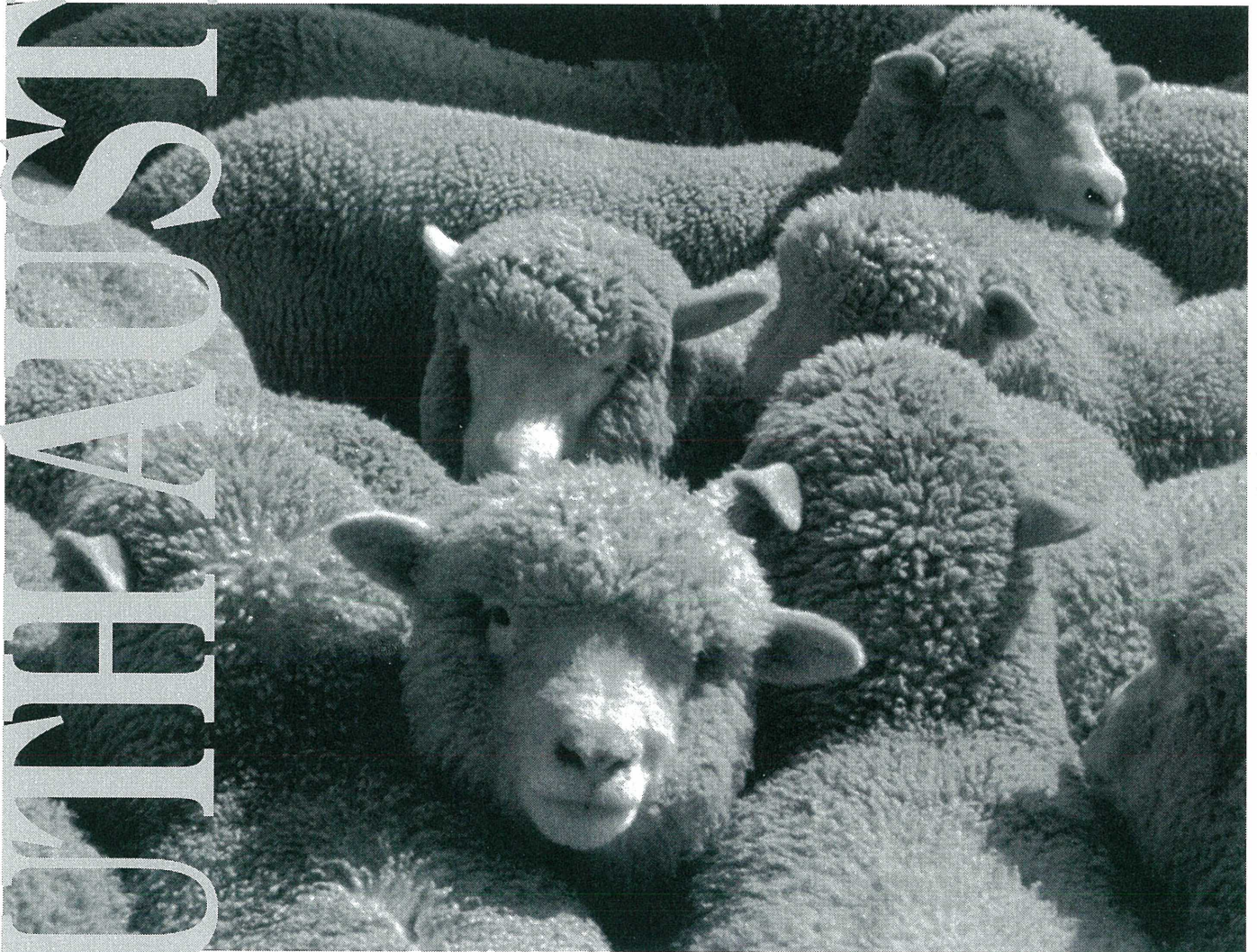


SOUTH AUSTRALIA

SOUTH AUSTRALIAN SHEEP MEAT INDUSTRY DEVELOPMENT PLAN

1995 – 2000



PRIMARY INDUSTRIES
SOUTH AUSTRALIA

SARDI



**SOUTH AUSTRALIAN
RESEARCH AND
DEVELOPMENT
INSTITUTE**

SOUTH AUSTRALIAN SHEEP MEAT INDUSTRY DEVELOPMENT PLAN

December 1995

This plan is a working document for consultation and negotiation between PISA/SARDI and other industry stakeholders. That consultation is crucial in assisting PISA/SARDI to progress this strategic plan into operational plans for implementation in 1996/97.

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EXECUTIVE SUMMARY

INDUSTRY VISION

To maintain or establish lamb and mutton, and sheep skins, as internationally competitive products in an efficient consumer focussed industry. In line with the vision of the lamb industry in its National Strategic Plan to increase the farm gate value of lamb to \$2 billion by the year 2000, South Australia will produce lamb with a farm gate value of \$200 million by the year 2000.

This will mean:

- a commitment to the supply of products to consumers to the required specification, quantity and delivery time demanded by the customers;
- increased returns to growers;
- enhanced activity and returns in downstream value added industries; and
- operating under sustainable production systems consistent with society's environmental goals.

PURPOSE OF THE PLAN

The major purposes of the PISA/SARDI Industry Planning process for sheep meat are, in conjunction with Industry, to:

- a examine existing industry profiles, structures and processes (such as marketing arrangements, relevant legislation and so on) and to determine their strengths, weaknesses, opportunities and threats. This will enable us to determine the critical factors that enhance or impede the international competitiveness of the industry in South Australia, and consider industry strategies to address those factors, and
- b determine and evaluate the major opportunities for sustainable economic development in our industries, and the role of PISA/SARDI in assisting industry to capture those opportunities. By aligning our resources in PISA/SARDI to reflect the identified opportunities, we will maximise our impact as an economic development agency.

INDUSTRY BACKGROUND

The sheep meat industry in South Australia provides high quality meat and skin products which in 1993/94 were valued at \$91 million. The preliminary estimate of the value of sheep meat production in 1994/95 is \$122 million. Value adding in this State post farm gate is estimated to return a further \$65 million per year.

South Australia's share of national production is now significant and in 1993/94 reached 17 percent for lamb and 19 percent for mutton. In the same year South Australia provided 42 percent of total Australian lamb exports (23,700 tonnes) and 24 percent of total mutton exports (39,500 tonnes).

Live sheep exports from South Australia have decreased substantially in the last 6 years with Western Australia continuing to be the major supplier for that trade. In the 5 years to 1993,

South Australia provided an average of 800,000 live sheep per year for the Middle East market or 18 percent of the national figure which is now over 5 million per annum.

Prime lamb production in South Australia now requires a more specialist approach. The adoption of improved breeding, management, health and marketing systems are essential for achieving productivity gains, meeting consumer requirements and making profits.

In 1994, representatives of producers, processors, retailers, chefs, as well as state government departments, the Meat Research Corporation and the Australian Meat and Livestock Corporation began to develop a National Strategic plan for the lamb industry. The plan is being progressed in response to industry awareness of the need to better meet our consumers' requirements. The objectives and strategies in this Industry Development Plan are consistent with the key issues being addressed at a national level.

Some Key Industry Drivers

Export demand conditions are favourable for sheep meats. In markets such as the Middle East and North America, industry marketing programs have helped build an awareness of, and loyalty to, Australian product in specific market niches. The export orientation of lamb producers and processors is a vital ingredient. Many producers are now producing lamb for specific export markets and several large processors have introduced forward contracts to ensure adequate supplies of export type lamb.

Export demand for Australian lamb will be aided by an increase in New Zealand's lamb quota in the European Union, achieved through the GATT negotiations, which will lessen competition for Australian lamb in non European Union markets.

In 1994, South Africa became a major customer for Australian Lamb and Mutton. The outlook for this trade is extremely positive as deregulation in that country continues.

There continues to be strong international demand for mutton. In the Pacific Rim, Japan provides one of our largest mutton markets, rivalling Saudi Arabia. Mutton faces severe competition with pork and poultry in Japan. However, a positive development for mutton is in the United States where the Meat Import law, as a result of GATT, will provide access for Australian mutton free of quantitative restrictions.

Critical Success Factors

For the industry to achieve its vision, a number of critical issues must be addressed:

Quality Issues

The issue of quality in the sheep meat industry refers to the need to continually maintain quality specifications and standards required by the consumers in the market.

This issue needs constant attention if Australian sheep meat products are to become more internationally competitive. Failure to address this will not only impair Australia's future export efforts, but may also impact on existing exports.

a Consistency of Products

- need a more consistent supply to specific market specifications;
- quality must be consistent, and

- less seasonality in supply is necessary.

Key industry strategies to address this factor include:

- Research and extension to improve the product's consistency through animal health and pasture management practices;
- Improve competitiveness/efficiency of South Australian processing facilities. Ensuring that agribusinesses operate to world's best practice is a crucial ingredient in the international competitiveness of our sheep meat industry;
- Encourage agribusinesses to avail themselves of available State and Commonwealth Government programs to enhance their efficiency and effectiveness as processors and marketers, and
- Support microeconomic reform initiatives.

b Value based Marketing

All sectors of the industry must be paid on the market based merits of what is produced. Averaging or pooling of prices must be avoided.

Key industry strategies to address this factor include:

- Develop new marketing systems, such as electronic selling systems combined with product specifications, and
- Increase use of forward selling, contracts and over the hook sales linked with objective measurement on-and off-farm.

c Quality Assurance Culture

The need is to develop a culture of continuous quality improvement in all sectors of the industry.

