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KANGAROOS - RANGELAND PRODUCT OR VERMIN

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SUMMARY

The potential for the establishment of a kangaroo industry in Western Australia based on meat and skins was examined by assessing the likely acceptability of the products of the industry and their market potential.

Available evidence indicated that kangaroo meat would be acceptable to consumers from a nutritional and quality point of view. Markets for skins are largely in the export arena and traditional markets are likely to be constrained by the actions of the animal welfare lobby. There is some potential for developing new export outlets for skins.

It is concluded that farming of kangaroos is unlikely to be viable in at least the foreseeable future and that any industry, if established, will be based on harvesting animals from the wild under existing management programmes.

INTRODUCTION

Exploitation of kangaroos has taken place in Australia for as long as there has been human settlement. Estimates (1) suggest that, prior to white settlement, Aborigines killed up to 176,000 kangaroos each year for food and clothing. Similarly the early white settlers utilized kangaroo meat to supplement their meagre food supplies. In more recent times kangaroo meat has been harvested for export for human consumption although that trade has now all but ceased because of the actions of animal welfare groups in importing countries. At the present time, apart from South Australia where human consumption is currently permitted, the major use of kangaroo meat is in the pet food industry.

Harvesting of kangaroos is carried out under the control of the various state management programmes which set predetermined numbers of the various species which may be taken each year. The quotas set under these programmes are strictly enforced.

In recent years there has been growing concern among pastoralists in Western Australia and some administrators that the current uses for kangaroo products do not provide sufficient incentive for the annual quotas set under the management programmes to be met. As a result, and in parallel with a growing consumer interest in game and other exotic or unusual meats, there has been an increasing interest in the development of an industry based on kangaroo meat for human consumption.

This paper examines the potential of such an industry within Western Australia and attempts to draw conclusions on its likely viability.

INDUSTRY POTENTIAL

The potential of any industry is determined by its production base and the size and strength of its markets. It is likely that both factors will be limiting in the case of kangaroos in Western Australia and probably the whole of the country. A further factor, that of the animal welfare lobby is also likely to be important in constraining the industry.

Production potential

The number of kangaroos which can be harvested each year is governed by the conservation controls in place under the state kangaroo management programmes. These programmes set annual quotas based on seasonal conditions in the rangelands, the number harvested in previous years and predicted future conditions. There are severe legal constraints under the programmes which safeguard against the quotas being exceeded.

The annual harvest quotas and the numbers actually taken of Red and Western Grey kangaroos and Euros under the Western Australian management scheme for the past five years are given in Table 1.

Table 1. Western Australia kangaroo and euro quotas and harvest details, 1985-1989.

Year	Species					
	Red kangaroo		Grey kangaroo		Euro	
	Quota	Taken	Quota	Taken	Quota	Taken
1985	160,000	161,000	50,000	37,000	10,000	5,500
1986	180,000	154,000	50,000	37,000	10,000	6,000
1987	200,000	150,000	45,000	40,000	Nil	Nil
1988	230,000	217,000	45,000	29,000	10,000	1,000
1989	290,000	185,000	45,000	28,000	10,000	5,000

Source: Department of Conservation and Land Management.

These figures confirm industry fears that current usage patterns of kangaroos are not providing sufficient demand to ensure that quota numbers are actually being taken each year. On this basis it could be argued that unless demand for the product is increased then numbers of kangaroos will continue to increase thus placing increasing pressure on the rangelands.

It is this scenario that led the Western Australian Government to decide to investigate the potential of legalizing the human consumption of kangaroo.

Product acceptability

Meat

Recent studies of the nutritional value of kangaroo meat (2, 3) concluded that the meat was very lean and what fat it did contain was largely polyunsaturated. As such it provided an ideal means of providing a low cholesterol diet thus reducing important risk factors for cardiovascular diseases.

Another study (4) examined, by taste panel assessment, the eating quality of meat derived from male and female Red kangaroos ranging in age from 1.5 to 9 years. Details of this study are given in Table 2.

Table 2. Summary of the taste panel assessment of the eating quality of kangaroo meat in comparison to beef.

Age (years)	Tenderness†	Flavour††	Acceptability†††
Kangaroo			
7-9	4.5	3.9	4.8
4	5.0	3.9	5.1
1-3	5.2	3.8	5.3
Beef			
2.5	4.1	3.9	4.9

† Scores range from 1 (very tough) to 6 (very tender).

†† Scores range from 1 (dislike very much) to 5 (like very much).

††† Scores range from 1 (very acceptable) to 6 (very unacceptable).

A consumer survey (T. Marshall, unpublished) further investigated local consumer reaction to the concept of human consumption of kangaroo meat. This study involved mailing a questionnaire to 400 households in the Perth metropolitan area chosen at random from the telephone directory. Respondents were asked if they had eaten kangaroo, their opinions of the meat, whether they were likely to purchase it regularly and what their overall reactions to the legalization of human consumption of kangaroo meat were. The results of the survey are summarized in Table 3.

