1-1-1981

Sheepskins : the overlooked product

H E. Fels

Follow this and additional works at: https://researchlibrary.agric.wa.gov.au/journal_agriculture4

Recommended Citation

Available at: https://researchlibrary.agric.wa.gov.au/journal_agriculture4/vol22/iss1/7
IMPORTANT DISCLAIMER

This document has been obtained from DAFWA's research library website (researchlibrary.agric.wa.gov.au) which hosts DAFWA's archival research publications. Although reasonable care was taken to make the information in the document accurate at the time it was first published, DAFWA does not make any representations or warranties about its accuracy, reliability, currency, completeness or suitability for any particular purpose. It may be out of date, inaccurate or misleading or conflict with current laws, polices or practices. DAFWA has not reviewed or revised the information before making the document available from its research library website. Before using the information, you should carefully evaluate its accuracy, currency, completeness and relevance for your purposes. We recommend you also search for more recent information on DAFWA's research library website, DAFWA's main website (https://www.agric.wa.gov.au) and other appropriate websites and sources.

Information in, or referred to in, documents on DAFWA's research library website is not tailored to the circumstances of individual farms, people or businesses, and does not constitute legal, business, scientific, agricultural or farm management advice. We recommend before making any significant decisions, you obtain advice from appropriate professionals who have taken into account your individual circumstances and objectives.

The Chief Executive Officer of the Department of Agriculture and Food and the State of Western Australia and their employees and agents (collectively and individually referred to below as DAFWA) accept no liability whatsoever, by reason of negligence or otherwise, arising from any use or release of information in, or referred to in, this document, or any error, inaccuracy or omission in the information.
Sheepskins . . . the overlooked product

by H. E. Fels*

Introduction

In the 1830s and 1840s Merino wool production was recognised as Western Australia's growth industry. 'Skins' were an important minor export in most years but these were seal skins, not sheepskins.

Late in the century the goldrush increased the demand for fresh meat, so skins became an important byproduct of the sheep industry. The relative value of sheepskin exports increased from 2.2 per cent of wool exports in 1892, to 6 per cent in 1895 and 1896, and 15 per cent in 1906.

After the droughts and the goldrush in the 1890s, sheep number numbers resumed their rapid climb, which continued until 1968. In the 1970s Western Australia's sheep numbers stopped growing and the annual turnoff of sheep for slaughter and live export became increasingly important. Statistics indicate that the value of skins, relative to wool, is now quite low . . . around 3 to 5 per cent for Western Australia as against 7 to 12 per cent for Australia as a whole.

However, skin values, as part of the income gained from live exports, probably make Western Australian skins worth about 7 to 12 per cent of the value of the woolclip. This estimate is similar to the statistics for Australia as a whole.

*Research Officer, Sheep and Wool Branch

Lambskin can make elegant garments. Model Gabrielle (left) wears an Australian lamb walkcoat. Denise's American broadtail lamb. (Garments from Bailey's furs).
Some individual farmers produce skins worth 20 or 30 per cent as much as their wool cheques, if they specialise in prime lambs or live shippers. Other farmers with fewer meat sheep may produce skins worth only 3 to 5 per cent as much as their wool.

**Processes and products**

Fellmongering is the removal of wool from skins, leaving at least the better quality dewoollened skins suitable for tanning for glove leather, shoelining, soft jackets and skirts, chamois and the other traditional uses for soft, thin leather.

When Merino wool production was established in the Australian and other colonies in the 1800s the French developed a rotting process to dewool dried finewoollen skins without using lime, (which made fine wool feel coars). They established a dewooling industry at Mazamet, near a tanning centre. Mazamet developed as a specialist dewooling town, its industry growing as colonial finewool industries grew.

About two thirds of Australian skins are fellmongered, almost all in France. The remainder are tanned with the wool on.

Fellmongering became a relatively important local industry in Western Australia between the two World Wars but as in the other Australian States it became uneconomic due to Australian and French wage relativities.

Today, apart from preservation and packing for export, the only processing that looks promising in Western Australia is tanning for the local market and partial processing for tanning overseas. Increasing wages in France could change this.

