabbits (bucks) for the rest of their life
- 3.4 compounded feed**
mixture of at least two feed ingredients, whether or not containing feed additives, for oral animal feeding in the form of a complementary feed or a complete feed
- 3.5 feed (feedingstuff)**
Any single or multiple materials, whether processed, semi-processed or raw, which is intended to be fed directly to food producing animals.
- 3.6 feed ingredient**
component part or constituent of any mixture making up a feed, whether or not it has a nutritional value in the animal's diet, including feed additives

Note 1 to entry: Ingredients are of plant, animal or aquatic origin, or other organic or inorganic substances.

4 Requirements

4.1 General requirements

4.1.1 Ingredients for rabbit feeds

- 4.1.1.1** All ingredients and raw materials shall be of high quality and shall be of sound condition and not decomposed or deteriorated.
- 4.1.1.2** Ingredients of animal origin shall be sterilized before use.
- 4.1.1.3** Vitamin preparations added to feed shall be in stabilised form.

4.1.2 General quality requirements

Compounded rabbit feed shall be:

- a) either dry or wet, raw or pre-cooked;
- b) in the form of pellet, cube or mash
- c) free from rancidity, musty odour, toxic ingredients, adulterants, mould and insect pest infestation; and
- d) palatable.

4.2 Specific requirements

4.2.1 Compounded rabbit feed shall conform to the specific requirements given in Table 1.

Table 1 — Specific requirements for compounded rabbit feed

S/N	Nutrient	Rabbit female feed		Rabbit weaner/pre-grower feed		Rabbit grower/finisher feed		Test method
		Min.	Max.	Min.	Max.	Min.	Max.	
i.	Average digestible energy, Kcal/kg	2 600		2 600		2 400		ISO 9831
ii.	Moisture, %	-	13	-	13	-	13	ISO 6496
iii.	Crude ash, %	-	10	-	10	-	10	ISO 5984
iv.	Acid insoluble ash, %	-	5	-	5	-	5	ISO 5985
v.	Crude fat, %	3	6	2	4	2	5	ISO 6492
vi.	Crude protein, %	15	18	15	18	14	17	ISO 5983
vii.	Crude fiber, %	14	18	15	20	14	18	ISO 6865
viii.	Nitrogen free extract, %	40	-	42	-	42	-	Annex D
ix.	Calcium, %	0.9	1.3	0.7	1.0	0.6	1.0	ISO 6490-1
x.	Total phosphorus, %	0.5	-	0.5	-	0.4	-	ISO 6491
xi.	Sodium chloride, %	0.2	-	0.2	-	0.2	-	ISO 6495
xii.	Lysine, %	0.65		0.65		0.55		ISO 17180
xiii.	Methionine + Cystine, %	0.55		0.55		0.5		ISO 17180

4.2.2 Compounded rabbit feed may contain vitamins as listed in Annex C.

5 Feed additives and provisions related to their use

5.1 Additives in the following categories may be used in compounded rabbit feed and if used.

- a) antioxidants;
- b) colourants;

- c) emulsifiers;
- d) stabilisers;
- e) thickeners and gelling agents;
- f) binders;
- g) anti-caking agents and coagulants;
- h) aromatic and appetising substances;
- i) enzymes; and
- j) preservatives.

NOTE Materials intended for mixing with animal feed as additives for use as feeding stuffs should specify the kind of and, if appropriate the age group of the animal for which the feed is intended. In addition the quantity in grams per kilogram (or percent by weight) of the complete feed which conform to the provisions of this standard should be stated in the label.

5.2 No antibiotic, hormone substance, drug shall be added to or included in a feed other than such ingredients required to satisfy this standard and approved by World organization for animal health (OIE).

6 Contaminants

6.1 Aflatoxins

Compounded rabbit feed shall comply with the maximum aflatoxin requirements stated in the Table 2 when tested in accordance with the methods specified therein.

Table 2 — Limits for aflatoxin in compounded rabbit feed

S/N	Aflatoxin type	Maximum limit µg/kg	Test method
i.	Total aflatoxin	10	ISO 16050
ii.	Aflatoxin B1	5	ISO 6651 ISO 14718 ISO 17375

6.2 Pesticide residues

Compounded rabbit feed shall comply with those maximum pesticide residue limits established by the Codex Alimentarius Commission.

6.3 Heavy metals

Compounded rabbit feeds shall comply with the limits of heavy metals as specified in the Table 3 when tested in accordance with the methods specified therein.

