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Live sheep export . . . a boon to the producer.

Live sheep being loaded at Fremantle for export to the Middle East. The inset shows the penning system on board.

by C. L. McDonald*

Early history
Australian Bureau of Statistics records show that in 1895, 1,004 slaughter sheep were exported live to Singapore. Western Australia continued to export similar numbers annually to Singapore until about 1905. After that exports to the Straits Settlements (Malaya) increased to a yearly average of nearly 13,000 head from 1910 to 1919 and nearly 26,000 head annually from 1920 to 1929.

This market afforded an outlet for surplus sheep from the pastoral zone of the northwest. Flock numbers had increased beyond domestic requirements, so pastoralists sought export markets for sheep and sheepmeat. In 1922 the newly formed Western

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Australian Meat Exports Co. sent its first shipments of lamb carcasses from Fremantle. However, two years later a buoyant wool market and the discovery of the suitability of the East Murchison and Eastern Goldfields for sheep production stopped this carcase export. But the live sheep trade to British Malaya continued.

A high proportion of the meat consumed by West Asians and Malaysians is 'moist-cooked' so the relatively dark meat from 5 to 6 year old wethers is acceptable. The people prefer sheepmeat to that of other species. Australia now supplies nearly 50 per cent of their red meat requirements, and New Zealand most of the rest. However, live sheep and goats are supplied almost exclusively by Western Australia.

The concept of the traditional 'Singapore wether' developed as a big old animal, as heavy as possible—heavy because per tonne freight costs made big animals cheaper to transport due to the higher tonnage per unit area which could be loaded aboard.

Exports of live sheep from Western Australia grew throughout the 1930s and 1940s, the main importers being Singapore, British Malaya, Christmas Island, the U.K. and Mauritius. This continued during the 1950s, when the trade to these countries increased to more than 100,000 head a year. Exports to Singapore exceeded 150,000 head in the early 'sixties'. It was during this period that Middle East countries emerged as significant buyers. As many as 65,000 head were shipped to Kuwait in 1962/63. Since then the live sheep meat export market to the Middle East has increased to absorb nearly 50 times this number.

There were also some occasional large shipments to other countries
throughout the 1960's such as 78,206 to Mexico and shipments to France and Uruguay. However exports to these countries did not develop into a regular trade.

Iran, Saudi Arabia and Kuwait have been significant buyers over recent years. However, over the last two years Libya has emerged as an important market. Strong demand is expected to continue from that country.

Development of the Middle East market

Market requirements

Realising the enormous potential for development of the live sheep trade to the Middle East, Mr Jack Neil of the Department of Agriculture made study tours to the area in the early 'seventies'. Invariably, reports confirmed that the Moslem populations of these countries preferred sheep meat to that of other species. The study confirmed that they have a strong preference for fresh meat, to be eaten on the day of slaughter. There are health advantages in this custom in areas without refrigeration facilities. Slaughter procedures must comply with religious rituals referred to as Halal slaughter. Also there are religious festivals on the Moslem calendar in which the live animal is an essential part of proceedings. These are known as the Haaj and Ramadan.

The people of these regions prefer young, entire male sheep and dislike fatness, probably because the highly preferred 'fat tail' sheep which are native to the area lay down fat mainly in the tail area leaving the rest of the body comparatively lean. The meat of the local fat tail sheep also is reputed to have a distinctive flavour, possibly gained from grazing on native herbs growing in the area.

Western Australia is in an ideal position to meet the increasing demand for meat from these regions with Merino wethers. We are restricted to supplying wether Merinos rather than entire males because of the embargo on export of Merino breeding stock. Merino ewe export also is embargoed, but crossbred ewes may be exported. Sterilising techniques are available to enable export of entire rams but costs restrict this to very small shipments.

The future should warrant more attention to producing stock more closely aligned to Middle East preferences. Cheaper sterilising techniques for rams could be developed and feed additives could be used to flavor the meat.

