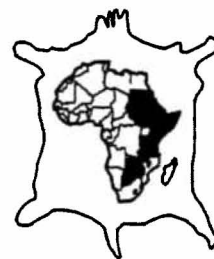




UNITED
NATIONS
INDUSTRIAL
DEVELOPMENT
ORGANIZATION



REGIONAL AFRICA

HIDES & SKINS, LEATHER AND LEATHER PRODUCTS IMPROVEMENT SCHEME

US/RAF/88/100

OUTPUT 4

GUIDELINES FOR GRADING OF HIDES AND SKINS BY QUALITY*

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EXPLANATORY NOTES

UNIDO	UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION, Vienna, Austria
FAO	FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, Rome, Italy
UNCTAD/ ITC	UNITED NATIONS COMMITTEE FOR TRADE AND DEVELOPMENT/INTERNATIONAL TRADE CENTRE, Geneva, Switzerland
IDF	UNIDO <i>Industrial Development Fund</i>
ICT	INTERNATIONAL COUNCIL OF TANNERS
ICHSALTA	INTERNATIONAL COUNCIL OF HIDES AND SKINS & LEATHER TRADERS ASSOCIATIONS
IHATIS	INTERNATIONAL HIDES & ALLIED TRADE IMPROVEMENT SOCIETY
ISO	INTERNATIONAL STANDARDIZATION ORGANIZATION
AFNOR	ASSOCIATION FRANÇAISE DE NORMALISATION
BSI	BRITISH STANDARD INSTITUTION
USCS	The UNITED STATES COMMERCIAL STANDARD

I. FOREWORD

The studies prepared and research conducted for the UNIDO global leather sector consultations (Innsbruck, Austria, April 1984) and the deliberations of the ninth UNIDO Leather Panel (Pécs, Hungary, October 1988), the *Sectoral Meeting on the Leather and Leather Industry in Africa* (Alexandria, Egypt, January 1987), the *FAO Inter-governmental Sub-Group Meeting on Hides and Skins* (Rome, Italy, January 1987) have clearly proven that there is an enormous waste of raw hides and skins in Africa, brought about by inadequate slaughtering and flaying techniques, defective tanning, poor capacity utilization, low productivity and lack of training.

It was, therefore, recommended that an improvement in this sector could be achieved through the implementation of a major technical assistance programme.

Following this general recommendation, in cooperation with FAO and ITC, UNIDO's Leather Unit developed the large-scale *Regional Africa Hides and Skins, Leather and Leather Products Improvement Scheme, US/RAF/88/100*, which comprises several new elements in the so-called "programme approach".

UNIDO is the main executing agency and provides the total funding through the IDF special purpose contributions from six donor countries namely, Austria, France, Federal Republic of Germany, Italy, the Netherlands and Switzerland and is well under way in eight countries of East Africa namely, Ethiopia, Kenya, Malawi, Somalia, Sudan, Tanzania, Zambia and Zimbabwe.

The main objectives of this large scale project are the following:

- a) to establish a regional pilot scheme and to demonstrate, in practical terms, the process of hides and skins improvement from butchering and flaying to conservation, *grading* and collection;
- b) to act as a catalyst to national authorities to introduce incentives for improved quality performance;
- c) to rehabilitate existing infrastructures and selected leather tanning and processing plants by increasing their efficiency and capacity utilization, upgrading technical standards, operational methods and skills, product quality, as well as the knowledge of those attached to these industries at various levels, starting from primary producers.

According to Output 4 of the Project Document, "**Improved quality of raw hides and skins through incentives to primary producers, and a realistic quality grading system, based on a well-operating hides and skins improvement scheme (as per output 2).** The quality monitoring is closely connected with improved statistical intelligence and the results of this output will be judged on the basis of the statistical data on pricing and grading to be collected under output 3".

Several national projects and FAO experts have been pursuing this same goal and it was, therefore, thought that the *Hides and Skins Improvement Seminar*, held in Bulawayo, Zimbabwe, from 19 - 23 November 1990, could be an excellent opportunity to get more information and compare experience.

During this Seminar, a draft compendium for *grading of trimmed skins* was prepared and distributed to the participants in order to show how it should be visualized as a suitable

guideline to be used by the project target areas personnel and also later as an internationally accepted standard.

This compendium was based on a grading system developed by A.H. Robinet, *Docteur Vétérinaire*, INSTITUT D'ELEVAGE ET DE MÉDECINE VÉTÉRINAIRE DES PAYS TROPICAUX, and consisted of a set of pictograms showing various defects acceptable in trimmed, raw sheep and/or goat from grade 1 to 4. These pictograms were shown during the Seminar in order to be further developed and to improve the system.

A set of empty prints of the skins was also distributed to the participants to be filled with their own ideas on how the various grades should be illustrated.

As the Seminar was attended by several participants from nine African countries (Uganda was also included), who work in this area daily and also by several top international experts, the results of this exercise have provided UNIDO's LEATHER UNIT with valuable material and have once again proven the necessity of elaborating a compendium to be submitted to such bodies as the ICT, ICSHALTA, IHATIS and FAO for their comments and recommendations and, finally, presented as *a recommended grading norm for the participating countries*.

A further effort in this direction was made through the presentation of the same draft compendium for grading of trimmed skins during the *ECDC Workshop on Trade in Hides and Skins and their Derived Products* organized by FAO from 29 July to 2 August 1991.

This Workshop, attended by more than 40 participants representing 13 English-speaking African countries, with additional participants from UNIDO, ITC and the International Council of Tanners, recommended that:

"The Draft Guidelines for the grading of sheep and goat skins prepared by UNIDO and presented to the present Workshop should be further elaborated and expanded to include the grading of cattle hides." These guidelines should then be presented for the consideration of the Sub-Group on Hides and Skins."

The purpose of this paper is, therefore, to elaborate a quality standard for hides and skins grading by quality to be applied in all interested countries.

However, before going into technical details, it is useful to give some clarifications on the terms used.

According to the *Oxford dictionary* the main definitions for *standard* are: a) weight or measure to which others conform or by which the accuracy or quality of others are judged; b) thing serving as basis of comparison; c) document specifying (inter)nationally agreed properties for manufactured goods i.e. the *British Standard*, etc.; while *grading* is described as: a) degree in rank, proficiency, quality, value, etc., class of persons or things alike in these; b) variety of cattle produced by crossing native stock with superior breed; c) group of animals at similar level of development; d) arrange in grade, class, sort; etc.; and, finally, *quality* is defined as: a) degree of excellence, relative nature or kind or character; b) faculty, skill, accomplishment, characteristic trait, mental or moral attribute; c) possessing high degree of excellence; concerned with maintenance of high quality, etc.

It is easily seen that there is a large variety of possible ways to interpret the three words, grading, quality and standard; however, instead of confusing the issue, when it comes to the *Hides and Skins Sector*, by *Standards for Grading by Quality*, it is usually meant:

Criteria specifying (inter)nationally agreed methods of classification of hides and skins according to their properties and usefulness.

(Inter)national institutions such as the INTERNATIONAL STANDARDIZATION ORGANIZATION the BRITISH STANDARD INSTITUTION, L'ASSOCIATION FRANÇAISE DE NORMALISATION and the UNITED STATES COMMERCIAL STANDARD have prepared different standards for grading by quality of hides and skins. In addition to this, valuable work has been carried out by various other organizations and individual experts. Annex 1 presents references to the classifications of A. Skins and B. Hides and other reference material published on the subject matter.

National (draft) standards have been prepared in some of the African countries and copies of presentations of such standards from Ethiopia, Tanzania and Sudan are enclosed as Annex 2. It is of importance that when individual quality grading standards - based on this draft - are prepared, that the work already carried out by the various international and national standard organizations, are referred to.

Generally speaking, the structure of this paper follows the pattern for the *Presentation of International Norms and Technical Report* prepared by the INTERNATIONAL STANDARDIZATION ORGANIZATION (ISO, Annex 1, reference hides: 8).

Referring to the substantive part, the two standards, which are hereby proposed, originate from the existing documents; however, their main feature is that part of the assessment has been reproduced in pictograms visualizing the grading of hides and skins step by step.

It is widely realized that improvement of hides and skins quality can be achieved only if quality grading norms are applied. The primary producer, as well as the whole chain of related services, including flaying, curing, handling and storing, should be rewarded by better prices for improved quality. The main purpose of this draft is therefore to *provide a basis for such a quality grading*.

It must be realized that countries cannot successfully enter the export trade of value-added leather products without having first solved the raw material problems.

It is, therefore, anticipated that this paper will be considered as a contribution to create more understanding at all levels of the important role of hides and skins grading and that the various African countries concerned will use these guidelines to prepare, up-date and enforce the individual grading standards.

The paper will be presented to the Committee on commodity Problems, Intergovernmental Group on Meat, Sub-Group on Hides and Skins, at its third meeting in Rome, 21-24 April 1992, in order to benefit from the Intergovernmental Groups' guidance and recommendations on the following issues:

1. Is the quality grading system, presented in the paper, also applicable to countries other than the seven African countries participating in the joint UNIDO/FAO/ITC Regional Africa Hides and Skins, Leather and Leather Products Improvement Scheme? If so, what measures should be taken to assure the widest possible distribution and implementation of the system?
2. Should UNIDO/FAO/ITC launch a special project to implement the system and what role could the NGO's, such as the International Council of Tanners (ICT), the International Council of Hides, Skins & Leather Traders Association

II. Classification of Skins by Quality

0. Introduction

It is widely realized that improvement of hides and skins quality can be achieved only if quality grading norms are applied. The primary producer, as well as the whole chain of related services, including flaying, curing, handling and storing, should be rewarded by better prices for improved quality. The main purpose of this draft is therefore to *provide a basis for such a quality grading*.

This standard gives a **classification by quality** applicable to raw and cured sheep or goat skins intended to be transformed into leather.

It should be noted that this standard:

- does not apply to specific skins or pelts for fur-making;
- to be applicable in a wide variety of countries, it does not include classifications by weight, size or shape which are too dependent on the origin, breed, age, sex, etc.; and
- can be adapted to "commercial" or "customer" classification and for incentive payments.

The standard shows a graphic representation visualizing the different grades or classes through a schematic pictogram of a skin without relation to origin or breed. This is based on a grading system developed by Dr. A.H. Robinet.

1. SCOPE

The purpose of this standard is to specify procedures to be used in the classification by quality of raw or preserved trimmed sheep and goat skins.

2. DEFINITIONS

For the purposes of this standard, the following terms and definitions apply:

Sheep skin:	<i>Outer covering from a wool or hair ovine animal</i>
Goat skin:	<i>Outer covering from a caprine animal</i>
Fallen skin:	<i>Skin from an unbled or improperly bled carcass</i>
Ripping:	<i>The cutting-open of the carcass of an animal along the belly from the neck-end to the tail-end and along the legs.</i>
Trimming:	<i>The shape given to a skin with its ultimate use in mind (see paragraph 3).</i>
Pattern:	<i>The shape or contour of a flayed skin when laid flat as determined by the position, length and direction of the ripping cuts made during flaying. The bleeding-cut, belly-cut and leg-cuts must be directly in the centre of the throat, belly and legs (see</i>

Trimming:	<i>The shape given to a skin with its ultimate use in mind (see paragraph 3).</i>
Pattern:	<i>The shape or contour of a flayed skin when laid flat as determined by the position, length and direction of the ripping cuts made during flaying. The bleeding-cut, belly-cut and leg-cuts must be directly in the centre of the throat, belly and legs (see figures).</i>
Preservation:	<i>Treatment to protect the skin against harmful influences from the time of flaying until it is put in tannery processing (see paragraph 4.)</i>
Curing:	<i>Synonym of preservation.</i>
Defects:	<i>A general term for any damage from whatever cause on raw or cured skins and likely to depreciate the leather produced from them.</i>
Latent Defects:	<i>Are those which are discovered after hair removal, e.g. puller or clamp or other mechanical damage, also including defects hidden by hair or wool.</i>

3. TRIMMING

The trim of sheep and goat skins shall comply with the following requirements and shall be presented:

- 3.1. without head, with legs cut immediately above the knee or the hock, with short tail;
- 3.2. without scrotum, udder, anus, navel,
- 3.3. without adhering fat or meat (see figures).

