



**Economic and Social  
Council**

Distr.  
GENERAL

TRADE/WP.7/GE.11/2003/11

24 February 2003

ORIGINAL : ENGLISH

ECONOMIC COMMISSION FOR EUROPE

COMMITTEE FOR TRADE, INDUSTRY AND  
ENTERPRISE DEVELOPMENT

Working Party on Agricultural Quality Standards

Specialized Section on Standardization of Meat

12th Session, 6-9 May 2003, Geneva

Item 7 of the provisional agenda

**Proposal for a UNECE Standard  
for Llama Carcases and Cuts**

**Note by the secretariat:** The following draft proposal for a UNECE Standard for Llama Meat has been received from Bolivia. The secretariat has adapted the format to the new layout of the UNECE meat standards.

## **Proposal for a UNECE STANDARD FOR LLAMA CARCASSES AND CUTS**

### **1. Scope and Application**

The standard applies to carcasses and / or associated meat cuts from llama animals, marketed as fit for human consumption.

The purpose of the Standard is to define certain aspects of quality and cutting requirements of llama carcasses and cuts intended to be sold in international trade.

The Llama Selected Meat Cuts includes photographs of carcasses and selected commercial cuts to give a better understanding between contractors and facilitate trading.

Since the llama production and llama meat trade is relatively new there are not a lot of specific standards. This Standard contains references to other international agreements, standards and codes of practice which have the objective of maintaining the quality after dispatch and of providing guidance to governments on certain aspects of food hygiene, labelling and other matters which fall outside the scope of the Standard. Anyhow some other general international standards for meat production should be taken in account, like Codex Alimentarius Commission Standards, Guidelines and Codes of Practice should be consulted as the competent international reference concerning health and sanitation requirements.

.....

### **3. PURCHASE SPECIFIED REQUIREMENTS**

#### **3.1 Species/Class**

#### **3.2 Cut**

#### **3.3 Refrigeration**

#### **3.4 Provisions concerning origin and production history**

The following options may be specified between buyers and sellers.

##### **3.4.1 Traceability**

....

### 3.4.2 Llama category

The standard provides for the categorization of llama animals into four categories.

CODE	CATEGORY	DESCRIPTION
0	Young intact male or castrated male	less than 24 months
1	Castrated male	between 2 and 5 years
2	Young female, uncalved	less than 5 years
3	Castrated male or intact male	greater than 5 years

### 3.4.3 Production and feeding systems

CODE	CATEGORY	DESCRIPTION
0	<i>Not specified</i>	No feed system specified
1	<i>Intensive systems</i>	describe production methods which include restricted stocking, housing and feeding regimes developed to promote rapid growth. Specific standards need to be defined between buyer and seller.
2	<i>Semi intensive systems</i>	describe production methods which includes partial restricted stocking and relatively unrestricted access to natural forage. Specific standards need to be defined between buyer and seller.
3	<i>Extensive systems</i>	describe production methods which include relatively unrestricted access to natural forage, ' <i>forage fed</i> ', for the majority of the animals' lives. Specific standards need to be defined between buyer and seller.
4	<i>Organic systems</i>	describe production methods which follow internationally recognized standards or national standards if they are more restrictive. Specific standards need to be defined between buyer and seller
5	<i>Other systems</i>	Must be described by the seller.

### 3.4.4 Slaughter systems

CODE	CATEGORY	DESCRIPTION
0	Not Specified	Not Slaughter system specified
1	Traditional	Stunning prior to bleeding is the accepted traditional system.
2	Kosher	Appropriate ritual slaughter procedures must be satisfied.
3	Halal	Appropriate ritual slaughter procedures must be satisfied.
4	Other	Any other method of slaughter must be specifies by seller/buyer.

### 3.4.5 Post slaughter processing

CODE	CATEGORY	DESCRIPTION
0	Not specified	No specific post slaughter treatment
1	Electrical stimulation	If this is specified the system parameters must be agreed within contractual terms
2	Method of carcase suspension	If different from the traditional Achilles tendon suspension then the required method must be specified
3	Maturation processes	Any specific requirements must be specified
4	Chilling regimes	If a specific chilling procedure is required then must be specified
5	Dressing requirements	If an specific dressing procedure is required must be specified
6	Other requirements	Must be specified

### 3.5 Carcase classification

The standard provides for the classification of llama carcase four categories.