Genetics research and the breeding of better types could lead to improvements in the types of animals.

Most Middle East consumers prefer young and lean sheep, but these have not always been specified in past contracts. Middle East importers have tended to buy on the basis of the lowest price per tonne. This is governed by the purchase price of stock in Western Australia. It is affected by differentials in freight costs between different classes of stock. Generally, exporters have been able to buy heavy wethers at lower prices per kilo than hoggets or heavy lambs.

Also, the pen space regulations applying to livestock carriers are such that the freight costs per tonne are lower for heavier sheep.

Language and technical difficulties have arisen also, in specifying the quality of live animals. Middle East buyers tend towards least-cost buying which can mask any premium for high quality, but many contracts today are specifying younger stock. The Department of Agriculture has estimated recently that by 1982, there will be only 400,000 wethers older than four years left in the State.

In the early 'seventies', Departmental officers accompanied sheep on voyages to study nutrition and husbandry aspects. They formed the opinion that lighter animals appeared to have a more liberal pen space allowance than heavier categories. A subsequent experiment has confirmed this, so that one way to encourage the export of younger stock may be to alter pen space regulations so as to allocate less space to lighter weight sheep and hence reduce freight costs.

Potential competitors

In general the Middle East countries are disadvantaged by adverse climates which have held back food production. Traditionally they have imported live sheep for slaughter. Supplies were drawn mainly from Bulgaria, Sudan, Hungary, Romania and Turkey. These countries remain substantial suppliers but their potential for expansion is limited.

With the energy crisis of the early seventies, the oil producing countries of the Middle East began to derive immense wealth from oil revenues. This, coupled with Government ambitions in most Middle East countries to raise overall living standards, opened a big market in sheep and sheepmeat. Traditional suppliers of live sheep could not meet the demand, but Western Australia with its geographic advantage and big Merino flock, was in an ideal position to supply this market.

New Zealand often has been seen as a potential competitor to Australia in the live sheep market, however, to date it has posed no serious threat. Transport distances are longer than those from Western Australia, and the New Zealand sheep industry is not as easily adaptable to the live trade. The New Zealand flock comprises a very high percentage of ewes which are kept for prime lamb production, traditionally to supply carcasses to the U.K. and other European countries. Today New Zealand supplies an increasing proportion of its export lambs to the Middle East. But unless major changes are made in sheep production policies and the present ban on live exports is lifted, New Zealand is unlikely to become a serious competitor in the future.

Argentina exported small numbers of sheep to the Middle East during the early to mid 70's but Government policy in that country did not encourage live sheep exports. Also sea distances are long and Argentinian agriculture is turning to increasing cropping and cattle production. Most of the country's sheep are now in low rainfall pastoral areas. Turnover is low and barely satistify local demand.
Effect on sheep population and turnover

Live sheep exports from Western Australia increased to more than three million head in 1979/80, and are predicted to remain at high levels in the immediate future. This is estimated from predicted ewe mating numbers, lamb marking percentages and age at turn-off estimates under high demand for live sheep by the Middle East. Exporters are confident of continued high demand. Several big ships have been fitted as live sheep carriers, and more are planned.

The volume of this trade in recent years has affected the age structure of the Western Australian wether flock. Five years ago more than 30 per cent of wethers in the flock were older than 4 years. Now the figure is closer to 5 per cent. It is not surprising, therefore, that live export shipments comprise increasing numbers of young wethers, hoggets and heavy-weight lambs.

Eastern Australian flocks should be affected similarly as live export sheep continue to be drawn from those areas.

Given that prices follow a seasonal pattern, the live sheep export trade has paid reliably high prices for sheep in Western Australia. This appears to have created growing confidence among farmers who are retaining breeding ewes despite an increasing proportion of land in crop and the prevalence of the drought conditions in recent years. There is growing interest in increasing the proportion of breeding ewes and turning sheep off at a younger age to maximise turnover and profitability.