Please note that untrimmed or poorly trimmed skins are classified as **Rejects !**

4. PRESERVATION

For the purposes of this standard, the following **preservation methods** are accepted:

- drying by hanging and in the shade
- salting
- brining
- dry-salting
- cooling

It is generally accepted that raw or green skins may also be classified according to this standard.

Please note that ground or ball dried skins and smoked skins are classified as **Rejects!**

5. **CLASSIFICATION BY QUALITY**

5.1. **General**

Sheep and goat skins shall be classified in four grades in relation to faults reasonably ascertainable at the time of classing.

Please note that fallen skins, poorly trimmed or shaped skins, ground or ball dried skins and smoked skins are classified as **Rejects !**

5.2. **Faults and defects**

For the purposes of this standard, faults and defects are divided into six groups:

5.2.1. defects related with the health of the animal:

diseases, abscesses, anthrax, tumors, etc.

5.2.2. defects coming from the husbandry conditions of the animal:

brands, hot iron or chemical brands (paint, dyestuff), freeze branding, etc.

5.2.3. defects from insects and parasites:

cockle, lice, worms, mange, tick, etc.

5.2.4. wounds open or cicatrized, caused:

- on the living animal:

bruises, scratches, tears, injuries, horn rake, wire damage, etc.

- and/or caused during flaying:

holes, cuts, score, corduroy, gash gauges, etc.

5.2.5. All kind of preservation defects:

putrefaction, chemical stains, hair slip, red heat, etc.

5.2.6. Any type of dirt:

dung, urine stains, seeds, prickles, sand, dust, etc.

5.3. **Classification of Skins**

For the purposes of this standard, the classification shall be done according to the following four grades:

5.3.1. *First grade*

The first grade shall be done according to the following requirements:

- No visible defects **in the central part** of the skin;
- No **sign of putrefaction**;
- **Free from dirt**;
- Coming to the **periphery** of the skin **or the legs or tail**, **ONLY ONE** of the following defects is accepted:
 - a. few defects caused by diseases
 - b. few defects from parasites
 - c. one branding mark
 - d. one wound open or cicatrized

5.3.2. *Second grade*

The second grade shall be done according to the following requirements:

- In addition to defects in the **periphery** of the skin, on the **legs** and **tail**, defects are accepted in **shoulder** or **bellies**:
 - a. few defects caused by diseases
 - b. few defects from parasites
 - c. one branding mark
 - d. one open or cicatrized wound
- few traces of putrefaction and
- some dirt are accepted in the **periphery** of the skin on the **legs** and **tail**.

5.3.3. *Third grade*

The third grade shall be done according to the following requirements:

- In addition to the defects mentioned for the second grade, the following defects are accepted **in low/medium concentration** in the best part of the skin (**butt**):
 - a. few defects caused by diseases
 - b. few defects from parasites
 - c. few branding marks

- d. open or cicatrized wounds
- traces of putrefaction and
- some dirt are accepted **except in the best part of the skin (butt).**

Please note that all defects mentioned should not cover more than **25% of the total area of the skin!**

5.3.4 *Fourth grade*

The fourth grade shall be done according to the following requirements:

- In addition to the defects mentioned for the third grade, defects are accepted in **low/medium concentration** on the skin if they do not cover more than **40% of the total skin area!**

5.3.5 *Rejects*

All skins presenting more defects than those accepted for the fourth grade and skins of which more than 50% of the area cannot be transformed into leather are classified as **rejects**.

In addition, the following skins shall be included in the rejects:

- Fallen skins
- Untrimmed or poorly trimmed skins
- Ground and ball dried skins
- Smoked skins

6. *Graphic representation of the classification*

- 6.1 The following table summarizes the coding for the grades in relation to the defects, their location and concentration as well as their depth and surface.

Table 1/S

GUIDELINES for grading skins

G R A D E		D e f e c t s					
		Health, diseases, tumors, etc.	Marks, brands, paint, etc.	Insects, para- sites, cockle, ticks, etc.	Wounds, holes, cuts, scrat- ches, etc.	Putrefact ion, hair slip, read heat, etc.	Dirt, dung, urine, seeds, sand, etc.
1st	Location	1-2	1-2	1-2	1	0	0
	Concent.	1	1	1	1	0	0
	Depth	1	1	1	1	0	0
	Surface	1	1	1	1-2	-	0
2nd	Location	3	3	3	2-3	1-2	1-2
	Concent.	1	1	1	1	1	1
	Depth	1	1	1	1	1	-
	Surface	1	1	1	1-2	1	1
3rd	Location	3-4	3-4	3-4	3-4	3	3-4
	Concent.	2	1	2	2	2	1
	Depth	2	2	2	2	2	-
	Surface	1	1	1	1-2	1	1
4th	Location	3-4	3-4	3-4	3-4	3-4	3-4
	Concent.	2	2	2	2	2	2
	Depth	2	2	2	2	2	2
	Surface	1-2	1	1-2	1-2	1-2	1-2

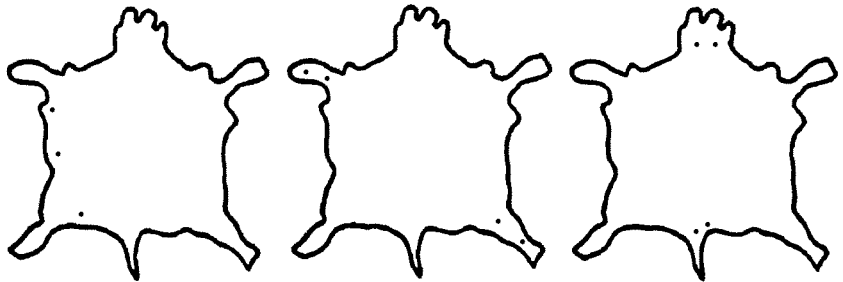
LEGEND - code

	0	1	2	3	4
Location		periphery	legs, tail, cheeks	shoulder, belly	central part
Concentration	none	low	medium	high	
Depth		superficial	through		
Surface		grain	flesh		

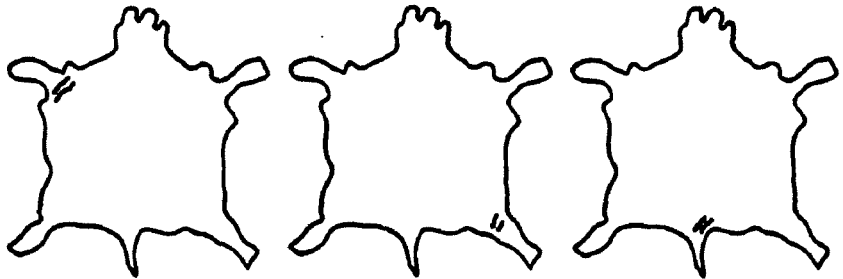
6.2. For the purposes of this standard, the tables 2, 3, 4 and 5 are showing the graphic representation of the 1st, 2nd, 3rd and 4th grade.

First Grade

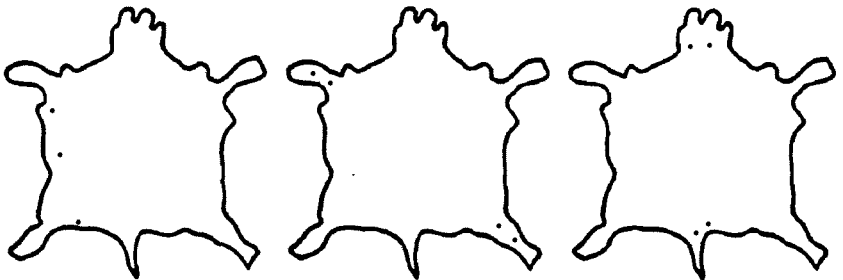
Wounds
Holes
Cuts
etc.



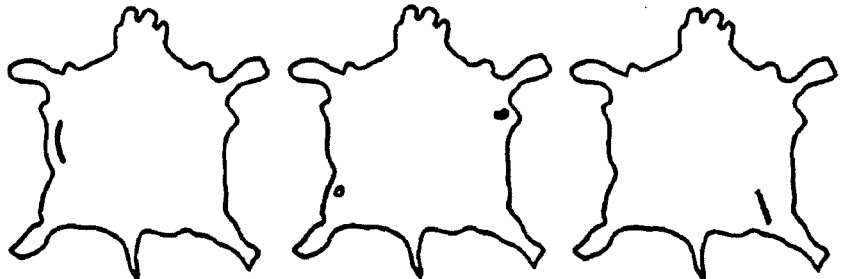
Putrefaction
Read heat
Hair slip
etc.



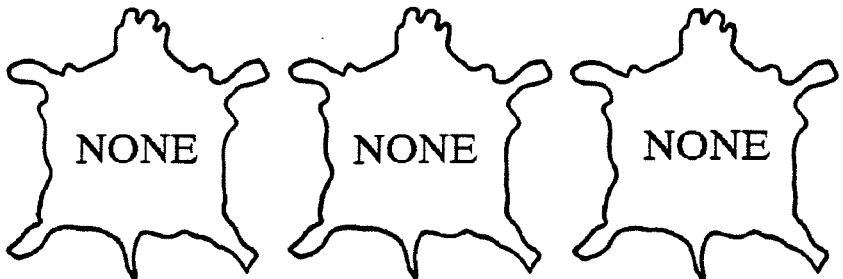
Dirt
Dung
Urine
Seeds
Sand
etc.



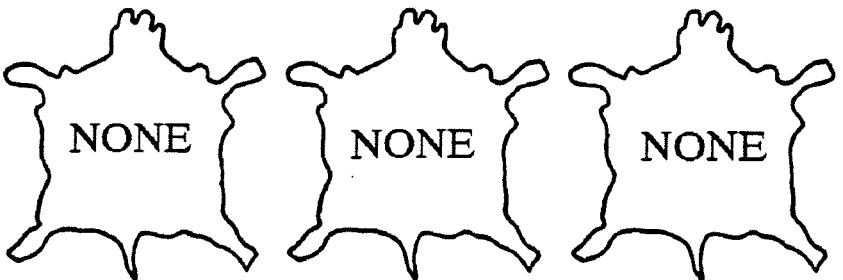
Health diseases
Tumors
etc.



Marks
Brands
Paints
etc.

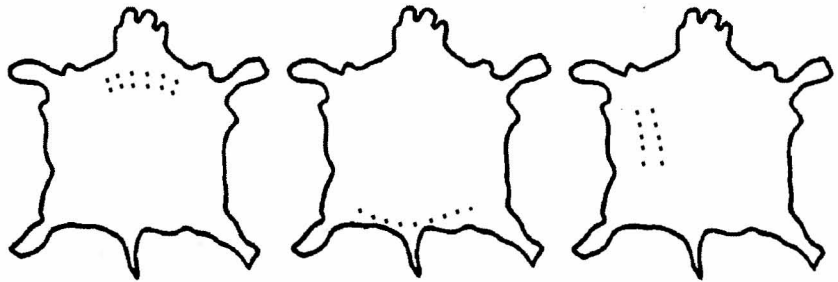


Insects
Parasites
etc.

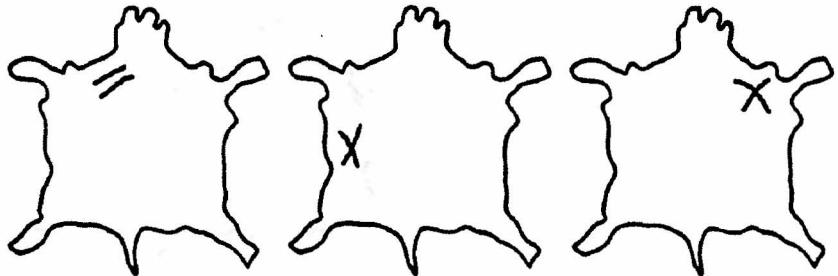


Second Grade

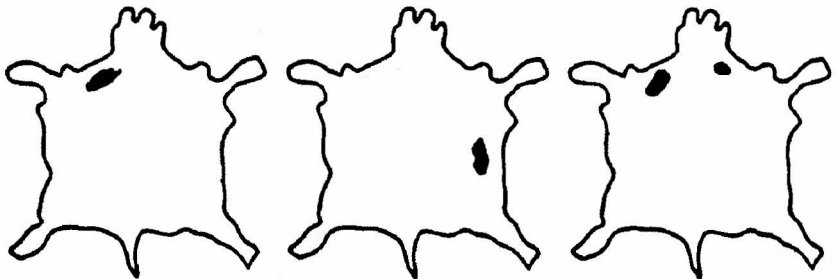
Health diseases
Tumors
etc.



