



DRAFT EAST AFRICAN STANDARD

Hay as animal feed — Specification — Part 2: Legume hay

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*.

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Hay as animal feed — Specification — Part 2: Legume hay

1 Scope

This Draft East African Standard specifies requirements, sampling and test methods for legume hay used as animal feed.

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.

CODEX STAN 193, *Codex general standard for contaminants and toxins in food and feed*

ISO 5983, *Animal feeding stuffs — Determination of nitrogen content and calculation of crude protein content*

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

ISO 6497, *Animal feeding stuffs — Sampling*

ISO 13906, *Animal feeding stuffs — Determination of acid detergent fibre (ADF) and acid detergent lignin (ADL) contents*

ISO 16472, *Animal feeding stuffs — Determination of amylase-treated neutral detergent fibre content (aNDF)*

3 Terms and definitions

For the purposes of this standard, the following 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

hay

cultivated or natural pasture that has been cut and dried for use as animal feed

3.2

baled hay

Is that which is compacted or rolled into bundles for easier handling by single/double pressing

3.3

legume hay

single or several species plant material from the family Leguminosae, that has been cut and dried for use as feed for animals.

4 Requirements

4.1 General requirements

4.1.1 Legume hay shall:

- a) have a greenish colouring to show freshness;
- b) be soft and not brittle; and
- c) be leafy.

4.1.2 Legume hay shall be free from:

- a) harmful constituents such as glass, stones, soil, metallic objects and other adulterants;
- b) moulds or insect infestation e.g. Ergot spp;
- c) musty, rancid or uncharacteristic odour;
- d) waste material including faecal matter and any other
- e) rain damage;
- f) poisonous plants and seeds including but not limited to the following Cuscuta, Datura, Solanum, Moraea, Stipa, Crotalaria Ornithogalum, Senecio;
- g) plant pests and diseases; and
- h) animal pests and disease causing agents.

4.2 Specific requirements

4.2.1 Legume hay shall comply with the specific requirements given in Table 1 when tested in accordance with the test methods specified therein.

Table 1 — Specific requirements for legume hay

| S/N | Parameter at 100 %, DM | Grading range | | | | | Test method |
|------|----------------------------------|---------------|---------|---------|---------|-----------|-------------|
| | | Supreme | Premium | Good | Fair | Utility | |
| i. | Crude protein, % | 22 (min.) | 20 – 22 | 18 – 20 | 16 – 18 | 16 (max.) | ISO 5983 |
| ii. | Acid Detergent Fibre (ADF), % | 27(max.) | 27 – 29 | 29 – 32 | 32 – 35 | 35(min.) | ISO 13906 |
| iii. | Neutral Detergent Fibre (NDF), % | 34(max.) | 34 – 36 | 36 – 40 | 40 – 44 | 44(min.) | ISO 16472 |

4.2.2 Moisture content for legume hay shall comply with the requirements given in Table 2 when tested in accordance with the test methods prescribed therein.

Table 2 — Moisture content for legume hay

| Hay classification | Pelleted hay | Rectangular baled hay (up to 25 kg) | Rectangular baled hay, (26 kg - 400 kg) | Rectangular baled hay; (400 kg - 800 kg) | Round baled hay (200 - 900 kg) | Test method |
|--------------------------------|--------------|-------------------------------------|---|--|--------------------------------|-------------|
| Moisture content, %, m/m, max. | 12 | 15 | 15 | 15 | 15 | ISO 6496 |

5 Feed additives

Legume hay may have feed additives established by the Codex Stan 192.

6 Contaminants

6.1 Pesticide residues

Legume hay shall comply with the maximum pesticide residue limits established by the Codex Alimentarius Pesticide Database.

6.2 Heavy metals

Legume hay shall comply with those maximum limits for heavy metals established in CODEX STAN 193.

8 Hygiene

Legume hay shall be produced and handled in accordance with CAC/RCP 54.

9 Packaging

9.1 Baled hay for sale shall be baled using sufficient strong binding. Bales may be tied using sisal ropes or wire so as to withstand reasonable handling without tearing or falling open during transportation and storage.

9.2 Chopped, milled, or pelleted hay shall be packed in containers which are of sufficient strength and sufficiently sealed so as to withstand reasonable handling without tearing, bursting or falling open during handling and transportation.

9.3 All hay should be transported in clean vehicles and should be protected from environmental factors that might affect the quality of the hay.

10 Labelling

The following information shall be legibly and indelibly labelled on the product.

- a) type of hay - if being sold as a single species, then a declaration is required stating that the contents consist of more than 90 % m/m dry matter of that species;
- b) name and physical address of the manufacturer/producer;
- c) grade of hay;
- d) crude protein level;
- e) net weight of sale unit;
- f) batch/lot number;
- g) production date;
- h) "Use by" date; and
- i) storage instructions.

10 Sampling

Sampling shall be done in accordance with ISO 6497.

Annex A
(informative)

List of legume hay plants

Leguminous hay may be derived from, but not limited to the following legumes:

- a) *Siratro* – *Macroptilium atropurpureum*;
- b) *Cetrosema* - *Centrocema pubescens*;
- c) *Neonotonia* - *Neonotonia wightii*;
- d) *Blue pea* - *Clitoria ternatea*;
- e) *Serradella* - *Orithopus compressus* and *O. sativus*;
- f) *Biserulla* - *Biserulla pelecinus*;
- g) *Clovers* - *Trifolium* spp.;
- h) *Vetch* - *Vicia sativa*;
- i) *Lucerne* - *Medicago sativa*;
- j) *Lepedeza* - *Sericea lespendeza*;
- k) *Lupins* - *Lupinus angustifolius*;
- l) *Dolichos beans* - *Lablab*;
- m) *Faba Beans* - *Vicia Faba* and others.