The relative proportion of Western Australia’s sheep income derived from live export and meat has increased from between 13 and 14 per cent in the mid 1960s to about 31 per cent in 1980. This is due largely to the development of the live sheep trade, which today is second only to wool as a sheep enterprise. It is significant that the trade has developed without causing any long term downward trend in slaughterings of either mutton or lamb. Seasonal conditions have caused fluctuations, as has always been the case since sheep production began in Western Australia, but no long term reduction is apparent.

Animal welfare

Consideration of animal welfare becomes increasingly important as animal production methods become more intensified. In 1976 the Department of Agriculture held a workshop in Perth entitled “Sheep Assembly and Transport Workshop”. Industry representatives from all over Australia met interested scientists, and procedures used in the trade were documented as was sheep performance and problem areas in need of research.

Sheep have to adapt to a complexity of new experiences during live export. Adaptations in nutrition, behaviour and physiology are required; and management techniques and facilities must be aimed at husbanding the sheep through these experiences with minimal distress.

Regulations and standards govern the treatment of stock both during assembly for export and once on board ship. These are outlined below.

Before export

Standards covering treatment of stock in assembly areas, during transport to dockside and before loading are proposed before export will be authorised by the Minister for Primary Industry.

Requirements include providing feed to maintain body weight at the assembly area and to allow stock to accommodate readily to shipboard conditions; a limit to periods off feed and water during transport; and when necessary, providing rest before embarkation.

On board ship

A document was drawn up by the Livestock Advisory Committee of the Department of Transport in June 1978. It has been issued to shipmasters, owners, agents, livestock exporters and others concerned as a Department of Transport Specification “MSD No.1/1978”.

The document covers requirements and recommendations for sheep, cattle, goats and pigs.

Requirements for sheep welfare include:
- segregation from other species
- segregation according to size, sex and age if hostility arises between animals
- provision of food and water (amounts recommended)
- provision of adequate labour to care for livestock
- protection from injury, suffering, weather or sea
- floor space allowances for sheep of different liveweights
- dimensions of pens, tiers, etc.
- specific requirements for capacities of ventilators
- requirements for illumination of alleyways and pens
- fire safety precautions

In addition to these requirements, there are quite detailed recommendations for loading and care, including the distribution and segregation of sheep at loading, the responsibilities of attendants, feeding and watering routines and sheep diseases.

Each new ship to export sheep from Australia must be inspected by a Department of Transport Surveyor to ensure that the fittings comply with these regulations. Also before sheep are loaded a “certificate of fitness” must be issued by an authorised veterinarian certifying that the sheep are fit for the voyage. This is done by the Department of Agriculture working in conjunction with the Bureau of Animal Health.

After the voyage, the Master of the ship is required to issue a report to the Department of Transport. Among other details, this report contains figures on mortalities and remarks on conditions affecting animal performance.

The mortality rate in sheep exported from Western Australia has fallen from an average of 4.3 per cent in 1975 to 1.5 per cent in 1979. A major reason for this
reduction is that younger sheep are being exported. But improved husbandry skills, better facilities, and better ship design all have made significant contributions. The change from feeding hay to using pelleted rations was an important improvement, both from the point of view of animal nutrition and of logistics of handling big quantities of feed. Many exporters pre-condition the sheep to the shipboard pellets several days before embarkation, thus ensuring that the sheep have learnt to recognise and accept the ration before the journey. The trend towards tiers of pens above deck rather than below also is an improvement in terms of better ventilation when sailing through the tropics. It is significant also that the vast majority of sheep for live export are purchased directly from farms and thus are spared the extra handling and time spent in the saleyard system.

The market and producer opportunities
The foregoing discussion drew attention to the following facts;
- The demand for live export wethers is expected to remain strong.
- Western Australia is in a unique position to meet this demand.
- Middle East preference is for young stock; the Western Australian wether flock is turning towards increasing proportions of younger wethers; young sheep, hoggets and heavy weight lambs are expected to represent significant proportions of future shipments.