Table 3. Summary of the results of a consumer survey of opinions on aspects of the legislation of kangaroo meat for human consumption.

Question	Response	
Have you eaten kangaroo before?	Yes	47%*
	No	53%
If you have previously eaten kangaroo what was your impression of it?	Favourable	74%
	Unfavourable	36%
If kangaroo was readily available would you buy it regularly?	Yes	38%
	No	62%
What do you feel about legalizing kangaroo for human consumption?	Favourable	61%
	Unfavourable	39%

* Per cent of respondents to each question.

A factor of concern among consumers identified by the survey was that of the hygiene status of kangaroo meat taken from the wild. A survey involving in excess of 200,000 kangaroo carcasses presented for inspection prior to export for human consumption (5), concluded that provided

established procedures for harvesting, transport and distribution are followed, kangaroo meat presents little or no danger to human health when compared to other forms of meat.

The investigations outlined above all suggest that kangaroo meat would present an acceptable and nutritious alternative to other red meats if it were made available for human consumption.

Skins

Kangaroo skins and leather have a variety of uses for souvenirs, sporting goods and shoe and glove manufacture for which purposes the product is ideally suited.

A recent review of the potential for processing animal hides and skins in Western Australia (6) found that the vast majority of skins produced both in this state and nationally are exported for final processing overseas. Tanning of kangaroo skins in Western Australia is unlikely to be feasible because of the relatively low volume of product and high cost structures in comparison to other countries.

The review concluded that the future viability of the kangaroo skin industry was dependent on exports and therefore its long term future could not be regarded as secure in view of the effects of the animal welfare lobby in importing countries.

Potential markets

As noted above export markets for kangaroo meat for human consumption have existed in past years. In 1980/81 some 1500 tonnes of kangaroo meat was exported mainly to Germany. By contrast, the total exported for human consumption in the three years 1985 to 1987 was 110 tonnes. This reduction in exports has, in the main, been due to the activities of animal welfare groups.

The kangaroo skin industry is largely dependent on the export market for its survival. Again the animal welfare lobby has had an effect on skin exports. For example during the early 1980s there was a total ban on the importation of kangaroo skins into the USA which was one of the largest markets for the skins. This ban is still in force in some parts of that country today as are similar bans in a number of other potential importing countries.

A consequence of the previous total ban on the importation of kangaroo skins into the USA has been the substitution of other forms of leather for kangaroo in the manufacture of specialty items. It would appear that most manufacturers who have changed to alternative leathers are unlikely to revert to the use of kangaroo leather.

It is unlikely that the influence of animal liberation groups will diminish in the foreseeable future and exports of meat for human consumption and leather to traditional markets are unlikely to regain their previous importance. There are however, prospects of developing new markets for skins in a number of Asian countries.

In the light of these factors it is likely that markets for meat are likely to be almost entirely domestic. The ability to expand markets for skins will depend on the ability to open new market areas.

Prospects for farming kangaroos

The feasibility of establishing a "farming" enterprise for kangaroos depends on many factors including the availability of markets to sustain

the enterprise, the potential net returns from the enterprise, the availability of stock with which to start the enterprise and the ability to compete with the field shot product.

The substitution of kangaroos for sheep and cattle in parts of the pastoral areas has been suggested as a means of reducing rangeland degradation (7). In essence, these animals would be "farmed" and would be harvested to provide meat and skins.

The proposal has merit from the point of view of rangeland conservation but there are a number of potential difficulties with it. These include the ownership of the animals, the ability to harvest when and how the landholder wishes and the potential profitability of the enterprise when compared to existing uses of the land.

Under current laws kangaroos are the property of the Crown. Such arrangements are unlikely to change in at least the foreseeable future. Landowners have exclusive legal ownership of sheep and cattle which they currently run. If they were to substitute kangaroos for their sheep and cattle they would require guarantees of supplies of slaughter stock, markets and the ability to determine the quantity and timing of harvest. In addition kangaroos have lower reproductive and growth rates than sheep or cattle (8) and therefore the value of their products would need to be higher than those of sheep or cattle for farming to become a practical alternative.

Part of the potential attraction of kangaroo meat to consumers is its image as a game meat. Meat derived from farmed animals may lose this image.

Human consumption of kangaroo has been permitted for some time in South Australia. During 1989 approximately 160,000 carcasses were processed for human consumption although it is estimated that as little as 50 per cent of these were actually utilized for this purpose (G. Meszaros, personal communication). At best, prices for the meat sold for human consumption equate to those of low quality beef while kangaroo skin prices are comparable to those obtained for sheepskins.

CONCLUSIONS

Limited research to date indicates that kangaroo meat will be acceptable to consumers in Western Australia and it is likely that a viable domestic market for kangaroo meat could be established. Markets for skins are largely dependent on exports and are likely to remain so. The industry is most likely to be based on the harvest of animals from the wild under the existing conservation programmes as economic and other considerations are likely to preclude the development of a kangaroo "farming" enterprise.

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