Key industry strategies to address this factor include:

- Develop quality management systems, and
- Promote the residue free and "clean green" produce of SA. Product differentiation is important so consumers recognise SA products from those of other countries.

d Industry Image

The industry has a poor image, due to such factors as variability of product and over fatness of the product.

A key industry strategy to address this factor is:

- Promotion of lamb and mutton as healthy, hygienic products.

Market Development and Access Issues

Market development requires a total commitment by producers and agribusinesses to the supply of products and services to overseas and domestic consumers to the required specification, quantity and delivery time required by the consumers. A commitment to exports is sustained by a thorough understanding of customer needs and an equally thorough

understanding of the products and services provided by major international competitors providing similar or substitute products.

a Meeting Market Needs

There must be a total commitment to supply products to customers to their required specifications, quantity and delivery time.

Key industry strategies to address this factor include:

- Improve market intelligence and analysis to capture market opportunities;
- Improve quality by increasing carcase weight and yield, and decreasing fat content, and
- Facilitate access to export markets.

b Effective Industry Communication

Inefficiencies are caused by the fragmentation of the industry.

Key industry strategies to address the factor include:

- Strategic planning at all levels of the industry, and
- Monitor and review regulations or policies that impact upon sectors of the sheep meat industries.

c Education and Training

Skills must be enhanced to enable the industry to respond to the needs of modern markets.

Key industry strategies to address the factor include:

- Improve farmer education/training to increase adoption of new technologies, and
- Improve farm business management skills.

Product Development and Innovation Issues

Product development and innovation are two major objectives of research and development. Innovation is a critical factor in developing international competitive advantage. In sheep meat, value adding and product differentiation are two important aspects of product development and innovation.

Strategies which can be implemented to address the issues of product development and innovation include the following:

- Encourage further differentiation of local product from that of other countries and provide exactly what the market requires;
- Market research and analyses to realise market opportunities, and
- Industry stakeholders can further improve their market focus through overseas travel and invitations to overseas marketers and researchers to visit Australia and provide their perspective. Market research needs to be undertaken as well as market evaluation of new products.

Sustainability Issues

The sheep meat industry impacts on soil, water and other natural resources in South Australia. The health and welfare of the flock is essential for a sustainable industry.

Industry strategies are aimed at ensuring a sustainable sheep meat production system in accord with the environmental concerns of the general community and include:

- understanding land and water management issues and how they impact on productivity and degradation of the natural resources, and taking appropriate action;
- appreciating the consequences of the control of pest animals and plants, and taking appropriate action, and
- maintenance of productivity and export markets by ensuring the health of the flock, and the wholesomeness of sheep meat products.

Priority areas for action by PISA/SARDI

By addressing key industry strategies, this Plan has identified the following as potential priority program areas for PISA/SARDI. (The figures in brackets represent the annualised equivalent of the net present value of PISA/SARDI contributing to the capture, by industry, of the identified opportunity).

- **Pest animal and plant control (\$10.2m).** Maintain/enhance the productivity base by controlling weeds, pest animals and potential exotic diseases.
 - **Disease surveillance (\$9.5m).** Maintain productivity and export markets by ensuring the health of the flock and the wholesomeness of sheep meat products.
 - **Increase farm profitability in the high rainfall zone (\$6.7m).** Opportunity exists to increase stocking rate in the high rainfall zone by two dry sheep equivalents per hectare.
 - **Trading by objective measurement (\$3.9m).** Opportunity exists to increase lamb carcase values by 9 cents/kg through objective carcase trading.
 - **Farm chemical regulation (\$3.0m).** Maintenance of quality, productivity and export markets with residue free product. Protect environment from farm chemical contamination.
 - **Disease Control (\$2.6m).** Maintenance of productivity through internal parasite control in sheep, footrot control and detection and control of trace element deficiencies.
 - **Genetic improvement (\$2.5m).** Genetic improvement will produce carcass with increased weight, less fat and increased eye muscle area.
 - **High fecundity ewes (\$1.2m).** Use of high fecundity ewes will increase gross margins in high rainfall districts by \$6 per ewe.
 - **Year round supply of quality lamb (\$1.2m).** Increased “out of season” lamb can produce price premiums of 33 cents/kg. This requires technologies for later lambing and finishing lambs to specifications.
-

Summary of critical success factors, strategies and potential PISA/SARDI actions

Critical Success Factors	Industry Strategy	Potential PISA/SARDI Programs
Quality <ul style="list-style-type: none"> Consistency of product Value based marketing 	<ul style="list-style-type: none"> Reduce seasonality of supply Research and extension to improve production Promote quality skin and leather Develop new marketing systems 	<ul style="list-style-type: none"> Year round supply of quality lamb Genetic improvement Improve quality of sheep skins Trading by objective measurement
Market Development and Access	<ul style="list-style-type: none"> Increase volume and value-added piece cuts 	<ul style="list-style-type: none"> Niche marketing specified quality lamb products
Sustainability	<ul style="list-style-type: none"> Maintenance of productivity and markets Appreciating consequences of the control of pest animals and plants Understanding land and water management issues 	<ul style="list-style-type: none"> Disease surveillance Disease control Farm chemicals regulations Pest animal and plant control Land management Water management Revegetation
Cost Price/Competitiveness	<ul style="list-style-type: none"> Enhance productivity 	<ul style="list-style-type: none"> Increase cryptorchid lambs High fecundity ewes Later lambing Increase farm profitability in the high rainfall zone Increase farm profitability in the cereal livestock zone

Actual projects that will be undertaken by PISA/SARDI within these potential program areas will be identified in the next stage of the PISA/SARDI planning process. Projects will be evaluated against criteria including market failure and their benefit/cost ratios to assist in the prioritisation of projects for funding.

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3 BACKGROUND

PRIME LAMB

The Australian prime lamb industry is domestically orientated with only 20 percent of annual production exported. South Australia, however, now exports over half of its total lamb production, much of which goes to the high value markets in North America, Japan and Europe.

Export of South Australian lamb increased by 29 percent in 1993/94 compared with the previous year. This trend is expected to continue at a lower rate in the medium term. Australian Bureau of Agricultural and Resource Economics (ABARE) forecasts Australian lamb exports will increase by 6 percent in the current season which will assist producers to maintain or slightly increase their returns despite a fall in domestic lamb consumption.

The viability of the prime lamb industry in South Australia relies on its ability to meet the varying requirements of the different export and domestic markets. Examples of these varying requirements include:

- *Large Lean Lamb and trim lamb* derived from carcasses weighing 18 kg and above with fat score 2 or 3, but including fat score 4, for the Fresh Australian Range Lamb market in North America.
- *Trade lamb* derived from carcasses 16 to 19 kg, fat score 2 to 4, for the domestic retail trade.
- *Elite lamb* with carcase weights 22kg and over, fat score 2 to 3, for the quality domestic and export trade.
- *Light carcasses*, 11-16 kgs for the lower quality domestic market and Middle East trade.

Prime lamb production is becoming a specialised industry and producers in recent years have made gains in productivity by adopting breeding, management and marketing systems that result in lambs better suited to customer requirements. These improved systems are being developed in South Australia through the joint efforts of producers and producer groups, industry, livestock agents, processors and agencies such as PISA and SARDI.

MUTTON

In the 10 years to 1994, an average of 2.3 million adult sheep per year have been slaughtered in South Australia for mutton production. In 1994, 3.2 million sheep were slaughtered (72,300 tonnes carcase weight) and 43,000 tonnes (60%) were exported.

South Australian mutton production is expected to decline in the short to medium term as producers rebuild flocks in response to improving wool prices. The main potential for South Australia's mutton industry rests in its ability to provide a product which consistently meets customer specifications. This will include an increased emphasis on value adding at the processing stage as well as an increase in boned mutton for chilled and frozen exports.

LIVE SHEEP EXPORTS

Live sheep exports from Australia are estimated to have risen from 5.3 million in 1993/94 to 5.5 million in 1994/95, still lower than in 1988 when over 7 million sheep were shipped to the Middle East. This forecast was made prior to the resumption of trade with Saudi Arabia in April 1995 which if maintained is expected to result in a net increase of 750,000 export sheep per year to the Middle East market.

South Australia's share of this market, which is now mainly supplied by Western Australia, has fallen to an average of 800,000 sheep per annum in the 5 years to 1993, or 18 percent of the total trade. In 1993/94, South Australian exports fell away to 249,000 or just 5 percent. These numbers are expected to increase when Western Australia is unable to provide the required numbers of suitable sheep.

In the short to medium term, South Australia, along with Victoria, is likely to continue as a secondary supplier of live sheep for the Middle East market.

3.1 INDUSTRY PARAMETERS

For the purpose of this plan, the sheep meat industry of South Australia includes all lamb, mutton, live sheep and sheep skins which are produced and/or processed in this State. The major stakeholders are:-

- All sheep producers (for lamb, mutton and skins)
- Specialist prime lamb producers
- Ram breeders excluding Merino ram breeders
- South Australian Farmers' Federation
- Agricultural Bureau Movement of South Australia
- State Lamb Committee of South Australia
- Prime lamb and sheep production groups
- Australian Society of Breeders of British Sheep (SA Branch)
- Agribusiness
 - Livestock agents
 - Merchandisers/marketers
 - Manufacturers
 - Consultants
 - Financial institutions
- Processors
- Transporters
- Exporters
- Wholesalers
- Australian Meat and Livestock Corporation
- Meat Research Corporation
- Universities/TAFE
- South Australian Research and Development Institute
- Primary Industries, South Australia

The plan excludes from consideration the production and value of wool from prime lamb enterprises which are contained in the PISA/SARDI Wool Industry Plan for South Australia.