Statistics show that 60 to 70 per cent of Australia’s sheep and lambskins still go to France.

**Processors’ preferences**

While tanners and fellmongers prefer to process fresh skins received each day from nearby abattoirs, the Mazamet fellmongers are in a special situation. Almost all their raw material comes from overseas.

Drying is the preferred preservation method for the French fellmongering process. Salting, brining or other moist-preservation methods are preferred for tanning and for chemical fellmongering of coarse-woollen skins.

Most Australian sheepskins are preserved by drying.

There are big differences between regions and between sources within regions, in the inherent qualities of skins and hides produced. Those slaughtered on farms are usually worst. Those from the big, factory-style export abattoirs are usually the best.

**Production**

Most adult skins in Australia are from Merinos. A common fault is their ribiness. ‘Ribs’ in a skin are thick strips that probably correspond to the ‘creases’ between skin-wrinkles. Ribby leather is unsuitable for most purposes, being either uncomfortable (e.g. in shoe linings) or unsightly (e.g. in clothing or upholstery leather).

There is no proof that ribs reflect wrinkles and the leather trade cannot advise ram breeders what wrinkle-scores correspond to ‘free’, ‘nearly free’ or ‘ribby’ classes of Merino skins. However it seems that the degree of skin-wrinkle now fashionable in Western Australia is associated with relatively mild ribiness and that our less-ribbly Merinos are ‘free or nearly free’ of skin-ribs. A continuation of this trend could lead to increased skin values.

The wool on long-woollen skins accounts for much of their total value. Most longer-woollen skins go to Mazamet for fellmongering. The pelt also contributes to their value, substantially in the case of non-ribby skins without grass-seed holes or skinning damage, or hardly at all in the case of ribby, holed, or torn or cut skins.

The wool on adult skins with less than 5 cm length of staple is a smaller part of the total value. In 1978/79 two thirds of the adult short-woollen skins went to destinations other than France, for woolskin tanning. Suitability for woolskin tanning depends on the combination of wool length and fibre diameters as well as on ribs and other skin faults. Finer wools felt easily during wet-stirring processes. Thus the length limit generally decreases as fibre diameter decreases.

Traditionally, British breed rams have been used to produce prime lambs. Crossbred lambskins, though smaller than adult skins, are high-quality products, usually free of ribs, grass-seed holes and other blemishes. Presumably the faster-growing and less-ribbly types of pure Merinos that produce good lamb carcasses also produce good lambskins, though ‘average Merion’ lambskins would be smaller and more ribby.

Black patches of wool and/or skin on some cross-breds can reduce skin values.

Farmers control the sizes and qualities of skins by genetic decisions, as well as by the managerial decisions and methods that affect the sizes and
flystruck sheep intended for slaughter should be cured and held until next year.

Skinning

The diagrams (p.23) show a tanner's view of the proper skinning cuts, without other cuts or tears. The cuts specified give a skin which is nearly oblong, and reduce waste to a minimum. In addition the 'natural shape', roughly as shown is usually preferred for rugs, loose seat-covers and the other uses for whole skins.

The second pre-requisite for quality control is to avoid 'gouges', the damage done when the knife enters the skin but does not go right through. Gouges and tears are avoided by skinning care, and probably by minimising the degree of dehydration of the animal before slaughter.

Some private abattoir firms that export their own skins have quality-control systems that show slaughterhouse foremen and flayers the numbers and locations of unwanted tears, cuts and gouges, on diagrams as on p.23, soon after the end of each shift. In South Australia the skin export firms record these facts when they hang skins to dry, and send the diagrams promptly to the various abattoirs to help them improve the quality of skinning.

Preservation

A point that most Australian abattoirs neglect is to cool skins promptly after slaughter. At most abattoirs the hot skins are heaped, retaining body-heat until they are hung to dry an hour or several hours later. Rotting starts promptly, especially autolysis which is the breakdown of molecules or tissues by the tissue's own enzymes.