Table 3 — Heavy metal limits for rabbit feed

S/N	Heavy metal	Maximum limit mg/kg	Test method
i.	Arsenic	2.0	ISO 27085
ii.	Lead	5.0	
iii.	Cadmium	1.0	

7 Hygiene

7.1 Compounded rabbit feed premix shall be produced and handled in accordance with CAC/RCP 54.

7.2 Compounded rabbit food shall comply with microbiological limits as shown in Table 4.

Table 4 — Microbiological requirements for compounded rabbit feed

S/N	Microorganism	Status	Test method
i.	<i>Salmonella</i> spp	Absent	ISO 6579-1
ii.	<i>Escherichia coli</i>	Absent	ISO 16654

8 Packaging

Rabbit feeds for sale shall be packaged in suitable containers that are of sufficient strength, and sufficiently sealed so as to withstand reasonable handling without tearing, bursting or falling open. The containers shall be clean and not previously used.

9 Labelling

Each package of compounded rabbit feed shall be legibly and indelibly labelled with the following:

- name of the feed as “Compounded female rabbit feed”, “Compounded weaner/pre-grower rabbit feed”, “Compounded grower/finisher rabbit feed”;
- name and physical address of the manufacturer/exporter/packer;
- declared proportions of crude protein, crude fibre, crude fat, phosphorus, calcium;
- additives if included shall be declared;
- net weight in metric units;
- directions for use;
- batch number/ lot identification;
- manufacturing date;
- storage instructions; and

j) expiry date/best before date.

10 Sampling

Sampling shall be drawn in accordance with ISO 6497.

PUBLIC REVIEW DRAFT MAY 2022

Annex A (normative)

Rabbit feed ingredients

The following ingredients may be used in the manufacture of dog feeds:

A.1 Grain products

- a) Maize flour;
- b) Wheat flour;
- c) Oat flour;
- d) Pollard;
- e) Barley;
- f) Wheat bran;
- g) Wheat germ;
- h) Rice;
- i) Sorghum;
- j) Maize germ meal; and
- k) Maize bran.

A.2 Animal products

- a) Bonemeal;
- b) Blood meal;
- c) Meat/bonemeal;
- d) Meat meal;
- e) Offal meals (treated);
- f) Dried skimmed milk;
- g) Dry whey;
- h) Cheese meal;
- i) Poultry by-products (excluding manure);
- j) Hydrolysed feather meal;

- k) Fishmeal; and
- l) Whole milk.

A.3 Plant products (other than cereal based)

- a) Soybean meal;
- b) Alfalfa meal (lucerne meal) - dried grass meal; and
- c) Potatoes (*solanum tuberosum*).

A.4 Industrial by-products

- a) Sunflower cakes;
- b) Brewer's yeast and dried grains; and
- c) Sugarcane molasses.

A.5 Other ingredients

- a) Common salt;
- b) Dicalcium phosphate (fluorine content not to exceed 0.2 %;
- c) Calcium lactate;
- d) Limestone; and
- e) Vitamin and mineral premixes.

Annex B
(informative)

Vitamins in compounded rabbit feed

Table B 1 — Requirements for vitamins in compounded rabbit feed

Vitamin	Amounts in feed (dry basis)
Vitamin A, IU/kg	6 000-10 000
Vitamin D, IU/kg	900.0
Vitamin E, IU/kg	50.0
Thiamin (B ₁), mg/kg	15.0
Riboflavin (B ₂), mg/kg	5
Pantothenic acid, mg/kg	10.0
Niacin, mg/kg	15.0
Pyridoxine (B ₆), mg/kg	5.0
Folic acid, mg/kg	0.15
Biotin, mg/kg	0.50
Vitamin (B ₁₂)	mg/kg

Annex C
(informative)

Recommended levels of added micro-ingredients for rabbit feed

Vit A (IU/kg)	6 000
Vit D3 (IU/kg)	750
Vit E or equivalents (IU/kg)	20
Vit K (mg/kg)	1
Vit B1, thiamine (mg/kg)	1
Vit B2, riboflavin (mg/kg)	4
Vit B6, pyridoxine (mg/kg)	2
Vit B12 (mcg/kg)	10
Niacin (mg/kg)	20
Panhotenic acid (mg/kg)	10
Folic acid (mg/kg)	2.5
Biotin (mcg/kg)	50
Choline (mg/kg)	100
Cu (mg/kg)	8
Zn (mg/kg)	50
Mn (mg/kg)	10
I (mg/kg)	0.5
Fe (mg/kg)	50
Se (mg/kg)	0.05

Annex D (normative)

Method of test for nitrogen free extract

To calculate use the formula below.

Nitrogen Free Extract (%) = (100- Moisture -crude ash- crude fat - crude protein - crude fiber).

NFE = 100 minus (moisture) minus (crude ash) minus (crude fat) minus (crude protein) minus (crude fibre).

- Moisture
- Crude ash
- Crude fat
- Crude protein
- Crude fiber

PUBLIC REVIEW DRAFT

Bibliography

EAS 53: 2000, *Dog feed specification*

PUBLIC REVIEW DRAFT MAY 2022

PUBLIC REVIEW DRAFT MAY 2022