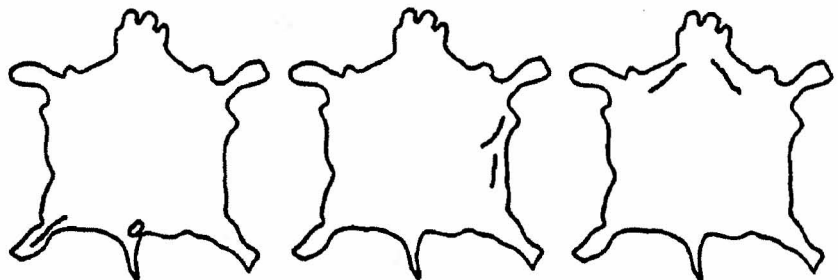
Marks
Brands
Paints
etc.



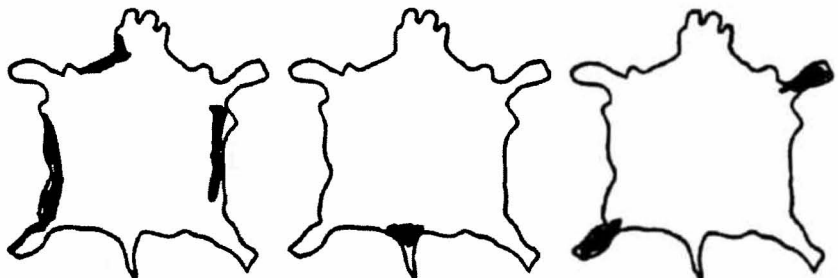
Insects
Parasites
etc.



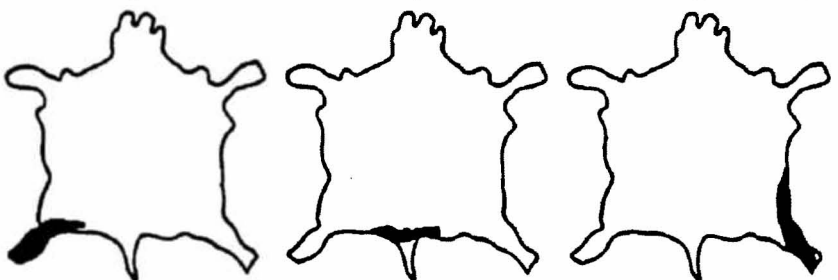
Wounds
Holes
Cuts
etc.



Putrefaction
Red heat
Hair slip
etc.

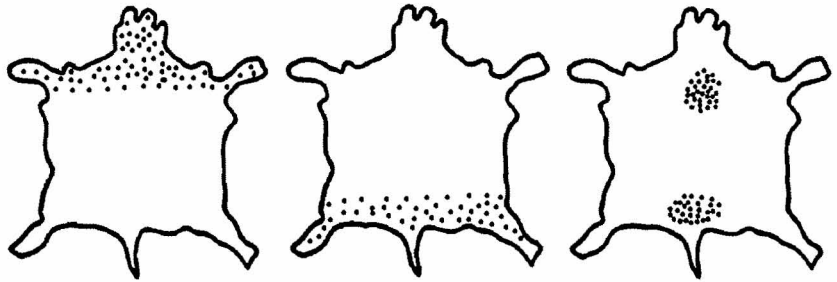


Dirt
Dung
Urine
Seeds
Sand
etc.

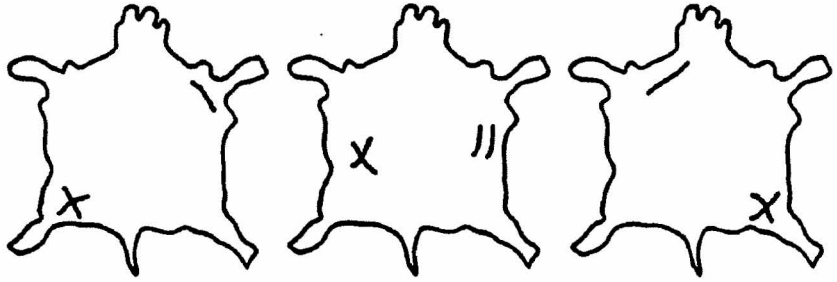


Third Grade

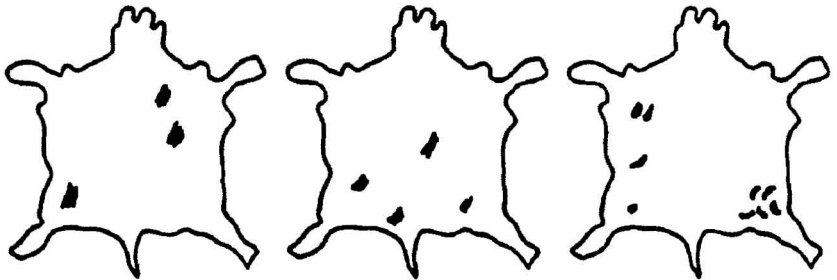
Health diseases
Tumors
etc.



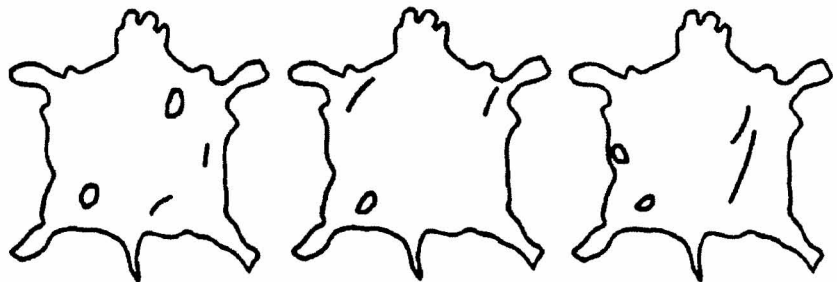
Marks
Brands
Paints
etc.



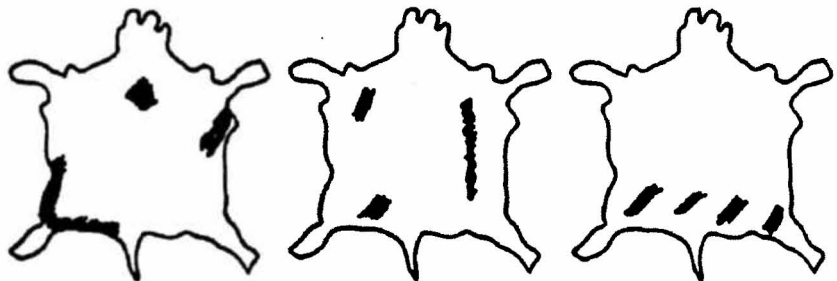
Insects
Parasites
etc.



Wounds
Holes
Cuts
etc.



Putrefaction
Red heat
Hair slip
etc.

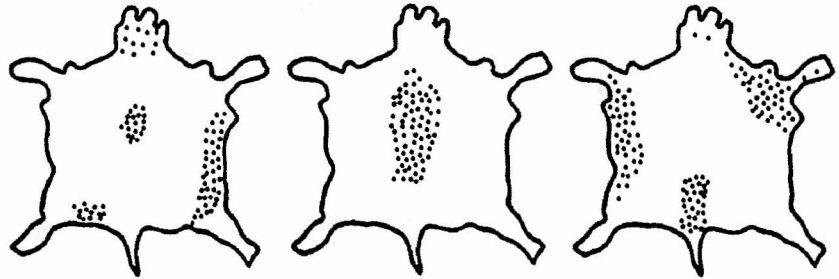


Dirt
Dung
Urine
Seeds
Sand
etc.

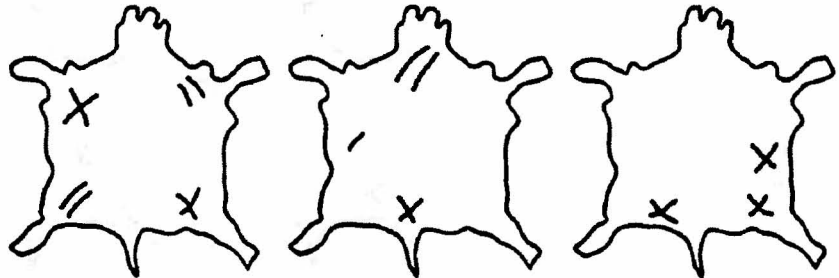


Fourth Grade

Health diseases
Tumors
etc.



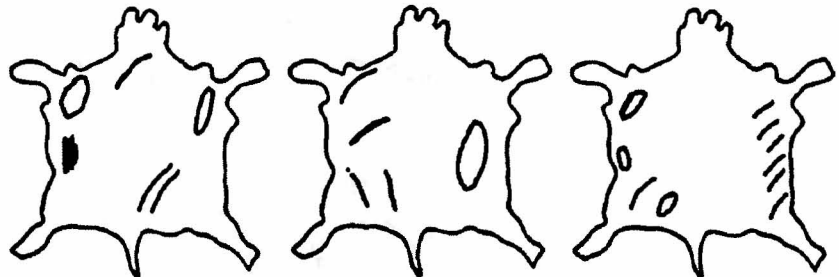
Marks
Brands
Paints
etc.



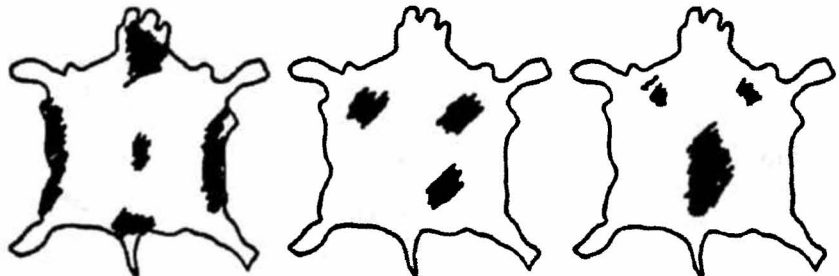
Insects
Parasites
etc.



Wounds
Holes
Cuts
etc.



Putrefaction
Red heat
Hair slip
etc.



Dirt
Dung
Urine
Seeds
Sand
etc.



III. Classification of Hides by Quality

O. INTRODUCTION

It is widely realized that improvement of hides and skins quality can be achieved only if quality grading norms are applied. The primary producer, as well as the whole chain of related services, including flaying, curing, handling and storing, should be rewarded by better prices for improved quality. The main purpose of this draft is therefore to *provide a basis for such a quality grading*.

This standard gives a **classification by quality** applicable on raw and cured cattle hides intended to be transformed into leather.

It should be noted that this standard:

- in order to be applicable in a wide variety of countries, does not include classifications by weight, size or shape which are too dependent on origin, breed, age, sex, etc.
- can be adapted to "commercial" or "customer" classification.

The standard shows a graphic representation visualizing the different grades or classes through a schematic pictogram of a hide without relation to origin or breed. This is similar to the grading system developed for skins.

1. SCOPE

The purposes of this standard is to specify procedures to be used in the classification by quality of raw or preserved trimmed cattle hides.