CODE	CATEGORY	DESCRIPTION
0	EXTRA	Carcases from entire or castrate male, age less than 2 years, 0-4 permanent teeth, good to excellent muscular conformation
1	FIRST	Carcases from entire or castrate male or female, age less than 5 years, good or less muscular conformation
2	SECOND	Carcasses from entire male with age less than 5 years or female with age less than 7 years, with regular muscular conformation
3	MANUFACTURY	Carcases that do not classify in the category above.

### 3.6 Provisions concerning external fat

The llama is in general a lean animal; therefore no objective measure is applied.

This standard provides for the codification of llama in the international trade to have external fat levels specified to the following categories:

CODE	CATEGORY	DESCRIPTION
0	Not Specified	See general requirements
1	Peeled denuded, surface membrane removed	
2	Peeled denuded.	
3	Practically free (75% lean/ seam surface removed)	
4	3 mm maximum fat thickness	

Another fat parameter that requires specification is the internal fat, to the following specifications:

- Not specified
- Free of kidney, brisket and pelvic fat.

### 3.7 Provisions concerning marbling

Marbling or intra-muscular fat is one of the criteria commonly used in determining meat quality. There is no llama meat marbling measure system available, maybe due to the lean llama meat actually obtained.

### 3.8 Provisions concerning to *Sarcocystis aucheniae* cyst

The presence of *Sarcocystis aucheniae* cyst, also known as *Sarcocystis lamacanis*, is evaluated by a simple visual measure, preferably, made in the neck muscle between the first and third cervical vertebrae. This standard has to be specifies as follows:

CODE	CATEGORY	DESCRIPTION
0	Not specified	These cysts are macro cyst, so that you can see them by simple visual measure.
1	Absence	
2	Maximum 3 cyst by square decimeter	
3	4 to 10 cyst by square decimeter	
4	More than 10 cyst by square decimeter	

### 3.9 Weight Range

CODE	CATEGORY	DESCRIPTION
0	Not Specified	Not specified weight range
1	Specified	Specific standards need to be defined between buyer and seller

### 3.10 Packing

CODE	CATEGORY	DESCRIPTION
0	Not Specified	Not specific packing procedure
1	Carcasses and quarters – Chilled with or without packaging	Specific standards need to be defined between buyer and seller
2	Carcasses and quarters – Frozen/deep frozen packed to protect the products	Specific standards need to be defined between buyer and seller
3	Cuts – Individually wrapped (IW)	This methods allows for product to be wrapped in an approved material (sheet or bag) individually
4	Cuts – Multi wrap (MW)	This method allows product to be packed in a single bag or wrapping and contains two or more cuts.

5	Cuts – Vacuum-packed (VP)	This method allows for the product to be vacuum packed in a special bag that allows a considerable longer shelf life.
6	Cuts – Other	To be specified.

#### 4 LLAMA SPECIFIC CODING

##### UN/ECE Llama Standard Coding

Data Field	Code Range	Specified Use	Data Field Ref.
<b>Mandatory</b>			
Species/Class	0 – 9	?	1
Cut	0 – 9999	0-9999	2
Refrigeration	0 – 9	1 - 3	(9)
<b>Optional – requiring traceability</b>			
Category	0 – 9	0 - 3	3
Feeding System	0 – 9	0 - 5	4
Grade/Classification	0 – 9	0 – 3	5
Slaughter Systems	0 – 9	0 - 4	6
Post slaughter processing	0 – 9	0 - 6	7
<b>Optional – not requiring traceability</b>			
External Fat	0 – 9	0 - 4	8
Weight Range	0 – 9	0 - 1	(10)
Packing	0 – 9	0 - 4	(11)
Reserve	000 – 999	None	(12)

#### 5 SELECTED MEAT AND CUTS INFORMATION TEXT

##### WHOLE CARCASE LL 001

The whole carcass consists of both sides and is prepared and trimmed as per Standard Carcass trim definition.

##### SIDE LL 002

The carcass is divided in to half carcasses through the vertebrae column. The neck is previously removed.