In Australia the standard routine is for skins to be taken from abattoirs to shade-drying sheds several times a day and hung to dry. The skin tissue is not preserved until its moisture content has fallen to about 12 to 15 per cent, but rotting slows as soon as the skin is hung and cools.

The slowest drying parts are lactating teats and udders; unslit pizzles, normal teats and perhaps udders, headpieces and any section where two flesh-side surfaces of skin are stuck together or rolled into a tube. Freshly crutched areas usually roll up. The rest of the skin tissue is usually fairly dry within a week in spring or summer weather and would soon be dry enough to press into bales for export. However the slowly drying parts slow the whole system. If skins are baled with any moist pieces, sections of other skins compressed against the moist patches will rot.

Controlling Insects

In extreme cases skin weevils and their maggots multiply in bales of dried skins and eat so much tissue that the skins fragment during fellmongering. However the more usual problem, in bales with no obvious infestations when shipped, is from eggs that hatch in the ears, headpieces and any other places where insecticides may not penetrate.

Mature maggots instinctively wander and burrow to pupate. Each pupal burrow forms a hole of 2 or 3 mm diameter in one, two or even three otherwise sound skins in the bale. Therefore the control of these insects is important even if insect populations at the drying sheds and packing sheds are low and damage is not obvious before shipping.

Traditional control in Australia has involved arsenical insecticides sprayed onto dried skins. On such skins it is hard to get insecticide into all rolled edges and contorted surfaces like ears and headpieces.

A more recent routine is to spread a dust cloud of insecticidal powder over the freshly hung skins each day. The powder is held by sticky surfaces, including those that curl up as they dry. Each day the dust cloud on newly-hung skins drift through the drying shed and can reinforce the first dose.

Levels and values of production

Since the mid 1960s Australia's annual exports of sheep and lamb skins ranged in value between $46
million and $151 million, or between 7.2 and 11.8 per cent of the Nation’s wool exports. The Western Australian sheep industry slaughters relatively fewer sheep and lambs than most other states except perhaps Queensland, so statistics show skin exports corresponding to 3 to 5 per cent of this State’s wool cheque. However farmers who sell live sheep for export should consider the value of the skins as part of their incomes.

Most classes of skin in Western Australia are lighter than the Australian average and this explains the lower average value per skin.

It is worth emphasising the variability of skin prices; they were high through 1979 and crashed early in 1980.

Statistics

The statistics of sheep and lambs slaughtered in Western Australia and exported alive for slaughter overseas, indicate the numbers of skins produced by the Western Australian sheep industry.

Firms in the skin trade see the large annual differences in numbers, and poor information on what slaughter numbers to expect, as major commercial problems.

The Department of Agriculture’s quarterly summaries of changes in sheep and lamb numbers, turnovers, and expected future changes, should help the skin trade.

Logistics, marketing and distribution

These systems were described in detail in a Departmental bulletin in 1975 (H. E. Fels, “The sheep skin industry in W.A.”, Bulletin 3955).* French fellmongers prefer dried skins and woolskin tanners prefer moist-preserved skins. Most logistic systems in Western Australia were designed for the 60 to 70 per cent of skins that go to France. In most systems there is no time to sort hot skins into fellmongery skins and tannery skins before preservation; and delay at this stage would allow fast rotting.

Since World War II most skins have been sold by tender at large abattoirs. Skin export firms valued skins on the live animals owned by each meat company on each slaughter day, then offered gross tender prices for each firm’s mixed batch of skins. Tenders were not always finalised before slaughter so the farmers’ livestock selling agents received the hot skins from abattoirs and hung them to dry.

The partly dry or completely dry skins were later delivered to the successful tenderers who sprayed them with insecticide, ‘cock-stacked’ them to re-dry and finish drying, and later classed them and packed them for export.

The Lamb Marketing Board fitted into this system, with some changes. With only one lamb owner at the time of slaughter the logistics could be simplified. Tenders were completed before slaughter and the successful tenderer took the hot skins from the abattoir to his own shade drying sheds. This system immediately allowed two firms to buy batches of lambskins and salt them or partially-process them for export to woolskin tanners. Almost all lambskins are suitable for woolskin tanning. The Lamb Marketing Board’s system made it possible for these firms to buy ‘pre-classified’ skins without unsuitable adult skins.