In this situation, Western Australian producers are expected to continue to sell significant numbers of sheep for live export at profitable prices. Thus, if turnout from a given flock can be increased, farm profitability should increase correspondingly.

Proportion of ewes and turnoff age
The traditional Merino wool-producing flock in the agricultural areas of Western Australia contained about 42 per cent ewes. Wethers were culled for age at 5 or 6 years. Given current prices of wool and sheep for export, it can be shown that profit from sheep can be increased when the proportions of ewes is increased to say, 60 per cent, and wethers are sold at say, 1.5 years of age. Information on flock structure and age at turnoff was printed in the September issue of the 1974 Journal of Agriculture (Vol. 15 No., 3) and a Farmnote on this topic will be available shortly.

Increases in reproductive rate
Another way to increase turnoff from a given flock is to increase the reproductive rate, in particular the number of lambs weaned per hundred ewes joined. Fertility in Western Australian flocks is low. On average less than 70 lambs are weaned per hundred ewes joined. It is most important that flock owners get the best from the breeding potential of their ewes. Such improvements can be expected as a result of closer attention to management and nutrition of the breeding flock, particularly before joining and at lambing.

Several methods of increasing reproductive rates of existing Merino flocks are being investigated by the Department. One is increasing existing Merinos with the highly-fecund Booroola. Booroola ewes have a very high incidence of multiple births . . . in fact, too many triplets and quads to be practical under commercial conditions. However, researchers hope their breeding work will result in a ewe which has retained the wool production characteristics of today’s Merino, but is more fertile and produces faster growing progeny with the type of carcass the market prefers.

Another method of increasing reproductive rate is by selection within existing Merinos. The newly-formed Animal Breeding and Research Institute at Katanning, in co-operation with Merino breeders throughout the State is now assembling a high fertility breeding flock which will be selected on the basis of reproductive rate over several generations. Stock are derived from existing Merino studs all over the State and the selected progeny will be returned to the studs from whence commercial

Live export wethers are often trucked direct from the farm to ship’s side.
A bigger percentage of breeding ewes means a higher turnoff from the Western Australian sheep flock.

producers can obtain Merinos of the traditional type but with the added benefit of high fertility.

Out of season production
While it is true that sheep for live export bring relatively high prices all year round, there is a big variation with season. Hot, dry weather over summer and autumn generally means that both the quantity and quality of paddock feed available from January through to June is low. Unless supplements are fed, sheep usually lose body weight during this period. This means a shortage of finished stock in May-June-July, as is reflected in the price. A similar pattern of prices holds for lambs and hoggets. A study of these price patterns will show that an opportunity exists to buy stock in say, February-March, when prices are low, hand feed them for growth and sell them as finished stock at high prices in May-June.

Obviously supposition plays a big part in estimating possible returns; suppose the buying price is . . . . suppose it takes so many days to finish . . . . suppose the feed costs are . . . . suppose the selling price is . . . . Considerable skill, and perhaps a degree of luck, is required to get the best profits in sheep trading.

Furthermore, if many producers were to finish stock out of season, the extra supply of stock produced in this period would result in lower out of season prices. However under present conditions there appears to be an opportunity for out of season finishing of wethers, hoggets and lambs for live export. Recognising this, the Department's Sheep and Wool Branch has conducted a major research programme on the topic over recent years. Feedstuffs have been tested for suitability, as have feeding and husbandry techniques. This research is continuing and full technical results are available as Farmnotes.

The future
The future of the live sheep export trade should be characterised by growing demand from the Middle East. Western Australia is in an ideal position to meet this demand. Farmers should be able to maximise profitability from sheep by increased turnoff of stock for live export. The proportion of breeding ewes can be increased and sheep can be turned off at a younger age. The future should warrant more attention to increasing reproductive rate through genetics, nutrition and management. Production of stock with higher growth rates and efficient feed utilisation while retaining the present high level of wool production is also likely to be a feature of future sheep production in Western Australia.