BASICS OF OSTRICH SKIN PROCESSING

GHEORGHE BOSTACA, LUMINITA ALBU, GHEORGHE COARA

National Research and Development Institute for Textile and Leather – Division: Leather&Footwear Research Institute, 93 Ion Minulescu str., sector 3, Bucharest, Romania, icpi@icpi.ro

Ostrich skin is a raw material, much under demand, expensive and with different characteristics unlike the main ones used in tanneries (bovines, pigs, sheep, goats). Processing technology, which is the object of the paper, maintains untouched the seeming aspect and integrity, in order to obtain pure colours, for aniline and semi-aniline finishing which highlight feather bud of quill area, the only leather part counting at the production, evaluation and trading of ostrich skin.

Keywords: ostrich skin, feather bud, quill area.

INTRODUCTION

Organized ostrich breeding started around 1860 in South Africa and became an industrial activity in 1945, in the same place, business internationalization beginning after 1990.

The current global production is under 1.000.000 pcs, from which more than half is processed in South Africa.

Its unique aspect and durability makes the leather a requested and extremely costly raw material. Increasing the number of birds and skins depends on chain cost optimization, which essentially means: eggs; production and gathering; birthing hatchlings; breeding; maturity selection (slaughtering or breed maintaining); slaughtering and skin preservation.

OSTRICH SKIN. CHARACTERISTICS

Ostrich skin, in the basic conformation of the bird, is subdivided into three distinct parts which have the following value and characteristics:

- Legs. Are cut from bird skin after flying or before the selling and represent the portion between knee cap and claws. They have a reptile specific drawing. They are used for small morocco goods and as shoes ornament but not only.

- Bellies, neck, wings. These parts have an insignificant value. They are not separate from skin. Trade and process are done at the same time with skin.

- Diamond. Corresponds to the dorsal part of the bird. In this area, the feathers are distributed. The more uniformly distributed the feathers and the higher and more equal the buds, the more valuable is the skin. In the quality evaluation of an ostrich skin, only the diamond area counts. The diamond area has a conventional rhombus shape. For the quality grading precision, usually the diamond is divided in fourth brief case panels. Bird optimum age for killing, and the period in which the size and diamond quality (height and bud feather density) are the best is considered to be from 9 to 12 months. Imminent, from necessity reasons or accidentally sometimes younger birds are slaughtered. In

these, the diamond is smaller, bud feathers and height of these and skin thickness are more reduced. Usual destination of such skin is garment. Quality evaluation of raw material is more simplified due to the fact that the grading refers only to the diamond where the defects are easily visible grace a hair wrap missing.

OBTAINING RAW MATERIAL. QUALITY EVALUATION ELEMENTS. PROCESSING STEPS

Raw material deficit, its particularity and especially the prices enforce additional attention in comparison with other kind of hides/skins.

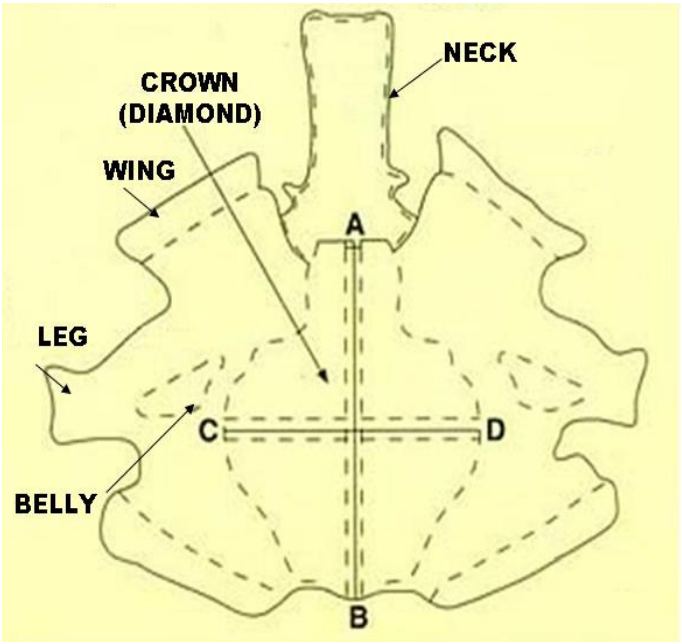

Figure 1. Ostrich skin diagram

Obtaining raw material consists in an operation succession which has as target maintaining the skin quality until the moment of tannery processing (Table 1):

