



DRAFT EAST AFRICAN STANDARD

Dog food — 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 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.

This second edition cancels and replaces the first edition (EAS 53:2000), which has been technically revised.

Dog food — Specification

1 Scope

This Draft East African Standard specifies requirements, sampling and test methods for dog food.

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 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*

ISO 27085, *Animal feeding stuff — Determination of calcium, sodium, phosphorous, magnesium, potassium, iron, zinc, copper, manganese, cobalt, molybdenum, arsenic, lead and cadmium by ICP-AES*

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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

puppy food

food meant for a young dog less than 1 year old

3.2

adult dog food

food meant for mature dogs more than 1 year old

3.3

lactating dog food

food meant for whelping dog

3.4

working/ active dog food

food meant for speciality dogs

4 Requirements

4.1 General quality requirements

4.1.1 All ingredients and raw materials shall not be decomposed or deteriorated and shall comply with the relevant East African standards. The common feed stuffs described in Annex A and their nutrient composition provided in Annex B may be used for purposes of formulating dog food.

4.1.2 Where soy bean meal is used, it shall have been subjected to adequate heat treatment to reduce the activity of trypsin inhibitor

4.1.3 Ingredients of animal origin shall be sterilised before use.

4.1.4 Vitamin preparations added to feed shall be in stabilised form.

4.1.5 Urea or any other nitrogenous substances shall not be added to or included in any dog food except such true protein and amino acids as required in this standard.

4.1.6 Dog food shall:

- a) be either in form of a meal(mash) or pellets or snacks/bites
- b) either dry or wet, raw or precooked
- c) be palatable;
- d) be free from harmful levels of substances such as metallic objects, and adulterants;

- e) not be, musty, rancid and shall not have any objectionable odours; and
- f) be free from fungi, pathogenic microorganisms or insect infestation.

4.2 Specific requirements

4.2.1 Dog foods shall conform to the requirements specified in Table 1 when tested in accordance with the test methods specified therein.

4.2.2 Dog feeds shall contain vitamins and minerals specified in Tables 2 and 3.

Table 1 — Requirements for dog feeds

S/No	Parameter	Requirement			Test method
		Adult dog food	Puppy and lactating dog	Working dog food	
i	Metabolizable energy, min. kcal/kg	3600	3600	3600	ISO 9831
ii	Moisture, % m/m, max.	10.0	10.0	10.0	ISO 6496
iii	Crude protein (N×6.25), % m/m, min.	20.0	25.0	26	ISO 5983-1
iv	Crude fat, % m/m, min.	5.5	12	12	ISO 6492
v	Crude fibre, % m/m, max.	6.5	4	6.5	ISO 6865
vi	Crude ash, % m/m, max.	12.0	12.0	12.0	ISO 5984
vii	*Calcium, % m/m, min.	0.50	1.0	1.0	ISO 6490-1
viii	*Phosphorus, % m/m, min.	0.70	0.7	0.70	ISO 6491
ix	potassium, % m/m, min.	0.50	0.5	0.5	ISO 27085
x	Sodium, % m/m, min.	0.10	0.1	0.1	ISO 27085
xi	Chloride, % m/m, min.	0.15	0.2	0.15	ISO 6495
xii	Magnesium, % m/m, min.	0.07	0.07	0.07	ISO 27085
Ca / P ratio*		1/1 – 2/1	1/1 – 1.6/1		

5 Feed additives and provisions related to their use

5.1 Additives in the following categories may be used in dog food and if used, they shall comply with the requirements given in Annex C.

- 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 percentage by weight) of the complete feed/food which conform to the provisions of this standard should be stated in the label (see also Clause 9).

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

6 Contaminants

6.1 Aflatoxin

Aflatoxin contamination shall not be more than 5 ppb for B₁ and 10 ppb for total aflatoxin. when tested with ISO 16050

6.2 Pesticide residues

Dog food shall comply with maximum limits for pesticide residues stated in Codex Alimentarius Commission.

6.3 Heavy metal

Dog food shall be free from heavy metals in amounts that may represent a hazard to animals and shall comply with the maximum limits of heavy metals as specified in Table 3 when tested in accordance with the test methods specified therein

Table 2 — Limits for heavy metals in dog food

S/No	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 Dog food shall be prepared in accordance with CAC/RCP 54

7.2 Dog food shall conform to the maximum microbiological limits specified in Table 2 when tested in accordance with the test methods specified therein.