Inputs of processing, marketing, animal health related activities, pastures, stubbles, soil, water and sustainability issues into the South Australian sheep meat industry are all considered as part of this plan.

Prime lamb, mutton, livesheep and skin production all result from whole farming system activities rather than a specific sheep meat production system. The contribution, costs and other relationships with closely allied industries need to be considered. In South Australia, these related industries may include wool, beef, dairy, cropping, or a mixture of any or all of these enterprises.

3.2 INDUSTRY PROFILE

The South Australian sheep meat industry is based on four products: lamb, mutton, live sheep exported for slaughter, and skins. The average annual gross value of these products in the five years to 1993/94 was \$82.3 million. The preliminary estimate of the value of sheepmeat production in 1994/95 is \$122 million. Off-farm value adding in the sheep meat industry is estimated to be \$65 million per annum.

In 1993/94 the gross value of production for sheep meat in South Australia was \$91.3 million. This was achieved from total slaughterings of 3.08 million sheep (71,000 tonnes carcase weight) and 2.4 million lambs (45,000 tonnes carcase weight), the export of 249,000 live sheep for slaughter and the production of approximately 5.5 million sheep and lamb skins.

The export of mutton and lamb from South Australia in 1993/94 was 40,000 and 24,000 tonnes shipped weight respectively. This accounted for some 24% of total Australian mutton exports and 42% of total Australian lamb exports. Compared with other Australian States, South Australia has become a significant exporter of lamb products.

3.2.1 Production profile

Table 1: Sheep meat production, Australia and South Australia

DESCRIPTION	1989/90	1993/94	ANNUAL AVERAGE 5 YEARS TO 1993/94
1 Lambs slaughtered (head)			
Australia	16,797,400	14,956,600	15,888,800
South Australia	2,162,900	2,364,600	2,005,400
SA share (%)	(12.9)	(15.8)	(12.6)
2 Sheep slaughtered (head)			
Australia	16,086,400	17,686,200	17,604,600
South Australia	2,417,400	3,079,900	3,033,200
SA Share (%)	(15.0)	(17.4)	(17.2)
3 Lamb production (tonnes carcass wt)			
Australia	295,000	265,100	279,300
South Australia	38,100	45,200	36,900
SA Share (%)	(12.9)	(17.1)	(13.2)
4 Mutton production (tonnes carcass wt)			
Australia	332,800	379,800	369,700
South Australia	50,900	71,300	63,700
SA Share (%)	(15.3)	(18.8)	(17.2)
5 Average Carcase Wts.(Kg)	Lambs Sheep	Lambs Sheep	Lambs Sheep
Australia	- -	- -	17.6 21.0
South Australia	17 21	19 23	18.2 22.4

Source: Australian Bureau of Statistics (ABS), Australian Meat and Livestock Corporation (AMLC)

The details in Table 1 show that South Australia provided 13 percent of Australia's lamb and 17 percent of Australia's mutton in the 5 years to 1993/94. South Australian lamb production in this period increased by 19 percent as opposed to the national trend which fell by around 10 percent. The main reasons for this significant difference were:

- lower returns for wool and higher returns for lamb encouraged producers to switch to lamb production, and
- wool growers in South Australia's high rainfall and cereal/sheep zone were able to change quickly from wool to meat production.

Average carcase weights of South Australian lamb have increased from 17 to 19 kilograms in the last 5 years and are now 3 percent higher than the national average. This reflects market demand for larger and leaner carcasses both to satisfy consumer requirements and to reduce processing and transport costs on a per carcass basis.

Table 2: Gross value of sheep meat industry, Australia and South Australia
(Excludes value wool on skins, includes value net export of livestock for slaughter)
Value in \$M.

	1989/90	1990/91	1991/92	1992/93	1993/94	Annual average 5 years to 1993/94
AUSTRALIA	585.4	364.2	460.6	663.0	759.7	566.6
SOUTH AUSTRALIA	97.3	46.0	67.0	110.0	91.3	82.3
SA SHARE (%)	(16.6)	(12.6)	(14.5)	(16.6)	(12.0)	(14.5)

Source ABS

South Australia's share of the gross value of the sheep meat industry was \$82.3 million average per annum in the 5 years to 1993/94. This represents 14.5 percent of the national figure.

The comparatively low values in 1990/91 (\$46 m) and 1991/92 (\$67 m) were mainly due to lower prices for lamb and a significant decrease in the live sheep export trade. Since then both mutton and lamb prices have improved, as has the total volume of production.

Table 3: Ewes mated to breeds other than Merinos in SA

YEAR	NUMBER EWES MATED TO RAMS OTHER THAN MERINOS (a)	PERCENT OF ALL EWES MATED
1989/90	1,787,106	23
1990/91	1,776,636	23
1991/92	1,841,199	28
1992/93	1,933,119	27
1993/94	2,108,046	30
5 YEAR ANNUAL AVERAGE TO 1993/94	1,889,221	26

Source ABS

a Includes Corriedale and Polwarth breeds (Approx. 200,000 ewes/annum) and Carpetwool breeds (Approx. 12,000 ewes/annum)

Table 3 indicates a steady increase since 1989/90 in the number of ewes which are mated to rams other than Merinos. In 1993/94 sheep producers in South Australia intended to mate approximately 30 percent of total ewes to rams other than Merinos. This reflects lower wool prices and improved returns for prime lambs during this period.

3.2.2 Economics and marketing profile

- **Factors Affecting The Outlook For Sheep Meat**

Mutton

There continues to be strong demand for mutton. Over the past three years, a broad base of mutton exports has been established as shipments to traditional markets have remained high and new markets such as South Africa have been developed.

Consequently, national shipments have exceeded 150 000 tonnes shipped weight each year. Although some of these sales have occurred purely because of mutton's price competitiveness, in many markets a strong level of customer loyalty has been developed which to some extent is insulated from price increases.

Therefore, it is anticipated that mutton exports will remain relatively high.

The other major supplier to world markets, New Zealand, shows no sign of rapidly increasing its flock or level of exports and therefore Australia will not face increased competition from this source.

An expected continued growth in live sheep exports to the Middle East will further drain potential supplies of processing sheep.

In the Pacific Rim, Japan provides one of Australia's largest mutton markets, rivalling Saudi Arabia. Firming mutton prices are expected to result in falling exports to Japan where pork and poultry will be more competitive in the manufacturing sector.

A positive development for mutton, however, is in the United States where an end to the Meat Import Law, as a result of the GATT outcome, will provide access for Australian mutton free of quantitative restrictions.

Lamb

Over the longer term an ongoing expansion of lamb slaughterings and production is anticipated. Two main factors underlie this forecast.

First, it is expected that breeding ewe numbers will increase over the next few years and this will increase the productive capacity of the industry and result in higher lamb markings.

Second, given that lamb supplies are not expected to increase dramatically in the next two years it is likely that lamb prices will remain firm. This in itself should ensure that lamb production steadily rises as specialist lamb producers increase production to take advantage of the firm prices.

This will be reinforced by the prospect of continued growth in exports which will also help to underpin prices and encourage increased production.

The most significant change in the industry in recent years has been the growth in lamb exports. In 1993, exports were more than 20 per cent higher than in the previous year, and in 1994 increased by a similar figure.

The growth in exports has been an important factor underlying the stronger prices, particularly for heavier lambs.

Exports to virtually all the main traditional lamb export markets, including the US, the Middle East, Japan and the Pacific region, have risen and, in addition, new markets such as South Africa have emerged.

The main causes of the significant lift in exports have been a lower New Zealand production and industry's greater focus on producing lambs that are suitable for export markets.

While some factors such as the New Zealand supply situation may be reversed, the overall outlook for Australian lamb exports is still positive.

Perhaps most important is the increasing export orientation of lamb producers and processors. Many producers are now producing lambs for specific export markets and several large processors have introduced forward contracts to ensure that they have adequate supplies of export type lambs. As these changes in the industry take hold, the availability of lambs for export is forecast to rise further.

This change in the composition of lamb production will also be supported by the expected growth in total lamb production.

As well as these supply side influences, export demand conditions also appear to be favourable. In markets such as the Middle East and North America industry marketing programs have helped to build increased awareness of, and loyalty toward, Australian product in specific market niches such as retail and food service.

The groundswell of demand that has been created through these programs should ensure that demand remains firm in these markets. In addition, demand should continue to grow in some of the emerging markets.

Export demand for Australian lamb will also be aided by the increase in New Zealand's lamb quota in the European Union. This quota increase, which was achieved through the GATT negotiations, will mean that New Zealand exporters will focus on supplying the larger EU quota, resulting in lessened competition for Australian lamb in other markets.

Due to the above factors, it is forecast that lamb exports will increase over the longer term.

- **Benchmarks And Economic Indicators**

There is no relevant data which can provide reliable benchmarks or economic indicators for sheep meat production in either South Australia or Australia. ABARE agricultural survey data combines prime lamb and mutton production with wool, beef, or mixed livestock crops industries and there is no meaningful way in which this data can be separated.