Table 1. Raw material obtaining

No	Stage	Methods & Restrictions
1	Bird loading in the transport vehicle	Avoiding bird blowing or scratching
2	Bird transport to the slaughter house	Avoiding bird blowing or scratching
3	Bird parking	Avoiding bird blowing or scratching Fold with steel tube, 1.5 m height
4	Bird stunning	Avoiding bird blowing or scratching
5	Feather pluck out (defeathered)	Manual plucking out by pulling down
6	Flaying	- Flaying room temperature: 14-16°C - Flaying of one bird will be done by only one operator in order to avoid accidental cutting due to unsynchronized movement of operators -The first cut follows the line: neck-chest-stomach-tail; the second from one wing to the other; the third from one foot to the other
7	Fleshing	Manual. With blunt knife just to 0.5-1.0 cm height of fat layer
8	Cooling – disinfection	In one of the following ways: - by laying the skins on the floor: 2-3 hrs, one by one - by immersing in cold water. This way it is possible to eliminate the blood and dirt. It is possible to add various disinfection chemicals in the cooling water - by washing with running water - by adding 25% ice flakes for each skin
9	Draining	For water excess elimination
10	First salting	By rubbing followed by salting with fine salt. According to the skin dimension, between 1.5-5.0 kg/pcs are used. The neck must be strongly salted. The pallet must have 10% draining gradient and the accidental metal parts will be isolated with cardboard in order to prevent stains. Skin extremities which exceed pallet border will be folded to the centre of this. Pile number will be between 80 to 100 pcs. Storage temperature 4-10°C. Duration: 7-10 days
11	Shaking	The skins are taken one by one and vigorously shaken in order to eliminate adherent salt
12	Second salting	By plentifully salting with fine salt. The pallet does not need draining gradient. Method and restriction are similar to the first salting. Temperature storage: 4°C. Preservation stability up to 6 months.
13	Grading	- grading place in the operations chain depends on the moment of the skin selling -it is done on a lighted table - a part of the neck and legs, under the knee cap, is cut - grading must establish quality degree; weight; average surface
14	Transport to the tannery	It is recommended to be done at low temperature in order to hinder natural fat melting
15	Batch formation	Standard quantity with acceptable and tolerable uniformity

Quality evaluation elements, determinant factors and processing steps are presented in Table 2 and Figure 2.

Table 2. Ostrich skin/leather. Quality evaluation elements/ determinant factors

Evaluation elements / Determinant factor	Defects		Sizes & surface outline			Thickness [mm]	Feather bud development in DIAMOND AREA
	Name	Admissibility	Surface [dm²]	Weight [kgs]	Surface outline		
	-holes -cuts -scratches -loose scabs -rough surface -loose grain -bacterial damage -tick bites -wrinkles -blemishes -torn -hematoma -outline symmetry -genetic defects -quill development	-it is done for each briefcase panel from the existing fourth -depends on each class established in the chain: poultry farm÷ slaughter house ÷ dealer÷ tanner÷ user	▪ A+ 156 ▪ A 130÷155 ▪ B 120÷129 ▪ C 100÷119 ▪ D 80÷99	▪ 2÷3 ▪ 3÷4 ▪ 4÷5 ▪ +5	▪ neck-wing-leg length ▪ ostrich skin diagram (Figure 1) Source SCOT, Mossed Bay, South Africa	-variable and corresponding to raw material thicknesses	-density -height
Cutting area		X	X	X			X
Article type		X	X			X	X