##### NECK LL 005

The neck is removed from the side/carcass As per the description for the standard carcass trim and is prepared by the complete removal of all contamination, blood clots, hair/hide from the neck.

**HINDQUARTER LL 003**

Hindquarter to be prepared from a llama side and trimmed per (LL001) definition and by the removal of the forequarter at the 12th rib and first lumber vertebrae.

**Points requiring specification:**

The hind to consist of 0 ribs

The hind to consist of 1 rib

**FOREQUARTER LL 004**

Forequarter to be prepared from a llama side and trimmed as per (LL001) definition and by the removal of hindquarter at the 12 rib and the first lumber vertebrae.

**Points requiring specifications:**

The fore to consist of 12 ribs.

The fore to consist of 11 ribs.

**TOPSIDE LL 010**

The topside is the inside portion of the butt of the hindquarter. The boneless llama topside is removed from the butt along the natural seam division separating the outside and the knuckle.

**TOPSIDE (Denuded) LL 011**

The boneless llama topside (denuded) is prepared from the topside (LL010) by the removal of all associated external fat and silverskin (membrane) connective and fibrous tissue are removed.

**OUTSIDE LL 020**

The boneless llama outside is removed from the butt of the hindquarter along the natural seams between the topside and the knuckle.

The outside is prepared by the removal of the heel muscle (M. gastrocnemius) following the natural seam and all associated gland fat.

**OUTSIDE FLAT (Denuded) LL 021**

The boneless outside flat (denuded) is prepared from the outside (LL 020) by the separation along the natural seam of the eye round (M. semitendinosus) muscle and the outside flat (M. gluteobiceps) muscle. The outside flat (M. gluteobiceps) is completely denuded of all fat and connective tissue.

**EYE ROUND LL022**

The boneless llama eye round is that portion of the outside remaining after the removal of the outside flat along the natural seam.

**Points requiring specification:**

Eye round completely denuded

**KNUCKLE LL 030**

The boneless llama knuckle is the portion of the butt on the hindquarter attached to the femur bone. It is removed from its attachment to the outside and topside along the natural seam. The patella bone and joint attachments tendons are removed; the outer selvage (fat covering) is completely removed.

**KNUCKLE (Denuded) LL 031**

The boneless llama knuckle is completely denuded of all silverskin (membrane) and connective tissue.

**RUMP LL 040**

The boneless llama rump is prepared from a full rump removed from the hindquarter. The flank (tail of the rump – M. Tensor fasciae latae) is removed on a line halfway between the large eye muscle of the rump and the outer flank tip. Fat pocket on the tail of the rump is removed. Remove the heavy connective tissue from underside of the rump.

**RUMP (Denuded) LL 041**

The boneless llama rump (denuded) is prepared from the rump (LL 040) by the removal along the natural seams, the tail muscle (M. tensor fasciae latae) and the cap muscle (M. gluteobiceps) and remaining heavy tissue, silverskin (membrane) and surface fat are complete removed.

**STRIPLOIN LL 050**

The boneless llama striploin is prepared from a (0 rib) hindquarter and that portion of the M Longissimus dorsi muscle attached to and along the edge of (1st to 6th) lumbar vertebrae. The flank (tail) is removed at the eye of meat at the junction of the 12th rib and the 1st lumbar vertebrae.

**Points requiring specification:**

The distance of flank removal from eye of meat

**TENDERLOIN LL 060**

The boneless llama tenderloin is removed from the hindquarter in one complete piece. The side strap muscle is left attached. Trim to silverskin.

**Points Requiring Specification:**

Side strap muscle removed

Silverskin removed

**BLADE LL 070**

The boneless llama blade consists of a large group of muscles which lie outside of the blade bone and extend from the humerus to the tip of the scapular cartilage. The sides of the blade are cut parallel. Heavy exposed tendons are removed from the shoulder/humerus joint.

**Points requiring specification:**

Variation of cutting line at scapular cartilage edge.

**BOLAR BLADE (Denuded) LL 071**

The boneless llama bolar blade (denuded) is prepared from blade (LL 070) by removal of all muscles surrounding and attached to the bolar (M. Triceps brachii) muscle. The bolar is completely trimmed of all fat and silverskin.