2. DEFINITIONS

For the purposes of this standard, the following terms and definitions apply:

Cattle hide:	<i>Outer covering from a bovine animal</i>
Fallen hide:	<i>Cattle hide from an unbled or improperly bled carcass.</i>
Brand:	<i>Man-made permanent mark on a hide, generally for identification, and made by means of a hot or cooled iron or chemical products.</i>
Pritch hole:	<i>Hole made by a flayer's pritch, i.e. an instrument used to support the carcass during flaying.</i>
Warble hole:	<i>A damage (perforate) caused by Hypoderma species.</i>
Blind warble:	<i>A damage (imperforate or cicatrized) caused by Hypoderma species.</i>
Trimming:	<i>The shape given to a hide with its ultimate use in mind (see paragraph 3).</i>
Ripping:	<i>The cutting open of the carcass of an animal along the belly from the neck end to the tail and along the legs (see figures).</i>

Pattern:	<i>The shape or contour of a flayed hide when laid flat as determined by the position, length and direction of the ripping cuts made in flaying. The bleeding cut, belly cut and leg cuts must be directly in the center of the throat, belly and legs (see figures).</i>
Preservation:	<i>Treatment to protect the hide against harmful influences from the time of flaying until it is put in tannery processing (see paragraph 4).</i>
Curing:	<i>Synonym of preservation.</i>
Defect:	<i>A general term for any damage from whatever cause on raw or cured hides and likely to depreciate the leather produced from them.</i>
Latent Defects:	<i>Are those which are discovered after hair removal, e.g. puller or clamp or other mechanical damage, also defects hidden by hair.</i>

Please refer to the figures for definition of various parts of a cattle hide!

3. TRIMMING

3.1. General

With regards to the trimming, the present standard follows the pattern recommended by the International Standardization Organization, *ISO 2820 Method of trim for raw hides of cattle and horses*. This method was approved by the following countries:

Australia	Iran	Spain
Chile	Ireland	Thailand
Czechoslovakia	Israel	Turkey
Egypt	Italy	USSR
France	New Zealand	
Hungary	Poland	
India	Romania	

However, as the United Kingdom and the USA did express disapproval on the ISO standard, and taking into account the importance of USA hides in the international trade and the British involvement in East Africa, paragraphs 3.3. and 3.4. present the British and the American standards respectively. Some African countries including Ethiopia, Tanzania and Zimbabwe have prepared their own standards which are presented as Annex 2.

3.2. Trimming according to International Standard ISO 2820

According to the ISO standard, the trimming of cattle hides shall comply to the following requirements and the hide shall be presented:

3.1.1. without head (head cut straight behind the ears), shanks cut off at right angles immediately above the knee (fore shanks) and hock (hind shanks);

3.1.2. tail cut off not more than 25 cm from the butt;

3.1.3. without excess fat, flesh or any other material unsuitable for making leather (see figure 3).

Please note that in order to establish with certainty the origin* of a hide, it may be necessary to retain a part of the udder containing a teat on hides from cows!

3.3. Trimming according to British Standard BS 3935

According to the British Standard, the trimming of cattle hides shall comply to the following requirements and the hide shall be presented:

- 3.2.1 Before weighing, fore shanks shall be knee-trimmed, hind shanks trimmed square at the hock;
- 3.2.2. fat removed from rump and brisket;
- 3.2.3. butt fairly shaped, and horns, tailbone and head meat removed;
- 3.2.4. Heads shall be trimmed by removing masks (pates) and ears leaving only cheeks.
- 3.2.5. Tail shall be trimmed not more than 30 cm (see figure 3).
- 3.2.6. If the cheek of a hide bears a cut of more than 8 cm in length, the portion of the cheek beyond the cut shall be removed by continuing the cut in both directions.

3.4. Trimming according to United States Commercial Standard CS-268-65

According to the United States Standard, the trimming of cattle hides shall comply to the following requirements and the hide shall be presented:

The specifics of cattle hide trim, which is illustrated in figures, are as follows:

3.4.1. Shanks

- **Fore-shanks** should be trimmed straight across through the center of the knee.
- **Hind-shank** should be trimmed straight across one-third the distance from the dewclaw holes and the wide flare of the shank. Any hind-shank having a cut or hole below the knee or hock 2.5 cm or more in length, should be corrected by trimming straight across the top of the cut or hole. If the cut or hole is smaller than the above, such a shank is acceptable without trimming, providing it is of proper pattern otherwise (see figure 3).

3.4.2. Head

- Trim requires that all ears, ear butts, snouts and lips, fat and muscle tissue be removed from the pate side of the head by cutting through the eye-hole.
- The narrow side of the head should be trimmed through the eye in a similar manner.
- Removal of all ragged edges is necessary.

* origin = gender

3.4.3. Cow bags, teats, cow navels and cod bags.

- These should be removed straight with the belly line, preserving a standard pattern.

3.3.4. Pizzle pocket

- This should be split through the center for curing and left on the hide for steer identification.

3.3.5. Tails

- Maximum tail length should be no more than 10 cm, cured, measured from the root.

4. PRESERVATION

For the purposes of this standard, following **preservation methods** are accepted:

- frame-drying in the shadow
- stack salting
- brining
- dry-salting
- freezing

It is generally accepted that raw or green hides may also be classified according to this standard.

Please note that the International Standard ISO 2821 Preservation by stack salting describes the nature and origin of preserving process defects and recommends a preservation method of hides by stack salting!

5. CLASSIFICATION BY QUALITY

5.1. General

Hides shall be classified in four grades in relation to faults reasonably ascertainable at the time of classing.

5.2. Faults and defects

For the purposes of this standard, **faults and defects** are distributed in **five groups**:

5.2.1. Natural defects caused by **diseases and parasites** on the living animal:

anthrax, scars, ringworm, tumors, or ticks, lice, warble, etc.

5.2.2. Mechanically caused defects by **the living animal**:

brands, bruises, scratches, wounds, wire damage, etc.

5.2.3. Dirt, dung, urine stains, sand, seeds, etc.

5.2.4. Flaying defects:

cuts, scores, corduroy, holes, grain cracks, pulling machine damage, etc.

5.2.5. Curing and storing defects:

Putrefaction, hair slip, red heat, salt stains, etc.

5.3. Classification of Hides

For the purposes of this standard, the classification shall be done according to the following four grades:

5.3.1. *First grade*

The first grade shall be done according to the following requirements:

- hide of **good pattern, clean and well cured, NO SIGN OF PUTREFACTION,**
- **free of defects in the butt and neck area, except for a maximum of 5 blind warbles,**
- **with only a few score marks or one hole in the bellies,**
- **without brand marks.**

5.3.2. *Second grade*

The second grade shall be done according to the following requirements:

- hide of **good pattern and well cured, NO SIGN OF PUTREFACTION,**
- **with few small holes or cuts or other defects from group one and two in the butt,**
- **with moderate number of defects from groups one, two - except for brands - and four in bellies and neck,**
- **with ONE brand which is wholly within 18 cm of the perimeter of the hide,**
- **with a maximum of ten open warbles or twenty blind warbles,**
- **with dung and urine stain not more than an area of 30 x 30 cm on each of the hind shanks.**

5.3.3. *Third grade*

The third grade shall be done according to the following requirements:

- hide of **poor pattern or spoiled,**
- **with some putrefaction defects,**
- **with defects from group one, two - except for brands - and four up to 30 % of the hide area,**
- **with a brand of which any portion is more than 18 cm from the perimeter of the hide,**
- **with more than ten open warbles and 20 blind warbles,**
- **with more dung and urine stain than acceptable for grade 2.**

5.3.4. *Fourth grade*

The fourth grade shall be made according to the following requirements:

- very poor pattern or very spoiled hide,
- with any kind of **defects covering up to 50% of the hide area.**

5.3.5. *Rejects*

All hides presenting more defects than accepted for the fourth grade are classified under **rejects.**

6. **Graphic representation of the classification**

- 6.1. The following table summarizes the coding for grades in relation to the defects, their location and concentration as well as their depth and surface.

Table 1/H

GUIDELINES for grading hides

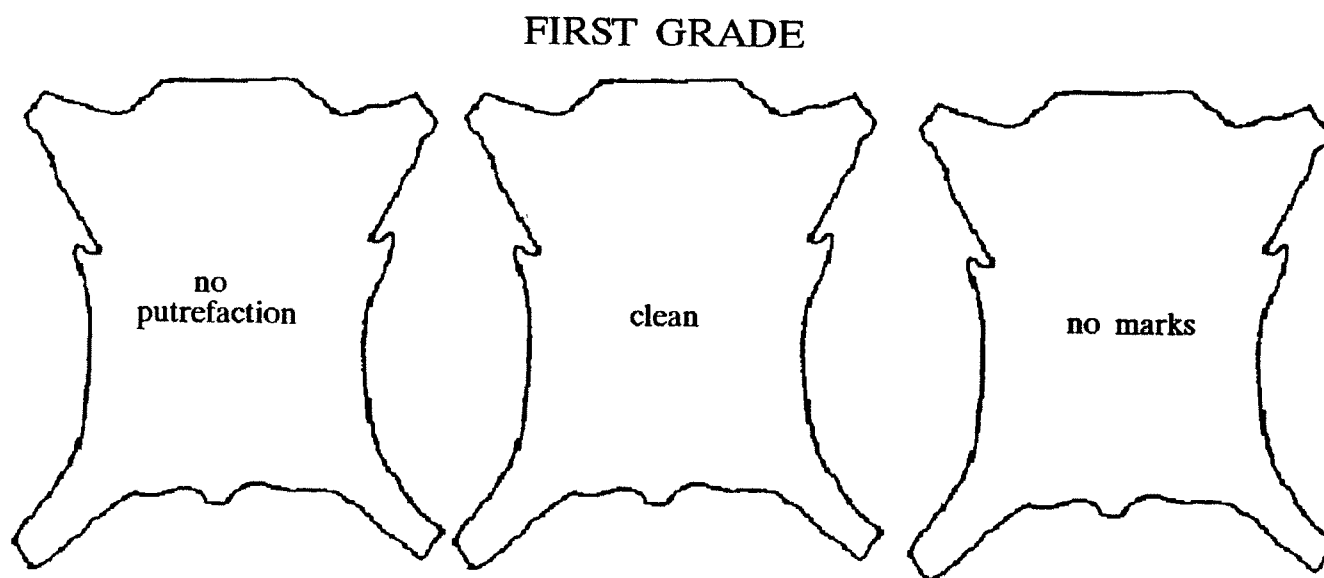
G R A D E		D e f e c t s				
		Natural defects, diseases, parasites, ringworm, anthrax, etc.	Mechanically caused defects, brands, wound, etc.	Dirt, dung, urine, sand, seeds, etc.	Flaying defects, cuts, holes, scores, cracks, etc.	Putrefaction, hair slip, red heat, salt, stations, etc.
1st	Location	1-2	1-2	0	1	0
	Concent.	1	1	0	1	0
	Depth	1	1	0	1	0
	Surface	1	1	1	1-2	-
2nd	Location	3-4	3-4	3-4	2-3	1-2
	Concent.	1	1	1	1	1
	Depth	1	1	1	1	1
	Surface	1	1	1	1-2	1
3rd	Location	3-4	3-4	3-4	3-4	3
	Concent.	2	2	2	2	2
	Depth	2	2	2	2	2
	Surface	1	1	1	1-2	1
4th	Location	3-4	3-4	3-4	3-4	3-4
	Concent.	2	3	2	3	3
	Depth	2	2	2	2	2
	Surface	1-2	1	1-2	1-2	1-2

