

Grading live animal for meat trade - Specification

Part 4: Camel

PUBLIC REVIEW DRAFT, NOVEMBER 2017

KENYA STANDARD

DKS 2774: PART 4: 2017

ICS

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Ministry of Agriculture, Livestock and Fisheries - Directorate of veterinary services
Kenya Camel Association (KCA)
University of Nairobi (UON)
Kenya Industrial Research and Development Institute (KIRDI)
Kenya Agricultural and Livestock Research Organization (KARLO)
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ISBN 9966-19-638-2

KENYA STANDARD

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Part 4: Camel

KENYA BUREAU OF STANDARDS (KEBS)

Head Office: P.O. Box 54974, Nairobi-00200, Tel.: (+254 020) 605490, 602350, Fax: (+254 020) 604031
E-Mail: info@kebs.org, Web:<http://www.kebs.org>

Coast Region

P.O. Box 99376, Mombasa-80100
Tel.: (+254 041) 229563, 230939/40
Fax: (+254 041) 229448

Lake Region

P.O. Box 2949, Kisumu-40100
Tel.: (+254 057) 23549, 22396
Fax: (+254 057) 21814

Rift Valley Region

P.O. Box 2138, Nakuru-20100
Tel.: (+254 051) 210553, 210555

Foreword

During the preparation of this standard, reference was made to the following documents:

Kenya Meat Commission Act Cap 363 of the laws of Kenya

ILRI discussion paper No. 22, Improvement and Diversification of Somali Livestock Trade and Marketing; Towards a formalized grading system for export quality livestock in Somalia

Stuth, J. et al., (2006). "Livestock Market Information System for East Africa: The Case of LINKS/GL-CRSP." In J.G McPeak and P.D Little , eds Pastoral livestock marketing in Eastern Africa: Research and policy challenge

ES 2789:2012-Grading live animals and carcass

Australian Standard for the export of livestock (version 2.3) 2011

Kadim, I. T., Mahgoub, O., and Mbagi, M. (2014). Potential of camel meat as a non-traditional high quality source of protein for human consumption. *Animal Frontiers* 4:13-17.

Cap 360 of Animal welfare Act

The assistance derived from the above sources is highly acknowledged.

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PUBLIC REVIEW DRAFT

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Part 4: Camel

1. SCOPE

This Kenya Standard specifies requirements for grading of camel for meat trade

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.

- I. *KS 317: Part 4 Carcasses and meat cuts*
- II. *Code of practice for animal welfare during transportation.*

3. DEFINITIONS

For the purposes of this standard, the following definitions shall apply:

3.1 Camel

is an even-toed ungulate with padded feet in the genus *Camelus*, bearing distinctive fatty deposits known as "humps" on its back. There are two domesticated species of camel, which are: the dromedary, or one-humped camel (*C. dromedarius*), which inhabits the Middle East and the Horn of Africa; and the Bactrian, or two-humped camel (*C. bactrianus*), which inhabits Central Asia

3.2 Grade –

the defined parameters that segregate live animals for meat trade into homogenous groups applied by market participants based on weight, age, sex, body condition and body conformation.

3.3 Sex –

refers to whether an animal is male or female.

3.4 Body condition –

overall body state of an animal assessed through visual observation taking into account fat and muscle deposition as it occurs in various places on the animal's body

3.5 Body condition score-

Is the score assigned through visual appraisal of specific body parts. The extent to which specific skeletal body parts {including; hips, hooks and pins, rump, shoulders, back (spinous processes of the thoracic vertebrae), ribs} are either hidden or smoothed by flesh or fat. The animals are thus categorized as excellent; good; fair and poor;

3.6 Body conformation

is the symmetry, size and shape of the various body regions of an animal relative to each other or the general appearance of the animal according to what is considered a desirable appearance. Features of an animal that comprise the 'desirable appearance' include

- a) Big frame or skeletal size of the animal—under this feature height and length as crucial elements to consider. Top quality animals are those that shall be tall with large body frame;
- b) Good muscling— under this feature, thick and long muscling is preferred;
- c) Good appearance of feet and legs—important features to consider here shall include a long and straight (level) rump; long and broad loin; long and straight back; and well set and straight legs. Camel exhibiting a large heart girth in relation to overall body size (height and length of body) will attain a higher score.

3.7 Conformation score

This is a qualitative categorization of animal features based on body frame, animal height and defects. They shall be described as excellent, good or fair.

3.8 Castrated male

Male animals whose testicles have been rendered dysfunctional through an approved procedure.

3.9 Live weight:

the weight of an animal before slaughter determined through an appropriate and acceptable method.

3.10 Lordosis –

Excessive inward curvature of the spine.

3.11 Kyphosis

Excessive outward curvature of the spine.