**CUBE ROLL LL 100**

The boneless llama cube roll consists of that portion of the (M. Longissimus dorsi) and the associated muscles that is located along the dorsal aspect of the carcass. The cube roll consists of that portion of the (LD) muscle from the 6th to the 12th rib inclusive.



**CHUCK EYE ROLL LL 105**

The boneless llama chuck eye roll is prepared from the full chuck (5 ribs) by the removal of the rib meat/sticking by a straight cut at 20 mm from the chuck eye at the 5th rib and parallel to the chine edge. The neck is removed by a straight cut between the 6th/7th cervical vertebrae. The dorsal edge is trimmed slightly. The M. subscapularis muscle on the lateral surface is to remain if firmly attached.

**CHUCK TENDER LL 110**

The boneless llama chuck tender consists of the round (conical) shape muscle lying laterally to the blade bone on the cranial side of the blade edge. The fat cover is removed.

**BRISKET POINT- END DECKLE OFF LL 120**

The llama brisket is prepared from the 5th rib point (1st to 5th rib) inclusive.

**Points Requiring Specification:**

Bones removed

The deckle, belly fat and all the surface fat removed.

Prepared from the 1<sup>st</sup> to the 7<sup>th</sup> rib inclusive.

**FLANK STEAK LL 140**

The boneless llama flank steak is prepared from the thin flank and is located in the leg end of the flank and is a fan shape muscle. The muscle is removed along the natural seams, heavy connective tissue and membrane is removed.

**SHIN/SHANK LL 150**

The boneless llama shin/shank is derived from the shins of the fore and hind legs skinned and tipped. The heel muscle removed from the leg end of the silverside and conical muscle is also included.

**BONE IN CUTS****RIBS LL 130**

The llama ribs is the remaining portion of the ribs, after removing the brisket point, it is cut parallel to the vertebrae column

**Points Requiring Specification**

The distance of the vertebrae column cut

**CHOP LL 051**

The chop bone-in cut is prepared from the dorsal hindquarter between the 1<sup>st</sup> and 6<sup>th</sup> lumbar vertebrae, it is composed by the M. Longissimus dorsi, and it has the bone vertebrae in.

**PALET CHOP LL 072**

The palet chop is a bone-in cut obtained from the arm, with all the muscle surrounding the humerus bone, cut in a transversal way to the bone.

**NECK CHOP LL006**

It is obtained from the neck (LL005) and cut in a transversal way to the bones.

## **FANCY MEATS**

### **KIDNEY LL 210**

The llama kidney is prepared by the removal of blood vessels, skin; the fat in the renal hilus is partially removed.

### **FURTHER PROCESSED**

There are many processed products derived from llama deboned cuts, such as charque, sausages, hamburgers, and other products with high nutritional values due to the llama meat quality.

## **VALUED ADDED PRODUCTS**

### **FIBER**

The camelidos fibre is the input in a first stage for yarn fabrication and a second stage to make confections and dressing. The national production of camelidos fibre reached 1997 to 631 TM and in 2000, 687 TM with growing perspectives. Specially to export markets.

The fibre production, like raw material, is very dynamic; it depends on shearing and feeding besides the caution in breeding, especially those of higher efficiency (2.5 kilograms per year).

The camelido fibre it is known for its thinness, depending on the breed, it may vary between 17 to 30  $\mu$ , it is of excellent quality for cloths confection.

### **LEATHER**

Something that is evident by export statistics and consumption in the international market is the camelidos skin that has arisen a lot of interest in the last years. The tannery recognizes the leather quality of camelidos manufacture articles, and is seen like an alternative for external markets specially.

The camelidos have a peculiar skin, is collagens structure it is very compact and it provides the skin a high elasticity. In accordance to this structure the skin presents three zones a) neck: the thickest part and better structured b) Double T: composed by the four extremities unified by the dorsal and central lumbar zone, it is homogeneous in its thickness, being the second in structure, and c) Skirts: thinnest part that corresponds to the ribs zone and the animal flank.

Because of this peculiar structure, the camelidos skin has a high versatility for manufacture production, being used for jacket, shows, boots, travel bags, suitcase, etc.