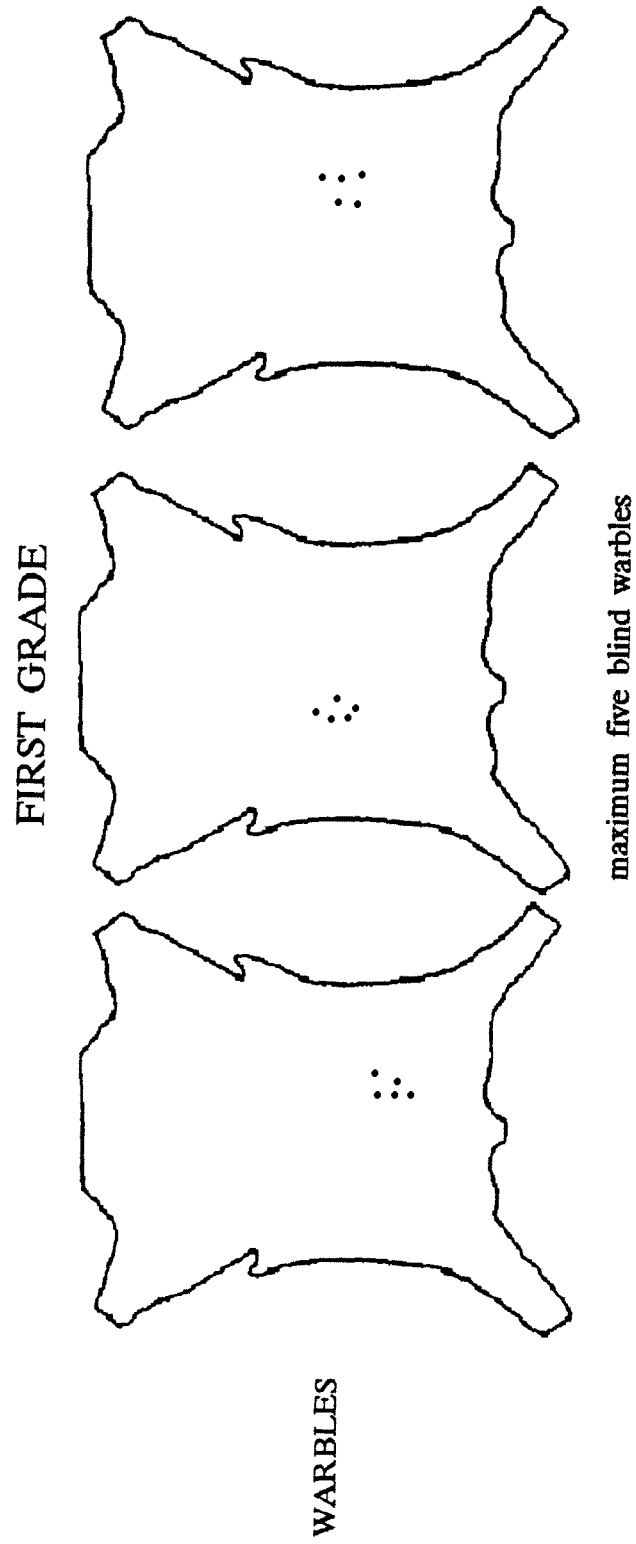
LEGEND - code

	0	1	2	3	4
Location		periphery	legs, tail	shoulder, belly	butt
Concentration	none	low	medium	high	
Depth		superficial	through		
Surface		grain	flesh		

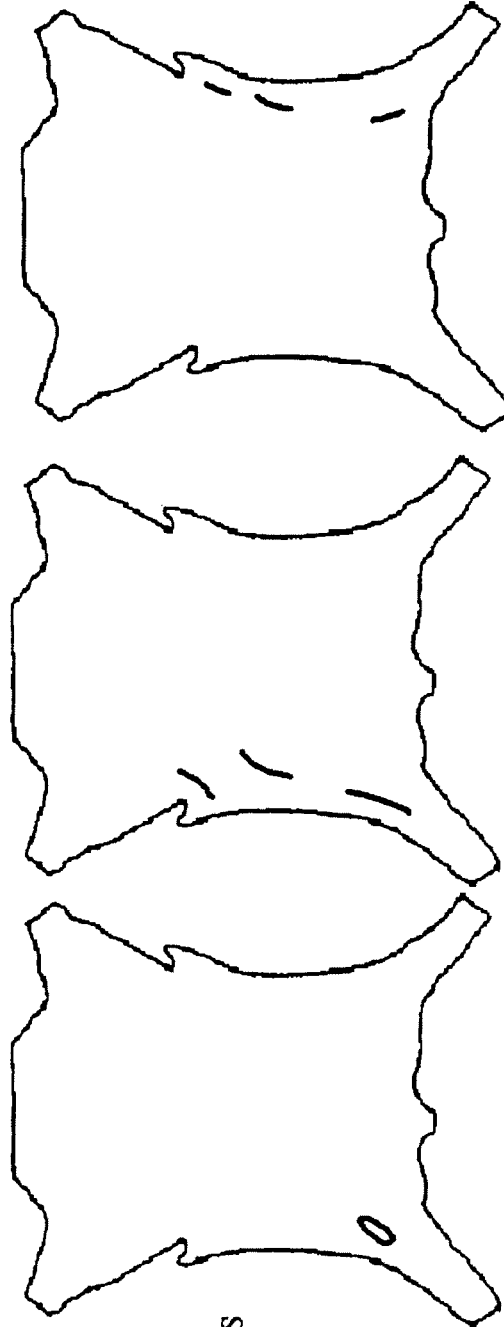
6.2. For the purposes of this standard, table 1/H, pictograms 2/H - 12/H, show the graphic representation of the 1st, 2nd, 3rd and 4th grade.

PUTREFACTION
DIRT
BRAND MARKS





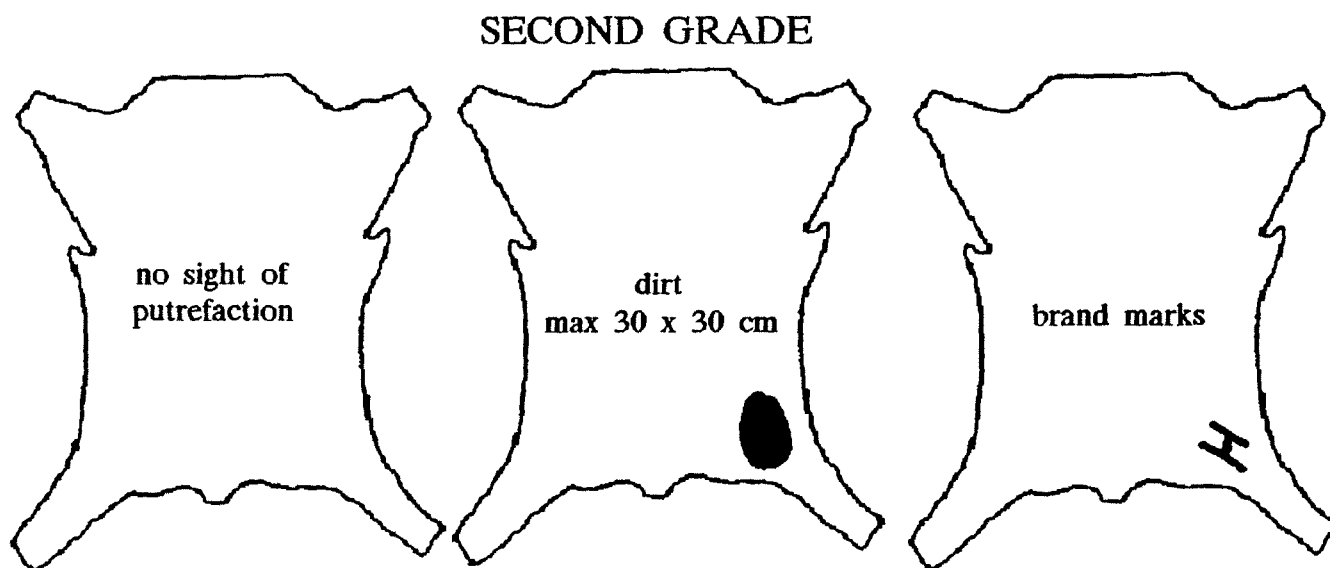
FIRST GRADE



SCORE MARKS
HOLES

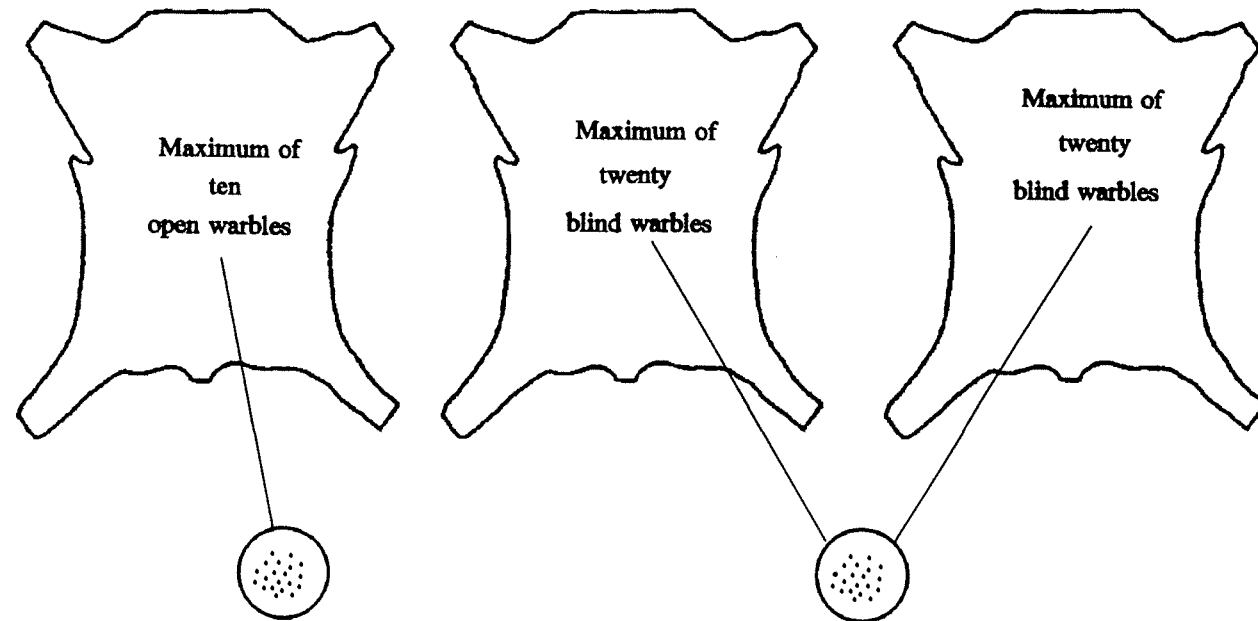
few score marks or one hole

PUTREFACTION
DIRT
BRAND MARKS



SECOND GRADE

WARBLES

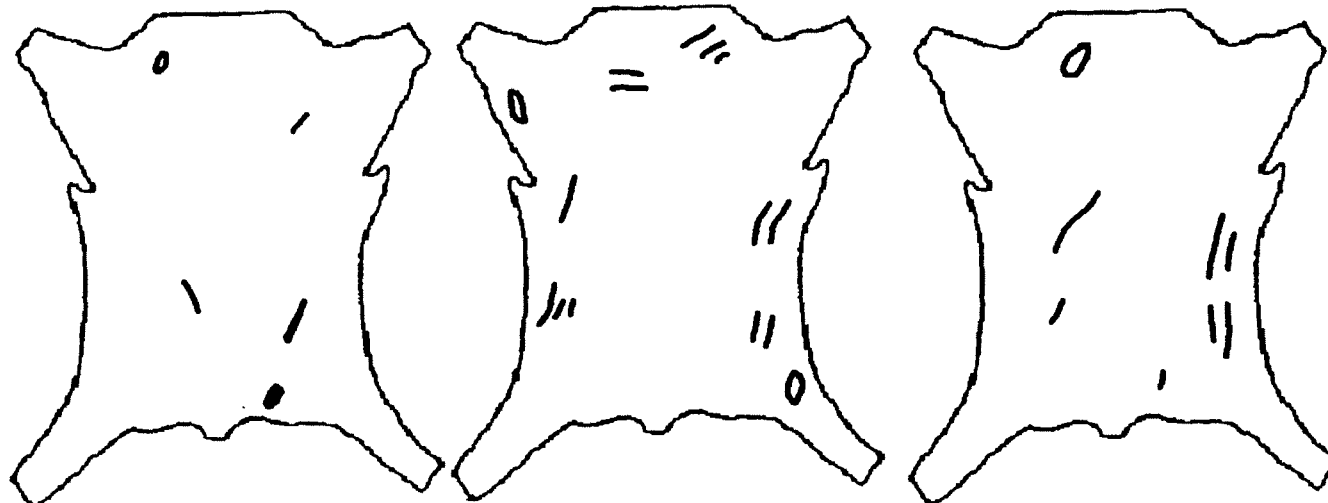


SECOND GRADE

SCARS
TICKS
RINGWORM, etc.