4.0 Grading specifications for camel

4.1 Grading— Grading of camels shall be done in accordance to age and age class, sex, body Condition and body Conformation

4.1.1. Age and age class:

Camel age and age categories shall be based on dentition or years of the animal. The categories shall be immature, mature, and old as shown in Table 1 below.

Table 1: Age class and description

Age class	Description
Immature camels	Shall be 4-6 years (up to 2 pairs of permanent teeth
Mature camels	Shall be 7-15 years (corner incisors erupt and developed, all permanent teeth present and in wear).
Old camels	shall be 16 years and above (prominent teeth wear and loss of some

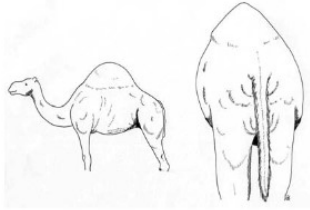
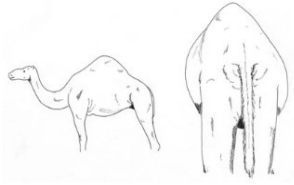
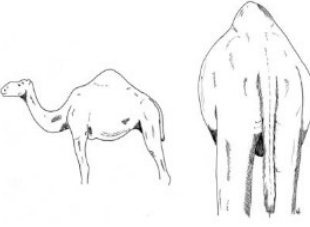
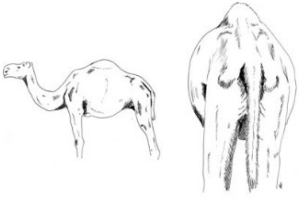
	teeth)
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4.1.2. **Sex:** Camel sex categories shall be male or female.

4.1.3. **Body condition:** The body condition score shall be scored as excellent, good, fair and poor .

The body condition scoring shall be based on estimated hump fat indicated by the size of the hump, the ribs, the transverse apophysis and the sacrotuberal ligament as shown in Table 2 below.

Table 2: Body condition classification and description

	<p>Excellent (Body condition score 4) - Hump over-extended and rising more than 15% higher than chest depth. Ribs invisible, transverse apophysis invisible and sacrotuberal ligament convex</p>
	<p>Good (Body condition score 3) - Hump fully developed and rising to 15% higher than chest depth. Ribs invisible in front of the thorax, transverse apophysis slightly visible and sacrotuberal ligament flat to convex</p>
	<p>Fair (Body condition score 2) - Hump with good development and rising to 10% higher than chest depth. Ribs visible in front, transverse apophysis visible all along the back and sacrotuberal ligament flat</p>
	<p>Poor (Body condition score 1) Hump with moderate development rising 5% higher than chest depth, but may also be leaning to one side. Ribs clearly visible (skin on bones), transverse apophysis clearly prominent and sacrotuberal ligament concave.</p>

4.1.4. **Body conformation.** The body conformation shall be based on the symmetry, size and shape of the various body regions of camel relative to each other or the general appearance of the animal according to what is considered a desirable appearance. The camels shall be categorized as excellent, good, fair and poor as shown in Table 3.

Table 3: Body conformation and description

Body conformation	Description
Excellent	Shall be camels of good height (tall), with large frame and long and straight rump, loin and back, large heart girth and straight legs;
Good	Shall be camels of medium height (not as tall as the one with excellent conformation), with medium frame, shorter but straight rump, loin and back, medium heart girth and straight legs.
Fair	Shall be camels with short height with small frame, straight rump, loin and back, medium heart girth and straight legs and may have some defective features such as lordosis or kyphosis, or feet and legs such as being post-legged, buck-kneed, splay-footed, sickle-hocked etc .






4.2 Camel grades: The camel grades shall be based on: age and age class, sex, body condition and body conformation parameters as shown in table 4 below.

Table 4: Grades of Camels

GRADE	AGE CLASS	AGE	SEX	BODY CONDITION	BODY CONFORMATION
I	Immature	4-6	Male	Excellent	Excellent
I	Mature	7-10	Male/Female	Excellent	Excellent
II	Immature	4-6	Male/Female	Good	Good
II	Mature	7-15	Male/Female	Good	Good
III	Mature	7-15	Male/Female	Fair	Good
III	Immature	4-6	Male/Female	Fair	Good
IV	Mature	7-15	Male/Female	Poor	Poor
IV	Immature	4-6	Male/Female	Poor	Poor
IV	Old	≥ 16	Male/Female	Poor	Poor

Table 5 Pictorial Representation of the grades

GRADE	AGE CLASS	PICTORIAL PRESENTATION
1	Immature	

	Mature	
11	Immature	
	Mature	
111	Immature	
	Mature	
1V	Immature	
	Mature	
V	Old	