Table 2 — Microbiological limits in dog food

S/No	Microorganism	Limit, max.	Test method
i	<i>Salmonella spp</i> , cfu/g	Absent	ISO 6579-1
ii	<i>Escherichia coli</i> , cfu/g	Absent	ISO 16649-1

8 Weights and measures

Dog food shall be weighed according to the weights and measures regulation of the destination country.

9 Packaging

Dog food shall be packaged in suitable containers that are of sufficient strength, and sufficiently sealed to withstand reasonable handling without tearing, bursting or falling open. The containers shall be clean and not previously used.

10 Labelling

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

- expiry date;
- name of the feed for example "X-Dog food", and X shall be the specific category;
- declared proportions of crude protein, crude fat, phosphorus and calcium;
- name and physical address of the manufacturer;
- instructions for use and precautions;
- net weight in metric units;
- batch number /lot identification;
- manufacturing date; and
- storage instructions.

11 Sampling

Sampling shall be done in accordance with ISO 6497.

Annex A (normative)

Dog food ingredients

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

A.1 Grain products

- Maize flour;
- Wheat flour;
- Oat flour;
- Pollard;
- Barley;
- Wheat bran;
- Wheat germ;
- Rice;
- Sorghum;
- Maize germ meal; and
- Maize bran.

A.2 Animal products

- Bonemeal;
- Blood meal;
- Meat/bonemeal;
- Meat meal;
- Offal meals (treated);
- Dried skimmed milk;
- Dry whey;
- Cheese meal;
- Poultry by-products (excluding manure);

- Hydrolysed feather meal;
- Fishmeal; and
- Whole milk.

A.3 Plant products (other than cereal based)

- Soybean meal
- Alfalfa meal (lucerne meal)
- dried grass meal
- Potatoes (*solanum tuberosum*)

A.4 Industrial by-products

- Sunflower cakes;
- Brewer's yeast and dried grains; and
- Sugarcane molasses.

A.5 Other ingredients

- Common salt
- Dicalcium phosphate (fluorine content not to exceed 0.2 %)
- Calcium lactate
- Limestone
- Vitamin and mineral premixes

Annex B (informative)

Requirements for trace elements and vitamins in dog food

Table B.1 — Requirements for trace elements in dog food

S/No	Mineral	Requirement		
		Adult dog	Puppy and lactating dog	Working dog
i	Iron, mg, min.	3.60	8.80	8.80
ii	Copper, mg, min.	0.72	1.10	1.10
iii	Manganese, mg, min.	0.58	0.56	0.56
iv	Zinc, mg, min.	7.20	10.0	10.0
v	Iodine, mg, min.	0.11	0.15	0.15
vi	Selenium, µg, min.	30.0	35.0	35.0

Table B.2 — Requirements for vitamins in dog food

S/No	Mineral	Requirement		
		Adult dog	Puppy and lactating dog	Working dog
i	Vitamin A, IU, min.	500	500	500
ii	Vitamin D, IU, min.	50.0	55.2	55.2
iii	Vitamin E, IU, min.	3.60	5.00	5.00
iv	Thiamine (B ₁), mg, min.	0.23	0.14	0.14
v	Riboflavin (B ₂), mg, min.	0.60	0.53	0.53
vi	Pantothenic acid, mg, min.	1.00	1.50	1.50
vii	Pyridoxine (B ₆), mg, min.	0.15	0.15	0.15
viii	Niacin, mg, min.	1.10	1.70	1.70
ix	Choline, mg, min.	120	170	170
x	Vitamin B ₁₂ , µg, min.	2.20	3.50	3.50
xi	Folic acid, µg, min.	18.0	27.0	27.0

ANNEX C (normative)

Recommended additives used in Dog food

C.1 Requirements for antioxidants in Dog food

Dog food shall contain no added antioxidant other than an antioxidant of a name or description specified in the first column of Table .1 or any other antioxidant as shall be approved by OIE. Where an antioxidant is added should not exceed the maximum content, if any, specified in the second column of the Table C.1.

Table C.1 — Requirements for antioxidants in Dog food

Name or description	Maximum content in complete feed stuff, mg/kg
L-Ascorbic acid Sodium L-ascorbate Calcium di (L-ascorbate) 5,6-Diacetyl-L-ascorbic acid 6-Palmitoyl-L-ascorbic acid Tocopherol-rich extracts of a natural origin Synthetic alpha-tocopherol Synthetic gamma-tocopherol Synthetic delta-tocopherol	GMP
Propyl gallate Octyl gallate Dodecyl gallate	100, singly or in combination
Butylated hydroxyanisole (BHA)	150

C.2 Requirements for emulsifiers, stabilisers, thickeners and gelling agents

C.2.1 General

Dog food shall contain no added emulsifier, stabiliser, thickener or gelling agent other than an emulsifier, stabiliser, thickener or gelling agent of a name or description, specified in C.2.2 and C.2.3 any other emulsifier, stabiliser, thickener or gelling agent as shall be approved by OIE.