The AMLC and Meat Research Corporation (MRC) recognise the need for industry benchmarks and standards and a proposal is now underway for an industry funded project to gather this information.

- **Sheep And Lamb Marketing**

Sheep and lambs are sold in a number of ways. Methods include live auction per head; direct paddock sales per head; over the hooks per kilogram; contract sales per kilogram; and Computer Aided Livestock Marketing (CALM). Penalties or premiums can be incurred for specified properties such as fat depth. Grid selling methods are often employed for this purpose.

An MRC study conducted by ACIL Australia Pty Ltd showed that objective marketing involving weight and fat measurements increased lamb carcass values by \$3 per head compared to saleyard selling.

Market signals to producers are often distorted. Many producers still consider that premiums are being paid for large fat lambs despite general consumer preference for leaner products. Feedback and market intelligence will continue to be distorted while agents maintain their support for traditional live auction sales. In addition, there is no co-ordinated reporting mechanism to assist producers in the marketing of their produce.

Approximately 50 per cent of lambs sold for the domestic market in Australia are now "ticketed" or described for both the retailers benefit and to ultimately provide feedback to producers and buyers. In South Australia no lambs for the domestic trade are individually described and ticketed, or branded accordingly. There is an opportunity for this to occur with an estimated benefit of 66 cents/kg extra value at the retail level.

- **Product Substitution**

In the domestic market competition for lamb and mutton is from other meats, especially poultry, as well as vegetarian meals. The lamb industry has been putting a number of strategies in place to halt the decline in domestic consumption including promotion of lamb as a clean, healthy, versatile and lean red meat product. Reduced domestic consumption is being countered by an increase in export demand described below.

- **New Producers Of Lamb In South Australia**

One of the continuing problems for specialised lamb producers is the ease of entry by wool producers into the industry. When wool prices are depressed, growers mate a proportion of their flock ewes to terminal sire meat breeds and "flood" the market with lambs of varying quality. Supply of lamb can therefore change quite dramatically from one year to the next, thereby affecting the prices which farmers receive. The varied quality of lambs produced by these "part-time" growers is of concern as specialised producers are striving to introduce quality assurance practices into their enterprises.

New entrants to the lamb industry are faced with high capital costs for land and in establishing prime lamb breeding flocks. Current gross margins show only marginal differences between wool, lamb and beef production for most South Australian districts. Cropping enterprises continue to be more profitable in the cereal livestock zone.

3.2.3 Export profile

Australia exports approximately 160,000 tonnes of mutton and 44,000 tonnes of lamb per year for a total value of \$403 million (annual average 5 years to 1993/94). South Australia provided 21 percent of the mutton and 31 percent of the lamb exported during this period (see Table 4).

Australian live sheep exports for the same 5 year period averaged 4.7 million head per year with South Australia providing 827,000 of these sheep per year (18%). The total value of this industry for Australia was \$113 million, while South Australia received an average of \$22 million per annum from 1990 to 1994 (see Table 5).

The average annual value of Australian exports of woolled skins was \$128.7 million in the 5 years to 1993/94. This equates to approximately \$19.3 million for South Australia where 15% of these skins were produced in the same period.

The major markets for woolled skins in 1993/94 were France (29%), China PR (19%) and Turkey (9%) with other significant buyers being Japan, Germany and Spain.

Table 4: Sheep meat exports to all destinations, Australia and South Australia, Quantity and Value

DESCRIPTION	1989/90	1993/94	ANNUAL AVERAGE 5 YEARS TO 1993/94
1. Lambs exports (tonnes shipped wt.)			
Australia	38,000	56,100	44,240
South Australia	7,600	23,700	13,700
SA share (%)	(20)	(42)	(31)
2. Mutton exports (tonnes shipped wt.)			
Australia	119,400	164,800	159,600
South Australia	21,700	39,500	34,900
SA Share (%) (a)	(18)	(24)	(21)
3. Value lamb exports (\$)			
Australia	108,909,000	194,025,000	144,658,000
South Australia	21,781,800	81,490,500	44,843,980
SA Share (%)	(20)	(42)	(31)
4. Value mutton exports (\$)			
Australia	190,520,000	315,520,000	257,988,000
South Australia	34,293,240	75,724,800	54,177,480
SA Share (%) (a)	(18)	(24)	(21)

Source: ABS, AMLC

a percentages used in calculations adopted from 1 and 2 in Table 4 and values include a proportion of value adding.

Both the quantity and value of lamb and mutton exports have increased in the five year period to 1993/94. Lamb exports from Australia have increased from 38,000 tonnes in 1990 to 44,240 tonnes in 1994 (16 percent). South Australian export of lamb in the same period has risen from 7600 tonnes to 23,700 tonnes or significantly, 42 percent of total Australian lamb exports. In the same year, lamb exports from South Australia accounted for 52 percent of its total production. As domestic lamb consumption declines (from 15 kgs/head in 1989 to 11 kgs/head in 1995), the greatest opportunities for the sheep meat industry appear to rest with increasing export volume and values of quality lamb products. South Australia, which is now the largest exporting state of lamb in Australia, is well placed to capitalise on this opportunity.

Table 5: Livesheep exports for slaughter

DESCRIPTION	1989	1990	1991	1992	1993	ANNUAL AVE. 5 YEARS TO 1993
1 Number exported (Million head)						
Australia	6.3	4.5	3.2	4.3	5.0	4.7
South Australia	2.0	.7	.3	.4	.7	.8
SA share (%)	(31)	(16)	(11)	(9)	(14)	(18)
2 Value (\$ million)						
Australia	198	113	46	87	121	113
South Australia	61	18	5	8	17	22
3 Value per head (\$)						
	31	25	15	20	24	23

Source: AMLC

The value of the Australian livesheep export trade for slaughter in 1993/94 rose to \$140 million for a total of 5.3 million sheep. In the same year South Australian export numbers fell to only 249,000 with an estimated value of \$5.7 million.

Western Australia is now supplying the majority of livesheep for this trade with South Australia's share falling from 31 percent in 1988/89 to just 5 percent in 1993/94. South Australia and Victoria have both become secondary suppliers to this industry, only contributing when suitable sheep are unavailable in Western Australia. Instability in the Middle East markets has exacerbated this situation for the last 5 years and it is still hoped that South Australia can look forward to increased opportunities in this trade in the future. To some extent, increased exports of chilled and frozen mutton and lamb have countered the decrease in live sheep exports.

In recent years the major destinations for live sheep exports from Australia have been the United Arab Emirates, Kuwait and Oman.

• Sheep Meat Export Destinations

A summary of the major destinations for lamb and mutton exports from Australia appear in Table 6 below. The main contributors to increased export trade in the five years to 1994 have been:

Lamb

- **United States** – increase from 6.6 thousand tonnes in 1990 to 10.3 thousand tonnes in 1994 (56%);
- **Japan** – increase from 2.8 thousand tonnes to 8.4 thousand tonnes (200%);
- **European Union** – increase from 3.5 thousand tonnes to 7.4 thousand tonnes (111%).

Mutton

- **Middle East** – A gradual increase from 20.6 thousand tonnes in 1990 to 36.7 thousand tonnes in 1994 (78%) may reflect the reduced live sheep trade.

A recent and emerging market for Australian mutton and lamb is South Africa where the local meat market is undergoing deregulation, and control of imports by the South African Meat Board has been relaxed.

Australian mutton exports to South Africa in 1994 were 36,815 tonnes compared with 4341 tonnes in 1993. Lamb exports have increased from 307 tonnes to 4416 tonnes in the same period. These figures show that South Africa has become the largest single national importer of Australian mutton and the fifth largest importer of Australian lamb. The outlook for further increases in this trade is both positive and significant.

Mutton exports to Taiwan, Malaysia and Singapore, and Papua New Guinea and the Pacific Islands, have also gradually increased in the last 5 years. Total mutton exports from Australia have risen from 119,000 tonnes in 1990 to 165,000 tonnes in 1994, peaking at 182,000 tonnes in 1991. This increase has occurred despite the dramatic fall in exports to the Former Soviet Union from 27,000 tonnes in 1990 to 5000 tonnes in 1994.

Table 6: Australian sheepmeat exports to principal destinations

DESTINATION	Annual Quantity exported in 5 years to 1994 '000 tonnes shipped wt.	Percentage of total exports
1. Lamb		
Middle East	9.6	22
PNG & Pacific Islands	8.2	19
United States	7.6	17
Japan	5.9	13
European Union	4.9	11
2. Mutton		
Middle East	30.4	19
Japan	24.2	15
C.I.S.	19.0	12
PNG & Pacific Islands	9.9	6
Taiwan	8.7	5
European Union	8.5	5
Malaysia & Singapore	8.5	5
United States	6.6	4

Source: AMLC

South Korea, Canada, other Asian and other European countries are also significant importers of Australian lamb and mutton. In 1994, South Africa become the largest importer of Australian mutton and important market for Australian lamb as detailed on the previous page.

3.2.4 Domestic consumption

Domestic consumption of lamb has fallen from 15 kgs/head in 1989 to 11 kgs per head in 1995. Mutton consumption remained stable at around 8.0 kgs/head for the same period.

Recent data show that consumption of lamb, mutton and goat meat by major importing countries has remained stable during the 3 years to 1994.

3.2.5 World production and trade trends

In the 5 years to 1994 Australia produced 609,600 tonnes of mutton and lamb per year, almost 10 percent of total world production. Approximately 233,000 tonnes per annum (38 percent of production) were exported during this period. Australia's main competitor was New Zealand which produced 586,000 tonnes and exported 446,000 tonnes per annum (76 percent of production).