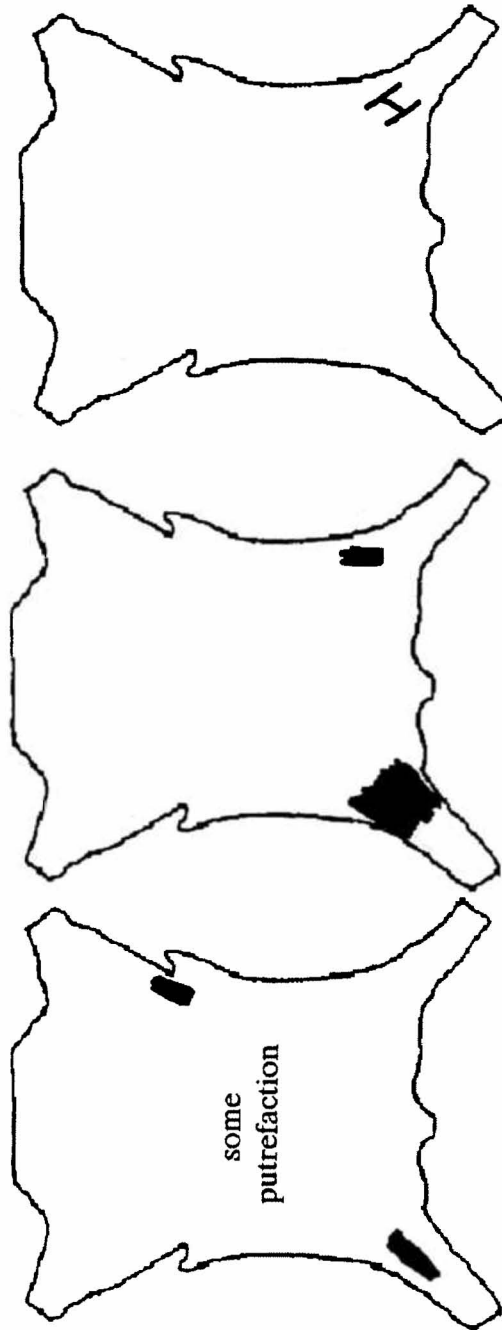
BRUISES
SCRATCHES
WOUNDS, etc.

FLAY CUTS



With few small holes or cuts or other defects from group one and two in the butt.
With moderate number of defects from group one, two - except for brand - and four in bellies and neck.

THIRD GRADE



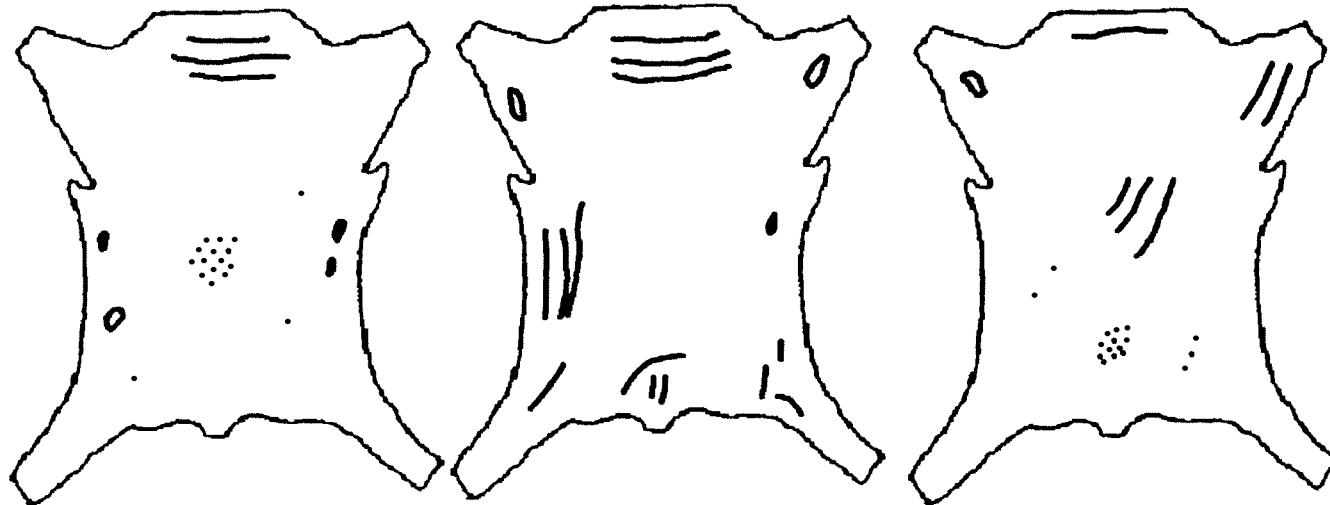
PUTREFACTION
DIRT
BRAND MARKS

THIRD GRADE

SCARS
TICKS
RINGWORM, etc.

BRUISES
SCRATCHES
WOUNDS, etc.

FLAY CUTS



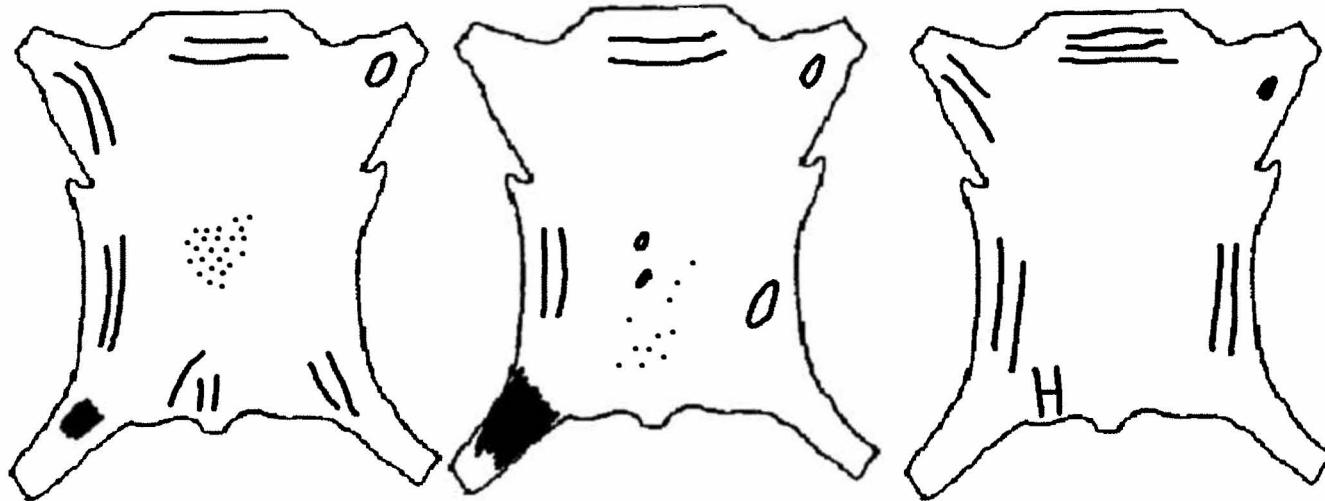
With defects from group one, two - except for brands - and four up to 30% of the hide area.

THIRD GRADE

SCARS
TICKS
RINGWORM, etc.

BRUISES
SCRATCHES
WOUNDS, etc.

FLAY CUTS
HOLES



With defects from group one, two - except for brands - and four up to 30% of the hide area.

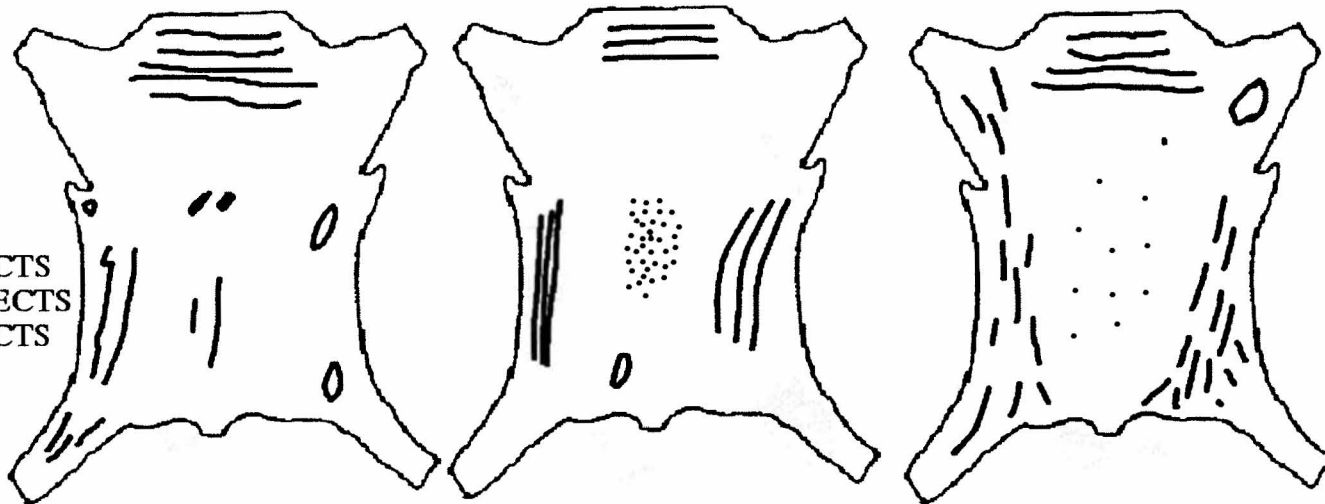
FOURTH GRADE



PUTREFACTION
DIRT
BRAND MARKS
POOR PATTERN

FOURTH GRADE

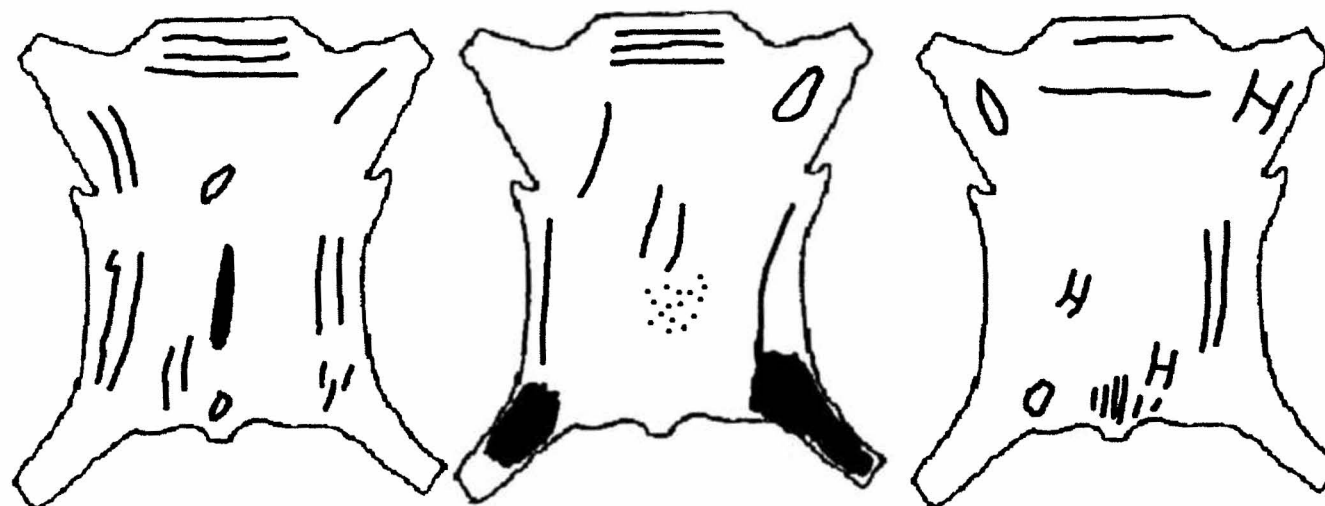
NATURAL DEFECTS
MECHANICAL DEFECTS
FLAYING DEFECTS



Any kind of defect covering up to 50% of the hide area.

FOURTH GRADE

ANY KIND
OF
DEFECTS



Any kind of defect covering up to 50% of the hide area.