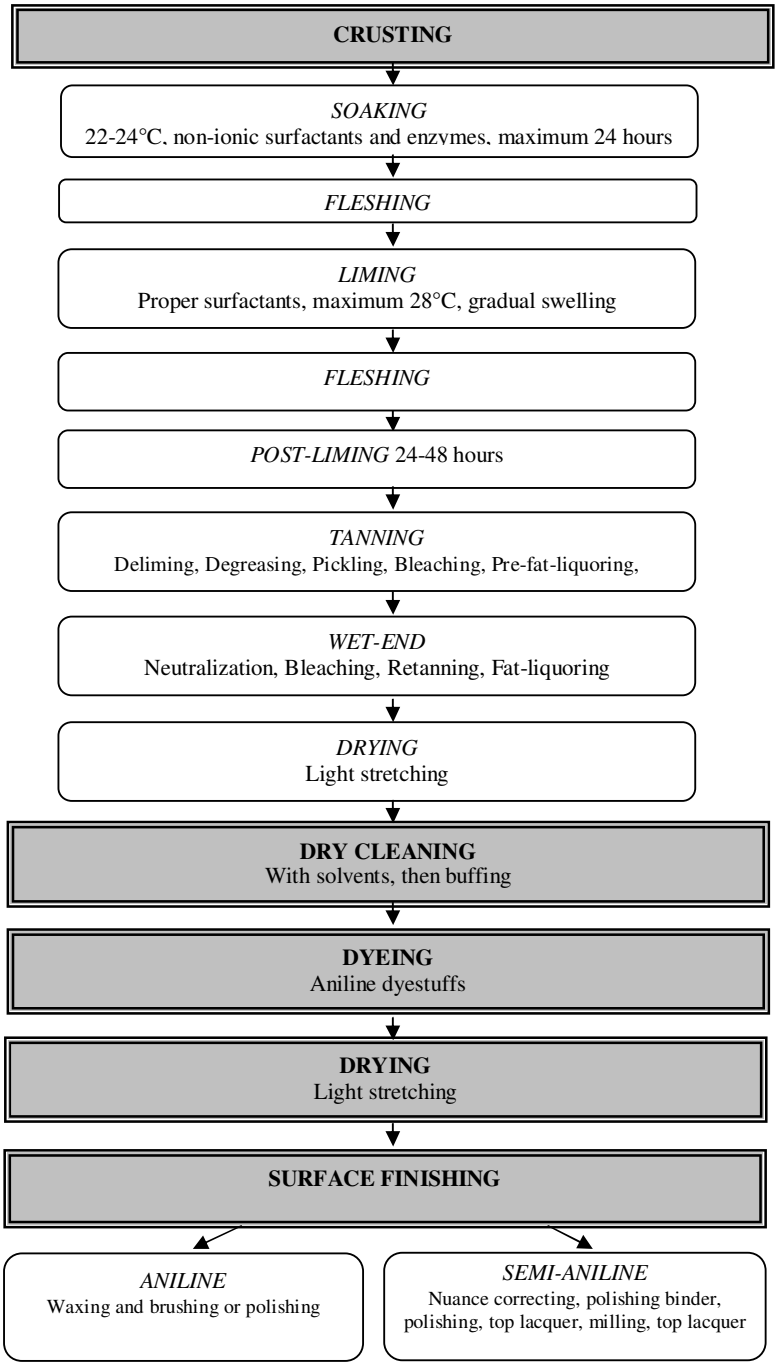

Figure 2. Processing steps

CONCLUSIONS

► Ostrich skin is an extremely limited and very expensive resource.

► Only a part of the surface, which has the representativity and genuineness signals, the diamond, corresponding to the dorsal portion, represents the most valuable area which is unique for ostrich leather.

► The processing means: to maintain untouched the bud feather; a visible grain drawing; total elimination of natural fat; surface bleaching in order to obtain uniform colours; shade intensity in certain cases; distinct and prominent feather bud.

► The leather commercialization started from a few pieces up in an unlimited range of colours, aniline or semianiline finish, is made in a classic trading way or modern, via Internet.

REFERENCES

*** www.world-ostrich.org/woaleather.htm
*** (2000), "The Practicalities of Raising Ostriches", *World Leather,* May, 30.
*** (2001), "The Bird with a Reputation to Uphold", *World Leather,* February/March, 16.