Average annual world production of mutton and lamb in this same 5 year period was 6,354,000 tonnes, over half of which was produced by just 8 countries. The Former Soviet Union with 920,000 tonnes or 14.5 percent of total world production was the major contributor.

The production of mutton is often erratic due to fluctuations in the quality and supply of sheep. World trade can change dramatically depending on these supply factors and the availability of, competition by, other meat products.

A summary of the major sheep meat producing nations appears in table 7.

Table 7: Major world producers of mutton and lamb: Annual average in 5 years to 1994

COUNTRY	PRODUCTION IN TONNES	PERCENTAGE OF WORLD PRODUCTION	PERCENTAGE OF PRODUCTION EXPORTED
Former Soviet Union	920,000	14.5	-
Australia	609,600	9.6	38
New Zealand	586,000	9.2	76
China	474,400	7.5	-
United Kingdom	347,200	5.5	-
Turkey	307,000	4.8	-
Iran	231,000	3.6	-
Spain	214,000	3.4	-
WORLD PRODUCTION	6,354,000	-	-

Source: ABARE

3.3 SPECIAL FEATURES OF THE SHEEP MEAT INDUSTRY IN SOUTH AUSTRALIA

3.3.1 Production

Sheep meat production occurs in all South Australian agricultural and pastoral districts. The levels of production and types of product vary according to the environment and different management systems which are practised.

Mutton is produced from wethers and ewes, principally aged animals which are no longer required for wool or prime lamb production. Mutton is therefore derived from all South Australian districts, each district producing quantities that are broadly proportional to its total sheep population. The cereal - sheep zone therefore produces about 49 percent, the pastoral districts 14 percent and the balance, 37 percent, comes from the higher rainfall areas of the South East, Adelaide Hills, Kangaroo Island and Fleurieu Peninsula.

Prime lamb production, achieved by the turnoff of 3 to 9 month old lambs sired by terminal meat breed rams, is an enterprise of the medium and higher rainfall districts of South Australia. Approximately 1.8 million 1st or 2nd cross lambs are now produced annually in South Australia with a further 200,000 to 400,000 Merino lambs sold for slaughter. These Merino lambs are usually slaughtered for the light weight lamb trade in early to mid spring and mainly originate from the cereal sheep areas.

High quality 1st and 2nd cross lambs are produced for both the domestic and export markets (58 percent was exported in 1993/94). The importance of these export markets has been recognised by South Australia's producers and resulted in increased emphasis on producing larger and leaner carcasses. Producers in all prime lamb districts are attempting to benefit from the high value export markets by supplying heavier and leaner lamb on a year round basis. This has been encouraged by the availability of forward contracts for selling lamb which are provided by the more innovative processors and exporters. Finishing lambs on summer fodder crops or on grain based diets has been widely adopted to meet this increased demand for heavier, out of season lambs.

Most recent data indicates that there are approximately 780,000 crossbred ewes, 114,000 Border Leicester ewes and 35,000 Dorset Horn ewes in South Australia. Most of these crossbred and British breed sheep are run in the higher rainfall areas of the State.

A summary of the current prime lamb production systems in South Australia is as follows:

Lower South East

Dorset sires over Border Leicester x Merino ewes are the most common genotype although Romney x Merino, straight Merino ewes and some pure Corriedales are used with terminal sires.

While 70 percent of producers put the rams out for an April/May lambing, some 30 percent use a later lambing period of July/August. All lambs are weaned by 5 months of age. At this time between one third and two thirds of all lambs are sold for slaughter, the balance being shorn and carried over for up to several months before slaughter. The number of carry-over lambs is dependent on seasonal conditions and lamb prices.

Pastures for these systems are basically sub clover/ryegrass with some strawberry clover, fodder crops and irrigation. Supplementary feeding in autumn is common with oats, barley, beans and lupins being the grains of choice, although hay has been the most common supplementary feed.

Upper South East

Dorset sires and Border Leicester x Merino ewes are the most common genotypes used with the rest being mainly produced by the use of Dorset rams over Merino ewes. While 90 percent of producers in this area put rams out for an April/May lambing, smaller numbers of ewes, mainly maidens, are mated to lamb later in the year.

The majority of lambs are weaned and directly sold in local markets at 4 to 5 months of age. Lambs remaining are weaned and finished on either stubbles or irrigated pastures and lucerne.

The pasture base for this production system is subterranean clovers in combination with sown and volunteer annual grasses. In the northern part of this region, lucerne is also used to finish a number of lambs.

In autumn the ewes are often given supplements with oats, barley, lupins and beans being the feed most commonly used.

Mid North and Cereal Sheep Belt

The cereal belt of South Australia has traditionally produced prime lambs as a sideline to wheat and barley production. Merino ewes are purchased at 4 to 5 years old from pastoral areas and mated to prime lamb sires for two years before being cast for age. The lambs are dropped early (March/April) to provide the first new season lambs for the Adelaide market.

While the ewe source, ewe age and lambing time have diversified, the common ewe is still Merino and the sire Dorset or Suffolk.

Adelaide Hills and Fleurieu Peninsula

Dorset sires over Border Leicester x Merino ewes mated to lamb from mid-June is the normal system. This allows lambs to be turned off in January after the normal peak in numbers in the Adelaide market. Sheep are run on subclover and perennial grass pastures.

3.3.2 Processing

In 1993/94 88 percent of sheep and 68 percent of lambs were slaughtered in export abattoirs located at Bordertown (Tatiara Meat Company), Gepps Cross (SAMCOR), Noarlunga (METRO Meat International), Murray Bridge (METRO Meat International), Mt Gambier (Mt Gambier Meat Processing) and Kangaroo Island.

Apart from minor slaughterings in slaughterhouses (approx 2 percent of sheep and lambs) the remaining stock are processed in other domestic abattoirs located at Normanville, Port Pirie, Strathalbyn, Lobethal, Two Wells, Nuriootpa, and Freeling.

3.3.3 Regulation

Legislation in South Australia is not considered to be restrictive in any way upon the sheep meat industry. The new Meat Hygiene Act 1994 for example is based on industry agreed

quality assurance procedures which should bring benefits to the industry at minimal costs. Apart from the Meat Hygiene Act, 1994, specific legislation relevant to the meat processing industry in South Australia is:

- SAMCOR Act 1936-1984
- Environment and Public Health Act 1987
- Food Act 1985

In recent years the State Lamb Committee of South Australia and a number of other industry representatives have strongly supported proposals for the State Government to introduce legislation which enforces compulsory strip branding of lamb. They believe that misrepresentation of mutton as lamb is depressing lamb prices compared with South Australia's main competitors, Victoria and New South Wales, which have branding legislation in place for domestic consumption. This issue is being investigated by the Government with assistance and advice from the South Australian Meat Hygiene Advisory Council.

There is no reliable data to indicate the extent of sheep meat product entering or leaving South Australia. Some industry representatives believe that low quality meat is being imported into South Australia because of the lack of regulations requiring branded product.

3.4 CURRENT PISA AND SARDI INPUTS, PROGRAMS AND PROJECTS

PISA and SARDI are currently providing services for the sheep meat industry in the following major program areas:

Marketing and quality management

Objective: to integrate production, marketing and processing strategies for lamb which meets higher value domestic and export markets.

Current target:

- Increase adoption of *objective measurement and marketing* in live lamb and carcase trading by conducting workshops with interested producers, agents and processors.
- Promote the increased use of *Forward Contract Selling* to reduce financial risks via interested Prime Lamb Producer Groups and workshops.

Livestock group resources currently used to provide this program are:

State funds – 1 Full time equivalent
Industry funds – 1 Full time equivalent

Pasture management

Objective: to facilitate the adoption of more sustainable grazing management and pasture utilisation strategies to increase returns for sheep meat producers in South Australia.

Current targets:

- Increase the adoption by lamb producers of *improved strategies of grazing management and pasture utilisation*. This will be achieved through research into new and improved

varieties, better rhizobia for lucerne and medics, developing more sustainable crop and pasture systems and by extension with producer groups.

Livestock group resources currently used to provide this program are:

State funds – 0.7 full time equivalent.

An estimate of other resources directed at assisting the sheep meat industry in this program including pasture researchers, agronomists, soil staff etc are:

State 3.6 full time equivalents

Industry Funds 3.9 full time equivalents

Sheep meat production

Objective: to increase adoption of more productive, sustainable and profitable management systems for prime lamb producers.

Current targets:

- Increase lamb turnoff in autumn and winter to *even out the annual supply*;
- This entails a review of lambing times and promoting later lambing, and conducting validation studies with producer groups who are feeding lambs in the summer and autumn;
- Use the *Booroola Leicester* to increase lamb production and profits. Properties using Booroola Leicesters will be monitored and extension activities to assist producers to manage increased lamb numbers will continue;
- Support existing and new *Prime Lamb Producer Groups*. Evaluate, and report on current and potential productivity and facilitate improvements within these groups to increase profitability, and
- *Evaluate new and existing breeds* for high quality target markets through the Lambplan and progeny testing services.

Livestock group resources currently used to provide this program are:

State funds – 1.6 full time equivalents.

Policy and Industry Development

Objective: to target PISA and SARDI activities towards improving the contribution of the sheep meat industry to South Australia's economy.