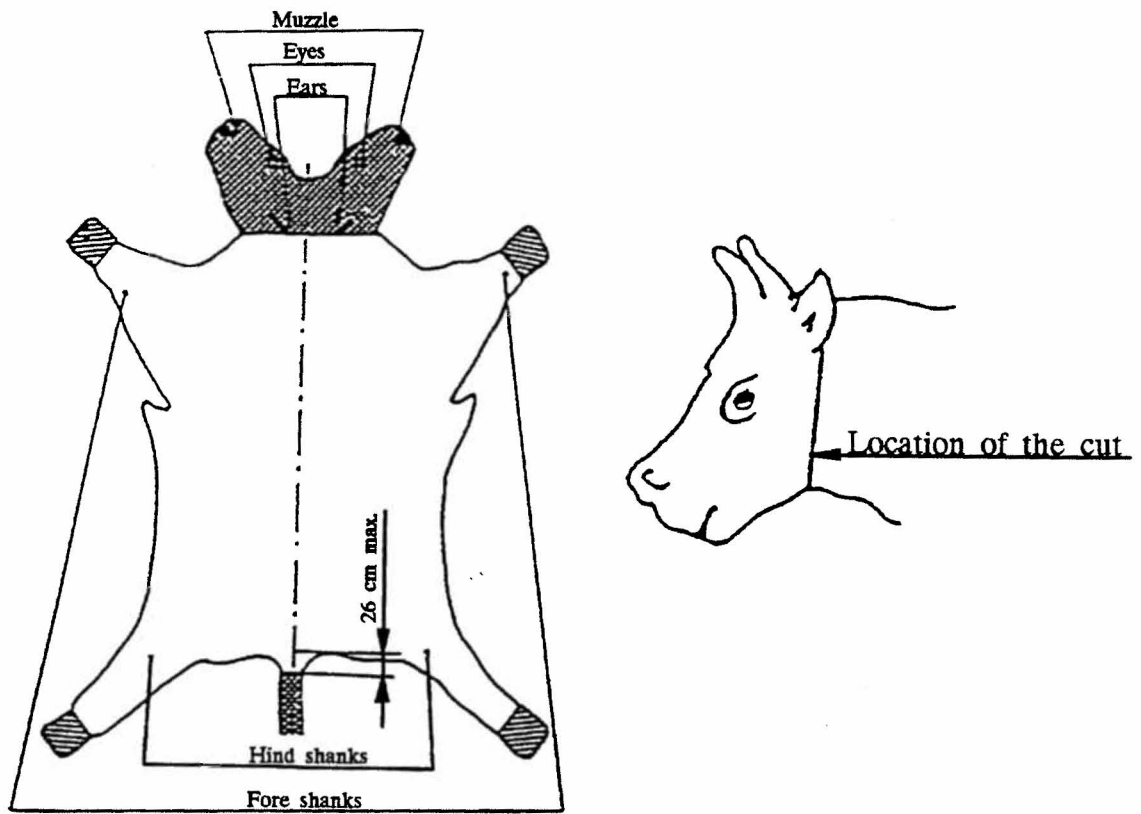
Annex 1

A. *References to the Classifications of Skins:*

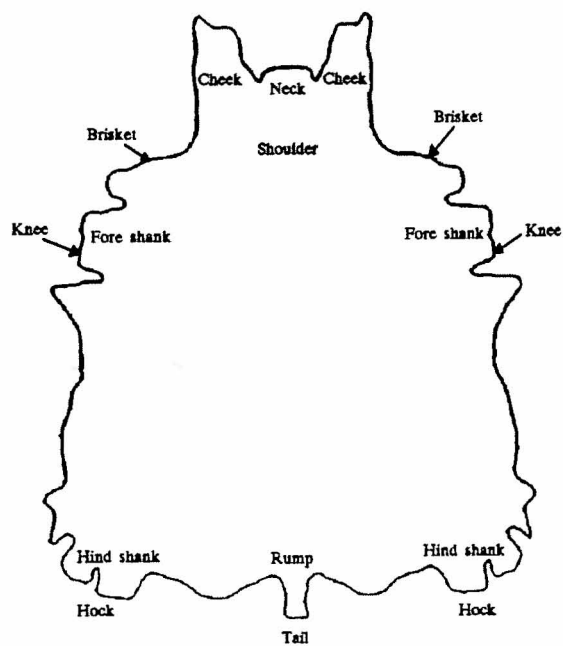
- (1) ISO Guide for Preparation of Standard Methods, 1972
- (2) AFNOR French Standard G 50-001 Defauts des peaux brutes d'ovins - Vocabulaire, 1976
- (3) AFNOR French Standard NF G 53-003 Peaux Brutes d'ovins à laine - Désignation - Présentation, 1976
- (4) Ethiopian standards ES B.J6.001 to 010
- (5) Tanzanian standard TZS 424
- (6) Sudan Hides and Skins Ordinance 1954
- (7) Leather Technical Dictionary, Eduard Roether Verlag, Darmstadt
- (8) Jean J. Tancous: Skin, Hide and Leather Defects, Lee Corporation, Cincinnati, Ohio, USA, 1986
- (9) A. Jeannin, M. Lobry, A. Robinet: Manuel des agents du conditionnement des cuirs et peaux en zone tropicale, 2eme ed. Paris SEAE, 1971
- (10) T.J. Devassy, G. Argaw: Hides and Skin Improvement Handbook, FAO, 1990

B. *References to the Classifications of Hides:*

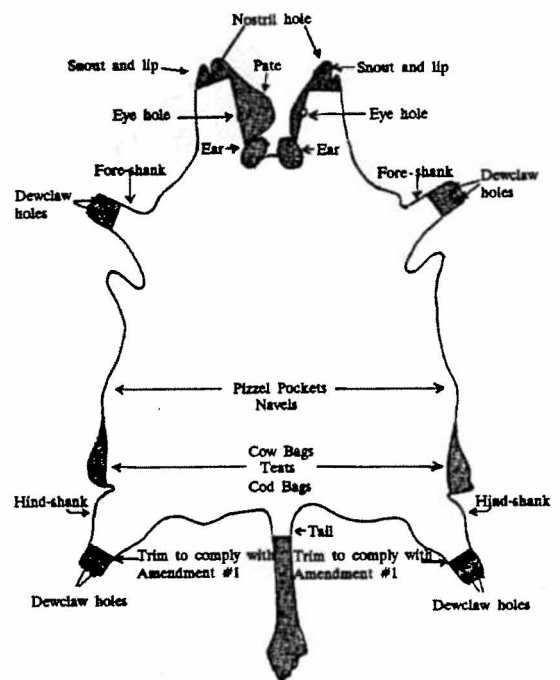
- (1) ISO 2820 Leather - Raw Hides of Cattle and Horses - Method of Trim, 1974
- (2) ISO 28210 Leather - Raw Hides of Cattle and Horses - Preservation by Stack Salting, 1974
- (3) BS 3935 - Guide to Classification and Marking of Cattle Hides and Calfskins, 1991
- (4) AFNOR G 51-001 Classement des peaux brutes de bovins fraîches et salées d'après l'aspect et la masse, 1970
- (5) ANFOR G 53-001 Mode de presentation des peaux brutes de bovins et d'équide, 1970
- (6) ANFOR G 53-002 Règles de conservation par salage en pile des peaux brutes de bovins et d'équide, 1970
- (7) United States Commercial Standard CS-268-65 Hide Trim Pattern for Domestic Cattle Hides, 1972
- (8) ISO Guides for Preparation of Standard Methods, 1972
- (9) Ethiopian standards ES B.J6.001 to 010
- (10) Tanzanian standard TZS 424
- (11) Sudan Hides and Skins Ordinance 1954
- (12) Leather Technical Dictionary, Eduard Roether Verlag, Darmstadt
- (13) Jean J. Tancous: Skin, Hide and Leather Defects, Lee Corporation, Cincinnati, Ohio, USA, 1986
- (14) A. Jeannin, M. Lobry, A. Robinet: Manuel des agents du conditionnement des cuirs et peaux en zone tropicale, 2eme ed. Paris SEAE, 1971
- (15) T.J. Devassy, G. Argaw: Hides and Skin Improvement Handbook, FAO, 1990
- (16) Flaying and Curing of Hides as a Rural Industry, FAO, Rome, 1955



ISO 2820 STANDARD



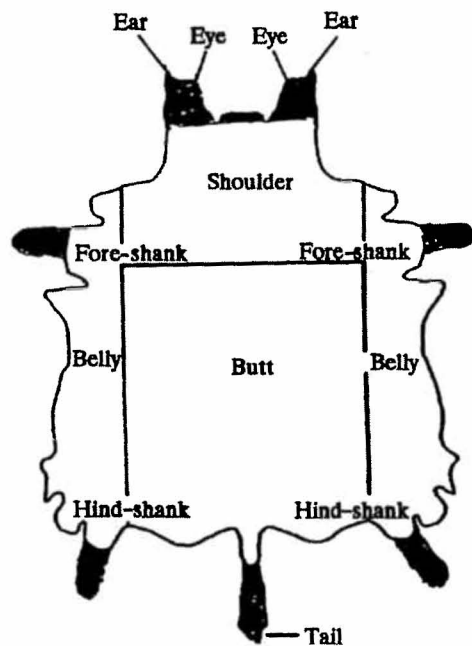
**British Standard
BS 3935**



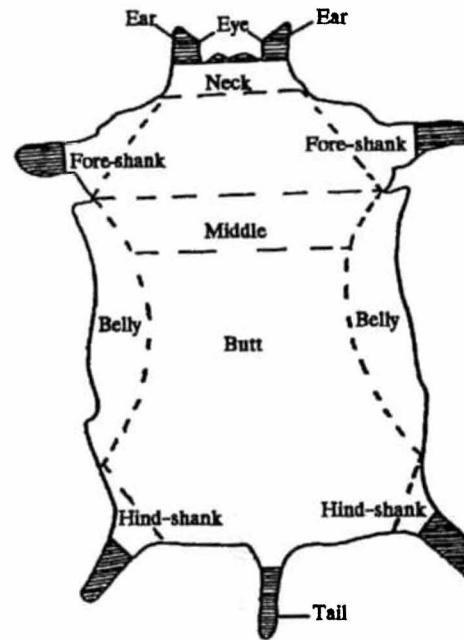
**US Standard
CS-268-65**

Annex 2

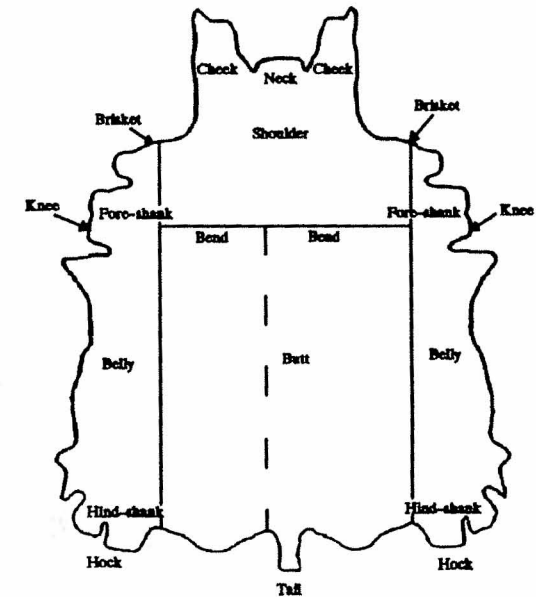
Illustrations of National Standards Trimming and Ripping Guidelines