C.2.2 Name or description

Lecithins; Alginic acid; Sodium alginate; Potassium alginate; Ammonium alginate Calcium alginate; Propylene glycol alginate (propane- 1,1-diol alginate) Agar; Carrageenan; Furcellaran; Locust bean gum (carob gum); Tamarind seed flour Gurar gum (gua flour); Tragacanth; Acacia (gum Arabic); Zanthan gum; D-glucitol (sorbitol); mannitol; Glycerol; Pectins; microcrystalline cellulose; Methylcellulose; Ethylcellulose; Hydroxylpropyl cellulose;Hydroxypropylmethylcellulose; Ethylmethylcellulose; Carboxymethylcellulose;sodium salt; Sodium, potassium and calcium salts or edible fatty acids alone or in mixtures, derived from edible fat or distilled fatty acids Monoacyl and diacylglycerols esterified with the following acids: (a) acetic (b) lactic (c) citric (d) tartaric (e) monoacetyltartaric and (f) diacetyltartaric.

C.2.3 Sucrose esters or fatty acids

C.2.3.1 The following sucrose esters fatty acids may be added to Dog food:

- a) mixture of sucrose esters of monocyl and diacylglycerols (sucroglycerides, polyglycerides);
- b) polyglycerol esters of non-polymerised edible fatty acids;
- c) propylene glycol esters of fatty acids (propane-1,2-diol esters of fatty acids);
- d) stearyl-2-lactylic acid; sodium stearyl-1,2-lactylate; calcium stearyl-1,2-lactylate;
- e) stearyl-1-tartrate; glycerol poly (ethylene glycol) ricinolate; dextrans; sorbitan monostearate;
- f) sorbitan tristearate; sorbitan monolaurate; sorbitan mono-eleate; sorbitan monopalmitate;
- g) partial polyglycerol esters of polycondensed fatty acids of castor oil (polyglycerol polyricinoleate) polyoxyethylene (20) sorbitan monolaurate;
- h) polyoxyethylene (20) sorbitan monopalmitate, polyoxyethylene (20) sorbitan monostearate;
- i) polyoxyethylene (20) sorbitan tristearate, polyoxyethylene (20) sorbitan monocleate;
- j) polyoxyethylene (20) sorbitan tricleate, polyoxyethylene (8) sorbitan stearate; and
- k) polyoxyethylene (40) stearate.

D.2.3.2 The emulsifiers, stabilisers, thickeners and gelling agents listed in Table D.2 shall conform to the requirement therein.

Table C.2 — Requirements for emulsifiers, stabilisers, thickeners and gelling agents in Dog food

Name or description	Maximum content in complete feed, mg/kg
Poly (ethylene glycol) 6 000	300
Polyoxypropylene-polyoxyethelene polymer (M.W 6 800 - 9 000)	50
Propane -1-2-diol	12 000
	36 000

C.3 Requirements for binders, anti-caking agents and coagulants

C.3.1 General

Dog food shall contain no added binder, anti-caking agent or coagulant other than a binder, anti-caking agent or coagulant of a name or description specified in D.3.2.

C.3.2 Name or description

Lignosulphonates; Colloidal silica; Silicic acid, precipitate and dried; Sodium aluminosilicate, Sodium, potassium and calcium stearate; Kaolin and Kaslinitic clays free of asbestos- natural accruing mixtures of minerals containing at least 65 % complex hydrated aluminium silicates whose main constituent in Kasolinite; Bentonite and other montmerillonite clays; Vermiculite-hydrated silicate of magnesium, aluminium and iron; Citric acid; Kieselguhr (diatomaceous earth, purified); Calcium silicate (synthetic); Natural mixtures of steatite and chlorite free of asbestos.

C.4 Requirements for aromatic and appetising substances

Dog food shall contain no added aromatic or appetising substance other than an aromatic or appetising substance of a name or description specified in Table D.3 and taking account of any such substance which is naturally present, without exceeding the maximum content specified.

Table C.3 — Requirements for aromatic and appetising substances

Name or description	Maximum content in complete feed, mg/kg
Saccharin All natural products and corresponding synthetic products	GMP

Bibliography

EAS 53:2000, *Dog feed specification*

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