Current targets:

- Provide timely and accurate *policy and service advice* for the Minister and PISA management including development of the sheep meat industry plan in consultation with industry;

- Provide effective *service and advice to the local community* on sheep meat issues. This is achieved through the State network of PISA and SARDI staff involved in extension, research and regulation, and
- Facilitate training and development programs for PISA staff associated with sheep meat production.

Livestock group resources currently used to provide this program are:

State funds – 1.3 full time equivalents.

Animal Health

Objectives: the Animal Health programs within the Livestock Group of the Department of Primary Industries are designed to protect the superior health status of livestock in South Australia. Programs prevent the introduction of new or dangerous diseases, minimise economic production losses or limit the market effects of existing diseases. They often fit into more than one commodity program because many stock diseases affect more than one class or species of animal. In some cases a particular disease is even more important because it affects humans as well. The two programs are:

Disease Surveillance

Disease surveillance is the process of assessing all available livestock disease information to prevent production or market losses of farm animals in South Australia. It also includes assessment of zoonoses (animal diseases transmissible to humans), foreign animal diseases and product residues.

Private farm losses are assessed mostly by owners and private veterinarians but any diagnostic information can be utilised for disease surveillance by the Department. Disease and residue prevention programs are included.

Disease Control

The Department has a number of large, organised disease control programs. These are designed to eradicate or minimise an existing disease or residue by an active program of intervention.

Programs are only undertaken if a significant economic benefit to the industry or the state will result. Programs for the benefit of individuals only, are left to owners.

Livestock group resources currently used to provide these programs are:

State funds - 4.3 full time equivalents.

Sustainable Resources

Objective: to maintain and improve the profitability of sheep meat production by providing resource and environment protection. This is achieved by activities to sustain the natural resource base and through programs planned to achieve new opportunities.

There are 5 sustainable resource programs which impact on the sheep meat industry.

Animal and Plant Control

This program provides for the protection of resources for sheep meat production by supporting the control of animals and plants that are or may become problems. Major opportunities relate to the control of rabbits, predators (foxes and dingoes) and pasture weeds, and to the protection of the sheep meat industry from the effects of exotic animal disease and further pest plants and vertebrate pest species.

Farm Chemicals

This program ensures there are suitable, effective and safe stock medicines available to growers to protect sheep from pests and diseases and thus enhance productivity, and facilitates responsible chemical use to protect national and international markets for sheep meat.

Major activities include ensuring compliance with registration requirements, programs to minimise adverse drug reactions and to monitor residues of agricultural and veterinary chemicals, including organochlorines, organophosphates and synthetic pyrethroids.

Water Management

Stocking rate of some grazed land in the 400-600 mm rainfall zone is reducing due to salinisation occurring as a result of rising watertables (dryland salinity). A range of whole catchment management and agronomic strategies can be implemented to prevent further spread and to reduce existing impacts through land reclamation.

Where irrigation is used to increase pasture growth for the grazing of prime lambs out-of-season, the application of improved irrigation management strategies can increase pasture production and reduce water waste, drainage and off-site impacts. In some areas salinity impacts due to the use of high salinity groundwater may be partly managed through irrigation practise.

Land Management

It is essential to protect and enhance the soil and land resource for the sustainable development of the sheep meat industry. Major opportunities exist in the increases that can be achieved in pasture production through improved nutrition management in all agricultural areas. Significant opportunity can also be realised in the protection of current productivity, and increases in production of pasture through the better management of soil acidity. Other opportunities include the reduction of impact on soil structure of grazing sheep, improved vegetation and water management in the range lands, and in reducing the wind erosion effects caused by grazing animals.

Revegetation

The role of PISA's Revegetation Program is to facilitate the strategic use of perennial vegetation to enhance rural industries and the environment by protecting stock, crops, soil and water, diversifying incomes and enhancing biodiversity. The Program does this by working with a wide range of industries and landholders, the broader community and associated organisations.

4 ANALYSIS OF INDUSTRY STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS (SWOT)

Strengths, Weaknesses, Opportunities and Threats Analysis of the South Australian Sheep Meat Industry.

The strengths, weaknesses, opportunities and threats (SWOT) of the South Australian sheep meat industry have been identified to highlight the major factors affecting the industry's economic competitiveness and sustainability.

As a result of this SWOT analysis, a number of industry strategies needed to address the critical industry issues are proposed, and major opportunities have been identified to enhance the sheep meat industry's contribution to South Australia's economy over the next five years and beyond. The strategies which can be addressed at least in part by PISA and SARDI are discussed further in Section 4, Industry Development, and in Section 5, Opportunities and Roles Analysis, of this document.

The SWOT analysis involved input from research, extension and Animal Health regulatory staff in PISA and SARDI who currently provide services for the sheep meat industry in this state. In addition, industry opportunities and problems identified in recent publications of the Meat Research Corporation and the former Australian Wool Research and Promotion Organisation have been incorporated into the final draft of this analysis. The need for more direct consultation and involvement with industry is recognised and will be progressed as the industry planning process continues. It is intended that the State Lamb Committee of South Australia will play a key role in this activity.

A summary of this SWOT analysis appears in the following Table 8.

SOUTH AUSTRALIAN SHEEP MEAT INDUSTRY DEVELOPMENT PLAN

ANALYSES OF INDUSTRY STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

Table 8: SWOT analysis of the South Australian sheep meat industry

FACTO	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
ON FARM FACTORS (Quality, productivity, management, maintenance, new products, environmental sustainability)	<ul style="list-style-type: none"> Efficient farm production systems. Ability to produce quality products with clean green image. Lamb production complements other farming enterprises such as cropping, wool and beef. Low level of industry regulation. 	<ul style="list-style-type: none"> Low adoption of new technology exacerbated by increased average age of farmers who have had comparatively less educational opportunities. Reduced incomes, limited opportunities for investment, deterioration of existing facilities and barriers to adjustment measures. Limited alternative technology for herbicides and pesticides. Factors causing infertility and low lambing percentages including winter lamb mortalities, low ewe mating weights in Autumn. Limited means of comparing ram sources. Less than optimum pasture quality and quantity, <ul style="list-style-type: none"> grass dominance in pastures. low legume seed bank. lack of persistent varieties in cereal areas. poor performance of some high rainfall species outside their immediate adoptive range. slow pasture establishment in late autumn/winter. low quality stubbles in autumn. feed base doesn't match feed requirements. low stocking rates. Impact of subclinical diseases poorly recognised. Insufficient emphasis on product differentiation. 	<ul style="list-style-type: none"> Improve farmer education to increase adoption of technology and raise efficiency. Improve quality of carcase and skins. <ul style="list-style-type: none"> increase carcase and yield. decrease fat reduce grass seed contamination of meat and skins. Develop total quality management systems with producers, agents and processors. Develop new marketing systems with farmers, use electronic selling systems, product specification. Produce and promote residue free products. Improve genotypes of meat sheep, introduce new breeds and their crosses. Increase turnoff of lambs between March and July. Change to later lambing to improve feed utilisation. Increase reproductive rates. Improve disease control and increase productivity. Improve pasture quality and quantity to increase stocking rates. <ul style="list-style-type: none"> improve pasture establishment techniques control weeds, pests, feral animals redefine fertiliser needs and costs. improve grazing management techniques. 	<ul style="list-style-type: none"> Reduced disease surveillance and control affecting profitable production; ovine brucellosis, internal parasites, Annual Ryegrass Toxicity, clostridial diseases, pinkeye, Caseous Lymphadenitis, scabby mouth, mineral deficiencies, plant poisoning. Possible animal welfare issues. Environmental considerations - soil erosion, salinity. Chemical residues. Pasture insect damage, locusts, mice plagues, rabbits, noxious weeds. Wet winters & waterlogging in SE and KI. Droughts, late seasonal breaks, summer rainfall. Reduced extension and research activities.

SOUTH AUSTRALIAN SHEEP MEAT INDUSTRY DEVELOPMENT PLAN

INDUSTRY DEVELOPMENT

TABLE 8: SWOT analysis of the South Australian sheep meat industrycont'd

FACTORS	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
MARKET FACTORS (Market system, signals, development, servicing, SA processors, world trade)	<ul style="list-style-type: none"> • Good processing facilities. • AMLC support and functions. • High quality products <ul style="list-style-type: none"> • freedom from disease • freedom from residue. 	<ul style="list-style-type: none"> • Inefficient and outdated marketing processes. <ul style="list-style-type: none"> • poor market intelligence. • low level of understanding of market information. • instability of markets and prices. • poor communication and feedback. • lack of traceback system • quality of lamb ill-perceived. • Processing <ul style="list-style-type: none"> • high costs particularly labour. • high infrastructure costs. • seasonality of production. • most skins are processed overseas. • Lack of air freight services for Middle East markets. 	<ul style="list-style-type: none"> • Develop export opportunities for: <ul style="list-style-type: none"> • US lamb market. • Asian Lamb market. • Middle East lamb and mutton markets. • Successful GATT agreement to free up markets for lamb. • Food service industry developments for lamb. • Advances in information technology. • Improved product description. • Develop skin and leather processing industries in S.A. • Marketing training and education. 	<ul style="list-style-type: none"> • Market/buyer influence and control. • Import tariffs and non-tariff barriers. • Residues in meat • Animal welfare restrictions. • Exotic disease. • Environmental and sustainability consideration. • Cheap substitute meats and other alternative products. • Vegetarian movement. • Restricted red-meat trading hours. • Volatility of agro-political decision making.