Presentation according to
Ethiopian Standard ES B. J6 002 1973

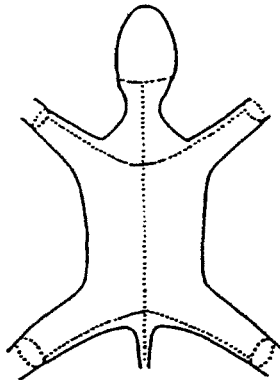


Presentation according to
Tanzanian Standard TZS 424 1989

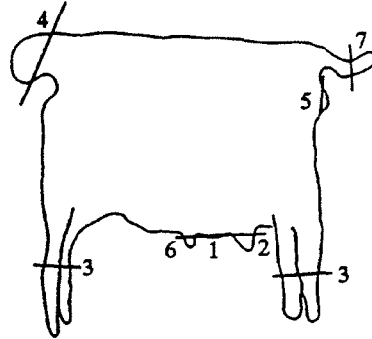


Presentation according to
Zimbabwe Standard SAZS No 295:1989

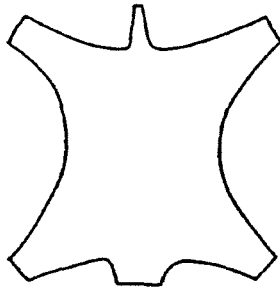
TRIMMING



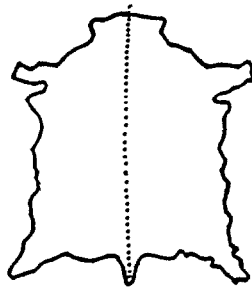
ripping cuts



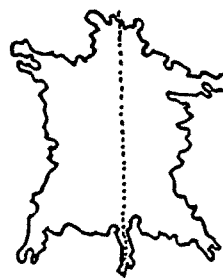
1. scrotum or
2. udder
3. legs at the knee
4. neck
5. anus
6. navel
7. tail



result of good ripping

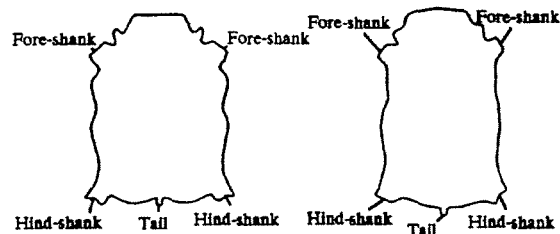


good pattern



poor pattern

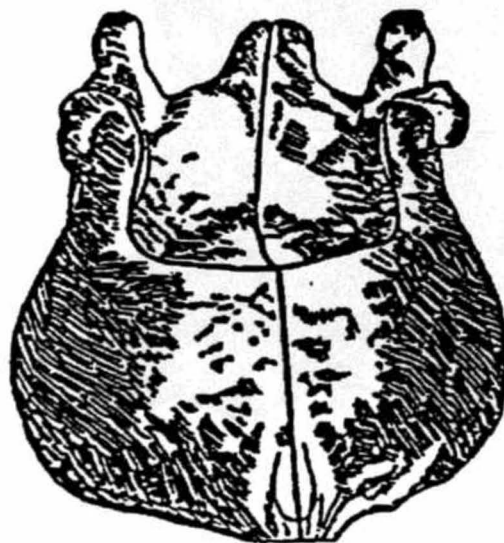
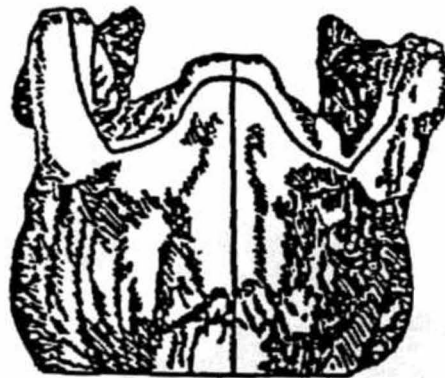
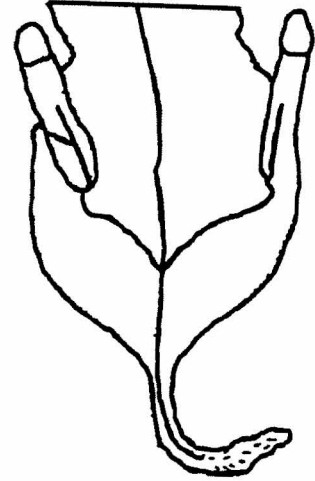
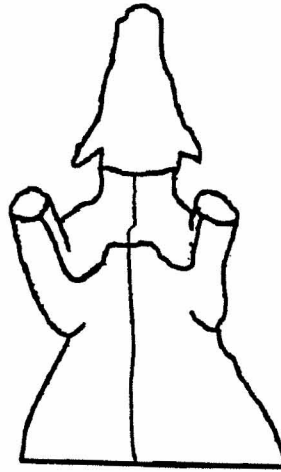
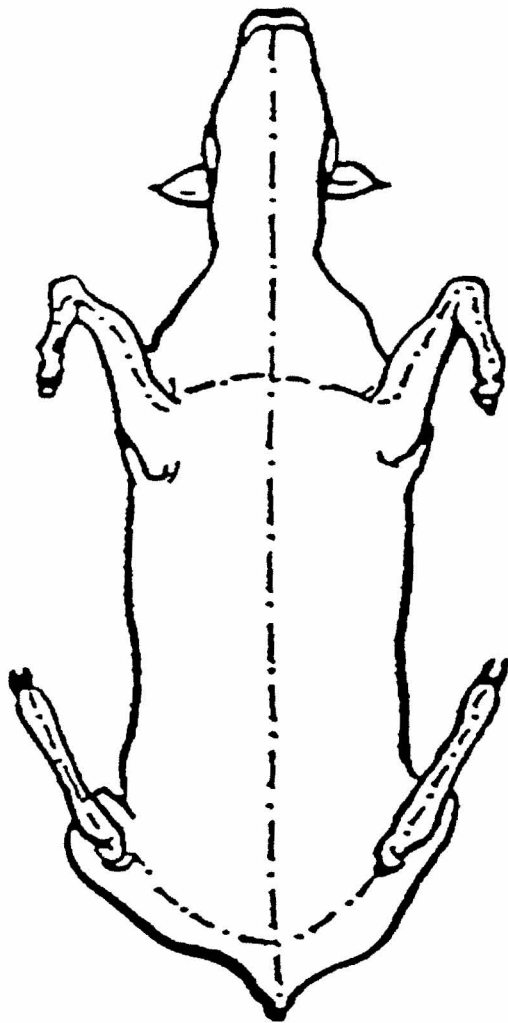
METHODS OF PRESENTATION FOR FLAYED SKIN

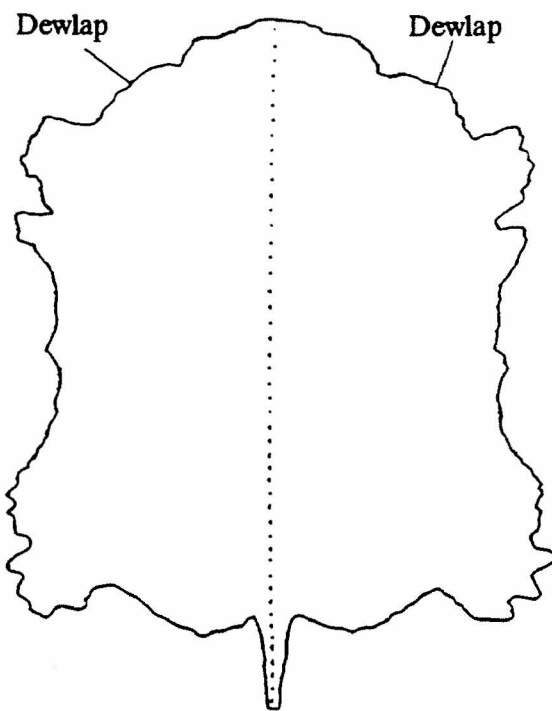


In Ethiopia

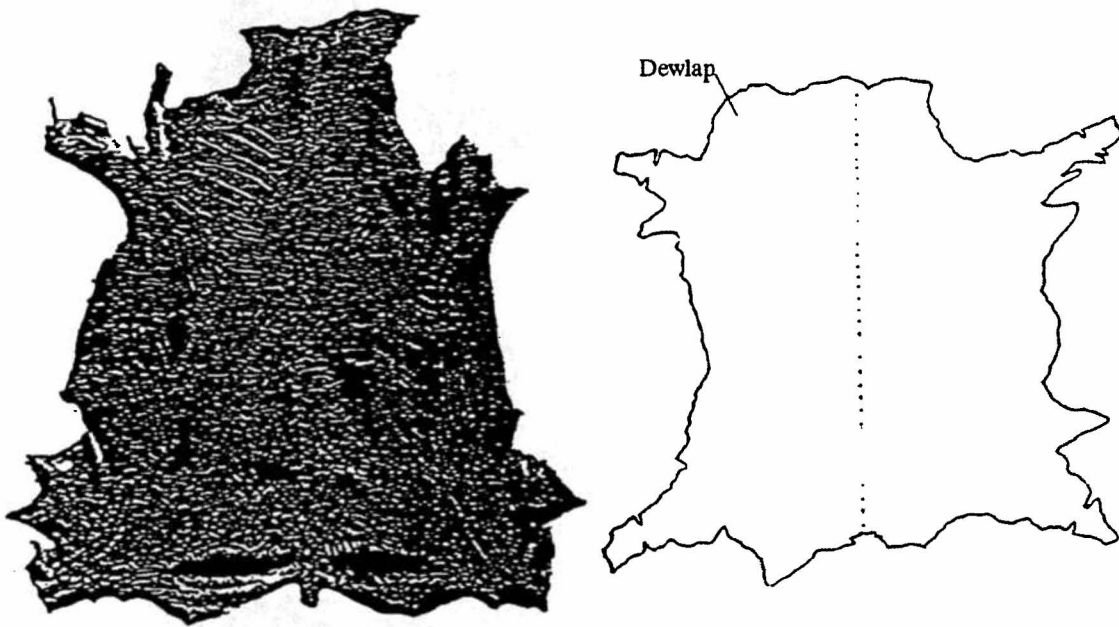
In Tanzania

RIPPING CUTS





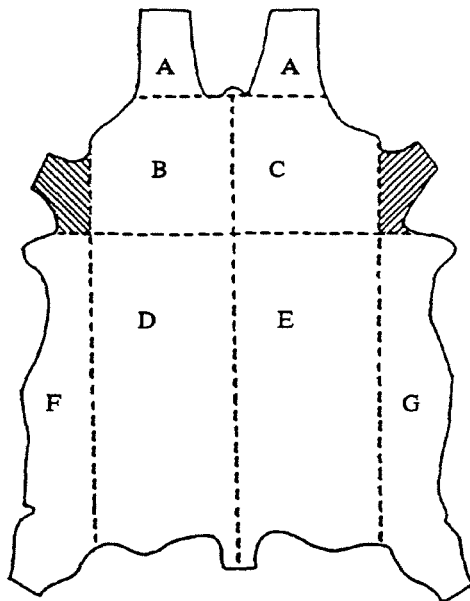
good pattern



poor pattern

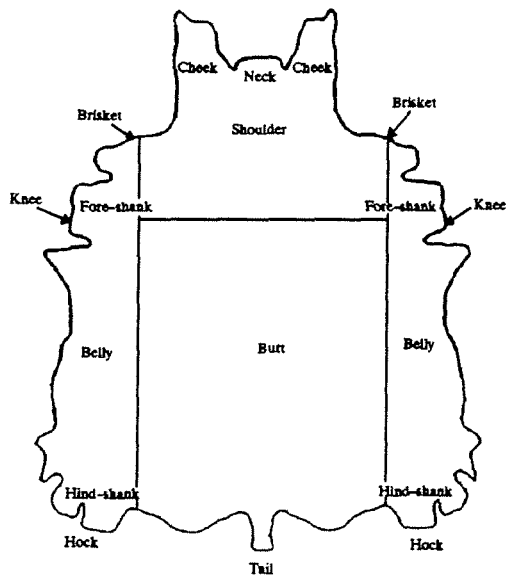
Annex 3

Subdivision of cattle hide

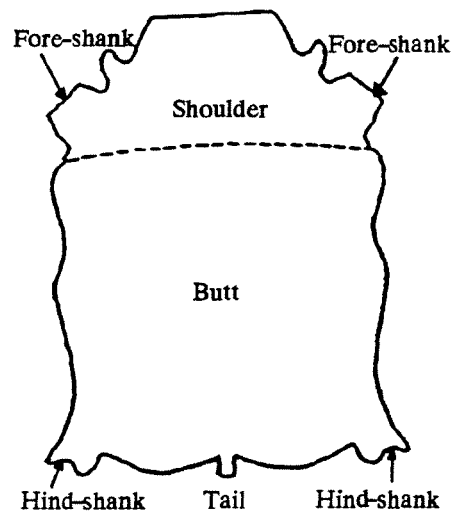


HEAD.....A	CROP.....A+B+D or A+C+E
SHOULDER.....B+C	BACK.....B+D or C+E
BEND.....D or E	COROUAPON.....D+E
BELLY.....F or G	DOSSET.....B+C+D+E+S or -A
SIDE.....A+B+D+F or A+C+E+G	CULATTA.....D+E+F+G

F and G includes shaded area except culatta



Bovine Hide



Calfskin