Private abattoirs can arrange their own logistic systems. For years one firm at least has slaughtered animals in groups as sold by farmers, sent information on carcass values and skin values to livestock buyers, and used the opportunity to classify or ‘pre-classify’ hot skins as they leave the slaughter chain. This system does not delay preservation but allows the firm to salt or brine selected skins for woolskin tanners, and dry the rest.

The growth of abattoirs owned by meat firms and the phasing-out of the Midland Abattoirs have changed logistic systems for many skins. In recent years the stockfirms have become skin exporters so skin tenders are now finalised before slaughter. Some export firms now use artificial dryers (the simpler system described on page 18 of Bulletin 3955). This greatly reduces the time that exporting firms hold the skins and so can reduce their commercial risks and costs.

Sudden price changes are a constant threat to firms in the skin trade.

Potential changes

Preservation could be improved partly by trimming on slaughter chains to help control insects and to hasten drying, and partly by slaughtering sheep in ‘farm batches’. This could be used as a form of pre-slaughter classification of skins so that export firms can divert skins most suitable for woolskin to moist-preservation methods, without delaying the drying of other skins.

Other suggestions included changes to the Brands Act so ears and headpieces could be trimmed from skins at abattoirs as in other States. However Police requirements have prevented this change. They require earmarks on skins to identify suspected stolen sheep after slaughter.

The immediate advantages from the suggested changes might flow mainly to overseas processors and partly to local firms, but not immediately to farmers. With experience and with the new systems perfected there should be fewer claims by importers against exporters. In time a good share of the economic benefits should flow to growers as better prices.

If producers encourage the development and use of carcass classification they then may feel a need for the corresponding information about skins. Earlier specification and valuation of skins, to communicate prices and quality data to producers, could involve inspection of livestock before slaughter (as for the pre-slaughter tender system), slaughter in groups as sent from farms, and visual or automatic inspection of skins as they leave the slaughter-chain. Data on

---

*Bulletin 3955 quoted statistics from 1972/73, which turned out to be a peak year for Australian skin exports. 1979/80 was another peak year.
Table 1.
Values and Weights of Skins Exported in 1978/79

Source: Australian Bureau of Statistics

Values are “F.O.B.”, i.e. values when they left Australia.

<table>
<thead>
<tr>
<th></th>
<th>Weights per skin</th>
<th>Values per kg</th>
<th>Values per skin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>W.A. kg</td>
<td>Australia kg</td>
<td>W.A. $</td>
</tr>
<tr>
<td>Woolly lambskins</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>— salted</td>
<td>2.47</td>
<td>3.42</td>
<td>1.50</td>
</tr>
<tr>
<td>— dried</td>
<td>2.41</td>
<td>2.67</td>
<td>1.58</td>
</tr>
<tr>
<td>Hogget skins and shorn lambskins</td>
<td>2.16</td>
<td>2.62</td>
<td>1.50</td>
</tr>
<tr>
<td>Adult skins, wool shorter than 5 cm — salted</td>
<td>3.29</td>
<td>3.81</td>
<td>1.13</td>
</tr>
<tr>
<td>— dried</td>
<td>2.47</td>
<td>2.96</td>
<td>1.49</td>
</tr>
<tr>
<td>Adult skins, wool longer than 5 cm</td>
<td>4.91</td>
<td>3.77</td>
<td>1.43</td>
</tr>
</tbody>
</table>

These skinning cuts give symmetrical skins, as nearly rectangular as possible.

Skins could be processed by computers with the data which specifies carcasses.

On the biological side, investigations are needed on genetic aspects of skin ribs, genetic and other aspects of skin thickness and grain separation, effects of pre-slaughter husbandry and management on the ease of skinning and the incidence of flaying damage, and specific assessment of the effects of different aspects of mulesing on skinning.

Sixty or seventy per cent of these skins, drying in open-sided sheds, will probably be de-woolled at Mazamet, in France. The rest are likely to be tanned with wool on.