TABLE 8: SWOT analysis of the South Australian sheep meat industrycont'd

FACTORS	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
OFF FARM FACTORS (Production base, world trade, quality, education, government policies).	<ul style="list-style-type: none"> Available education facilities. Agricultural Bureau movement. Existence of scientific/technical agencies. Industry structure and organisation facilitates information transfer, levy collections etc. 	<ul style="list-style-type: none"> Diminishing political importance and strength of primary industries sector. S.A.'s high dependence on export markets. Difficulties in year round production and supply of lamb because of SA's climate. 	<ul style="list-style-type: none"> Development of new products for domestic and export markets. Move from carcase to piece trade. Packaged convenient meals. Targeted Rural Finance lending to high value opportunities. Increase industry concentration in SA eg. South East Processing facilities. 	<ul style="list-style-type: none"> Overseas residue standards. Restrictive funding policies of banks. Landcare/conservation pressures may limit production. Macro-economic issues and influence. Interstate subsidies affecting competitiveness.
RELATED INDUSTRIES FACTORS (Input supplies, finance, storage, transport, processing, agribusiness).	<ul style="list-style-type: none"> Strong network of agents and resellers. 	<ul style="list-style-type: none"> Ease of entry for wool producers into prime lamb industry. Joint product/reduced specialisation problem-wool and sheep meat. lack of innovation and entrepreneurs in the industry. conservative lending policies of financial institutions. 	<ul style="list-style-type: none"> More domestic value adding. Joint ventures with overseas processors. 	<ul style="list-style-type: none"> Influence of overseas investors in local processing operations. High input costs - transport, labour, chemicals, processing. Lack of specialist consultants.
INDUSTRY STRUCTURE (Organisation, structure, education needs)	<ul style="list-style-type: none"> Efficient, structured industry organisations (AMLC, MRC, AWRAP). Existence of technical agencies (CALM, AUSMEAT). Government regulation acceptable and attractive for some overseas clients. 	<ul style="list-style-type: none"> Large numbers of small producers. Lamb production often only a sideline operation. Conservative and outdated operations of some agents. Fixed research levy causes instability of research funding. Limited State funds to address regional issues not covered by national funding bodies. 	<ul style="list-style-type: none"> Increased role for agribusiness and technical agencies in technology transfer, extension and research. 	<ul style="list-style-type: none"> Reduced Government funding for extension and research. Welfare implications and political issues affecting the live sheep trade.
RISK MANAGEMENT (Drought, sustainability, product prices).	<ul style="list-style-type: none"> Systems and information available to assist farmers to manage for droughts and risk. 	<ul style="list-style-type: none"> Fluctuating and uncertainty of product prices. 	<ul style="list-style-type: none"> Increase use of forward selling techniques and contracts. Improve farm business management skills. 	<ul style="list-style-type: none"> Drought conditions affect production, supply, quality and sustainability of farms and related industries. Land conservation issues, air pollution and water degradation threatening production and processing operations.

5 INDUSTRY DEVELOPMENT

Representatives of all sectors of the lamb industry are working together to develop a national plan and at a workshop held in 1994 the 7 critical success factors described below were identified. Strategies are now being developed to focus on these factors at a national level. Addressing these critical success factors is essential for industry to enhance its international competitiveness and achieve its vision.

PISA and SARDI's role in these activities is being considered as part of this strategic planning process. The critical factors identified at the workshop are numbered in order of priority but are recognised as being inter-dependant on one another. Some industry strategies or actions appropriate to address each of these factors as recognised in the SWOT analysis (section 3) are listed under each heading.

5.1 CONSISTENCY OF PRODUCTS

This is the area where producers are most concerned. It consists of 3 key aspects:

- The supply of product available needs to be more consistent in terms of weight and fat. Meat marketeers are having difficulties meeting emerging market needs for very specific requirements in terms of weight and fat;
- The product needs to be less seasonal so that appropriate marketing strategies can be implemented, and
- The meat quality attributes need to be more consistent. Toughness is largely in the hands of the processors, but taste may well be up to the producer.

Strategies or actions appropriate to address this factor in South Australia are:

- Increase turn off of lambs between March and July to reduce seasonality of supply;
- Research and extension to improve production, health, pasture management and sustainable farming practices to maximise productivity and profits by producing a consistent high quality product;
- Promote quality skin and leather production and processing in South Australia;
- Increase industry concentration to take advantage of quality processing facilities eg. South East and high rainfall districts;
- Improve competitiveness of South Australia's processing facilities. Ensuring that agribusiness operate to world's best practice is a crucial ingredient in the international competitiveness of our sheep meat industry, and
- Encourage agribusiness to avail themselves of State and Commonwealth Government programs to enhance their efficiency and effectiveness as input suppliers, transporters, processors and marketers.

5.2 MEETING MARKET NEEDS

There must be a total commitment to supply products to customers to their required specification, quantity and delivery time.

Consumers require different things from lamb in terms of size, fat, lean, cuts, etc. These requirements vary in a range of different domestic and overseas markets. The aim is to

carefully document the markets and identify the product specifications demanded in each market.

In most domestic and international markets, lamb is no longer regarded as a staple food. It is in competition from every other food product and those products which get it right will win the market be they meat or non-meat products.

Strategies or actions appropriate to address this factor in South Australia are:

- Improve market intelligence and analysis;
- Improve quality of products by increasing carcase weights and yield and decreasing fat;
- Improve meat and skin quality by reducing grass seed damage and contamination;
- Develop export potential particularly in the US, Asian and European lamb markets and the Middle East and South African lamb and mutton markets;
- Increase volume of value added piece cuts rather than whole carcasses;
- Promote integrated joint ventures with overseas investors;
- Protect and maintain domestic and export markets through appropriate animal health, residue control and welfare programs, and
- Facilitate access to export markets.

5.3 VALUE BASED TRADING

All parts of the industry must be paid on the market based merits of what is produced. Far too often people introducing strategies to improve their lambs receive no reward. The saleyard system, for example, is an averaging system which reduces prices for good product and raises prices for poor product.

If rewards are provided for getting it right in any lamb industry business participants are more likely to embark on better management processes with a more business-like approach to planning.

Strategies or actions appropriate to address this factor in South Australia are:

- Develop new marketing systems with farmers and industry which includes the use of electronic selling systems combined with product specification, and
- Increase use of forward selling, contracts and over the hook sales linked with objective measurement on and off farm.

5.4 QUALITY ASSURANCE CULTURE

The need is to develop a culture of continuous quality improvement in all parts of the industry. This pertains to production practices, management practices and business practices of everyone involved in the industry and goes beyond the situation of processors only introducing quality assurance at the works to ensure better procedures, better working practices and better meat quality.

Strategies or actions appropriate to address this factor in South Australia are:

- Enhance product differentiation so consumers recognise local products as different from those of other countries;

- Develop quality management systems with producers, agents, processors, wholesalers and retailers;
- Produce and promote residue free and "clean green" products of South Australia, and
- Protect markets, both domestic and export, and maintain productivity through appropriate animal health and welfare programs.

5.5 INDUSTRY IMAGE

The lamb industry has a poor image and a poor self image. This is mostly for the reasons outlined above, including variability of product, overfatness, poor cooperation and lack of trust between parties at all levels.

Strategies or actions appropriate to address this factor in South Australia is:

- Promote lamb and mutton as healthy, hygienic products.

5.6 EFFECTIVE INDUSTRY COMMUNICATION

The lamb industry is fragmented. There are many layers of people working in all the sectors and it is difficult to develop communications between them all.

This goes beyond the issue of communicating market needs through the carcase description process. It includes issues of joint concern, for example processors and wholesalers can never develop new markets unless they can guarantee the supply of appropriate lambs. There is no way of doing this at present beyond a few newspaper reports and hoping the lambs are available.

Strategies or actions appropriate to address this factor in South Australia are:

- Support strategic planning and benchmarking at all levels of the sheep meat industry;
- Promote stronger links and networks throughout the industry chain;
- Monitor and review regulations or policies that impact on the sheepmeat industry;
- Recognising the importance of infrastructure and of investing in creating or upgrading that infrastructure, and
- Support microeconomic reform. Review industry policies and regulations.

5.7 EDUCATION AND TRAINING

At all levels in the industry the skills need to be improved to meet the needs of modern markets. This includes many activities including production systems, live lamb assessment, cutting procedures, marketing principles etc.

There are many courses run without cost in the lamb industry and yet they still cannot be filled. It appears to be the last industry where the need for training for everyone (of any age or experience) is recognised as absolutely essential.

Strategies or actions appropriate to address this factor in South Australia are:

- Improve farmer education to increase adoption of technology and raise efficiency;
- Marketing training;
- Support agribusiness and technical agencies as partners in technology transfer, extension and research;

-
- Improve farm business management skills;
 - Support research and development and technology and information transfer to enhance the technical and economic efficiency of the sheep meat industry, and
 - Continuing support for the specialised university/educational programs operating in South Australia such as the Waite Campus.

5.8 SUSTAINABILITY

The sheepmeat industry impacts on soil, water and other natural resources in South Australian. The maintenance of the health of the flock is essential for a sustainable industry.

Strategies or actions appropriate to address this factor in South Australia are presented above in relation to other critical success factors, and concerns for example:

- Understanding land, pasture and water management issues and how they impact on productivity and degradation of natural resources, and taking appropriate action;
- Appreciating the consequences of the control of pests and diseases, and taking appropriate action, and
- Maintenance of productivity and markets by ensuring the health of the flock and the wholesomeness of sheep meats.

6 OPPORTUNITIES AND ROLES ANALYSIS

As a result of the SWOT analysis described in section 4, and the critical success factors and strategies discussed in section 5 of this document, some key opportunity areas have been identified for the sheep meat industry to enhance its net economic contribution to South Australia.

In this early stage of our industry planning, only those opportunities for which PISA and SARDI could potentially play a key role have been evaluated in any detail. An economic assessment of these opportunities was developed by the sheep meat industry planning group.

The opportunity and roles information which follows is:

- Program summaries for marketing, production, pastures, animal health, sustainable resources and Industry support programs for sheep meat, and
- Summary of net present values for these programs and their ranking.

6.1 PROGRAM SUMMARIES OF NEW AND EXISTING OPPORTUNITIES IDENTIFIED FOR POTENTIAL PISA AND SARDI INVOLVEMENT FOR 1995/96 TO 2000

In order to assist industry to capture the opportunities which are detailed below, participants in the sheep meat industry will need to adapt more rapidly to industry changes. The development of a National Strategic Plan for the lamb industry is seeing all sectors come together for the first time. Consumers are beginning to influence activities at the production end of the industry and producers in particular can no longer consider lamb production on the farm in isolation.

New marketing strategies are being gradually accepted by growers as the move towards objective measurement and selling accelerates. The progressive agents and processors along with PISA advisers are co-operating with growers to promote these strategies. The development of specialist prime lamb and other sheep production groups in South Australia has provided a useful medium to co-ordinate these new marketing strategies.

6.1.1 Marketing sheep meat and its by-products

- **Year round supply of quality lamb**
- There is potential to even out the supply of quality lamb throughout the year rather than the current concentration of sales which occur in the spring and summer. This will involve lambing at a later date in some districts and finishing lambs to specification for marketing in autumn and winter.
- The aim is to increase "out of season" quality lamb by 2500 tonnes at the end of 5 years and by 5000 tonnes after 10 years at a premium on farm price estimated to be 33 per cents per kg.
- Net annual benefit of this program to industry in South Australia is estimated at \$1.15M.

- **Trading by objective measurement (domestic and export markets)**

Data shows that objective carcase trading will increase lamb carcase values by 9 cents per kilogram. There is potential to increase objective trading of export lamb from current levels of 35 per cent to 60 per cent in year 2000 and 90 per cent by 2005. Similarly, objective trading of domestic lamb can increase from the current 5 per cent to 40 per cent by 2000.

Net annual industry benefit of this program is estimated at \$3.85M.

- **Niche marketing of quality lamb products**

There are several (as yet non quantified) opportunities to increase the value of specified quality lamb products for niche markets, fast food and the semi-processed food trade. This potential is to be investigated further in conjunction with the development of the National lamb industry strategic plan.

6.1.2 Sheep meat production

- **Increase numbers of cryptorchid lambs**

There is potential to increase the weight of approximately 125,000 quality male lambs by 10 per cent by increasing the numbers of cryptorchids produced in South Australia. Initially there was some industry prejudice and discounting of cryptorchids. This is no longer apparent.

Net annual benefit of this program is estimated at \$0.63M.

- **Genetic improvement**

Increased carcase weight, less fat and increases in eye muscle area are benefits expected from LAMBPLAN and other genetic improvement programs including progeny testing. Adoption of LAMBPLAN in studs has been increasing and is expected to rise from the current 50 per cent to 80% in 10 years.

Net annual benefit of this program is estimated at \$2.45M.

- **High fecundity ewes**

There is an opportunity to increase current gross margins of prime lamb enterprises in high rainfall districts by \$6 per ewe by using high fecundity ewe breeds such as the Booroola Leicester. In South Australia there is potential to change 450,000 ewes. Half of this potential is expected to be achieved in 10 years as total numbers of the new breeds build up and their advantages become accepted by producers.

Net annual benefit of this program is estimated at \$1.17M.

- **Later Lambing**

There is potential for some prime lamb producers to lamb later and increase the gross margin per ewe by 25 per cent. It is estimated that a dedicated extension program will result in a further 250,000 ewes lambing later by 2005. Benefits from this program include less supplementary feeding, increased stocking rates with demand on pastures being better

matched by supply, improved pastures raising crop returns, increased wool and lambs produced and higher quality wool.

Net annual benefit of this program for the sheep meat industry is estimated at \$0.81M. Further benefits will be gained by the wool industry.

- **Improve quality of sheep skins**

There is potential to improve the quality of raw skins and increase returns to producers by \$2 per skin by the year 2000. Education programs with growers and agents will be facilitated to achieve better grass seed control and improve handling techniques on farm and at slaughter.

Net annual benefit of this program is estimated at \$1.0M.

6.1.3 Pastures

- **Increase farm profitability in the high rainfall zones**

There is an opportunity to increase stocking rate in the high rainfall zones by 2 DSE/ha from 6 DSE/ha on farms where new pasture technology is adopted. This includes the application of improved pasture management, pasture utilisation and the development of new cultivars.

Net annual benefit of this program is estimated at \$6.73M.

- **Improved cereal and livestock production in the cereal livestock zones**

There is potential to increase farm profitability by an average of \$17,170 per farm on farms in the cereal zone where new pasture technology is adopted. This involves the application of improved pasture management, pasture utilisation, and the development of new cultivars.

Net annual benefit of this program is estimated at \$0.94M.

6.1.4 Animal Health

The programs have been placed in 2 categories; disease surveillance and disease control. For the sheep meat industry the specific projects under these categories are:

- **Disease Surveillance Projects**

- Residue prevention
- Exotic diseases
- Meat Hygiene
- Animal welfare

Net annual benefit of these projects for the sheep meat industry is estimated at \$9.01M.

NB. The disease surveillance program underpins all programs and has a net benefit for all livestock production. The benefits for this program have not yet been estimated.

- **Disease Control Projects**

- Internal parasite control in sheep

- Footrot control
- Detection and control of trace element deficiencies

Net annual benefit of these projects for the sheep meat industry is estimated at \$2.58M.

6.1.5 Sustainable Resources

- **Animal and Plant Control**

- weed control
- rabbit, rodent, fox, goat, dingo control
- exotic disease and animal control

Net annual benefit of these projects for the sheep meat industry is estimated at \$6.7M.

- **Farm Chemicals**

- Agricultural and Veterinary Chemicals
- Contaminated soil or water
- Food or fibre quality

Net annual benefit of these projects for the sheep meat industry is estimated at \$2.95M.

- **Land Management**

- Improved pasture nutrition
- Better management of wet soils, water repellent sands, acid soils, cropping areas and pastoral lands to increase productivity
- Improved vegetation, water management and paddock design in arid pastoral areas.
- Reduce wind erosion in cropping areas.

Net annual benefit of these projects for the sheep meat industry is estimated at \$0.8M.

- **Water Management**

- Increase irrigation area
- Sustain existing irrigation
- Increase yields

Net annual benefit of these projects for the sheep meat industry is estimated at \$0.4M.

- **Revegetation**

- Shelter gains
- Salinity – water quality
- Plant products

Net annual benefit of these projects for the sheep meat industry is estimated at \$0.35M.

These are the potential programs that PISA/SARDI will conduct over the planning period. The actual projects that are funded in PISA/SARDI within each program area will be identified in the next stage of the planning process. Projects will be evaluated against

criteria such as market failure and benefit/cost ratios to assist in the prioritisation of projects for funding.

Table 9: Summary of net present values and annualised benefit for opportunities and maintenance program for the Sheep Meat Industry

OPPORTUNITY AREA OR INDUSTRY MAINTENANCE PROGRAMS	TOTAL BENEFITS - NET PRESENT VALUE (\$M)	TOTAL BENEFITS ANNUALISED EQUIVALENT (\$M)
Marketing		
. Year round supply of quality lamb	6.715	1.153
. Trading by objective measurement	22.427	3.850
. Niche marketing specified quality lamb products	-	-
TOTAL	29.15	5.0
Production		
. Increase cryptorchid production	3.667	0.630
. Genetic improvement	14.285	2.452
. High fecundity ewes	6.801	1.167
. Later lambing	4.743	0.814
. Increase returns for skins	5.801	0.996
TOTAL	35.3	6.1
Pastures		
. Increase farm profitability in the High Rainfall Zone	39.231	6.734
. Increase farm profitability in the Cereal Livestock Zone	5.467	0.939
TOTAL	44.7	7.7
Animal Health		
. Disease surveillance	52.419	9.004
. Disease control	17.726	2.576
TOTAL	70.1	11.6
Sustainable Resources		
. Animal and plant control	99.53	6.7
. Farm chemicals	28.99	2.95
. Land management	24.37	0.8
. Water management	8.24	0.4
. Revegetation	3.91	0.35
TOTAL	165.0	11.2

7 APPENDICES

APPENDIX I

ACKNOWLEDGMENTS

This plan has been developed by the Sheep Meat planning group involving staff from Primary Industries South Australia, the South Australian Research and Development Institute and industry representatives who were nominated by the State Lamb Committee of South Australia. The members of this group were:

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Bill Fuller	Product Development Officer, Struan.

South Australian Research and Development Institute (SARDI)

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Industry Representatives

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Consultation has also occurred with:

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Colin Earl	SARDI
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Adrian Barber	PISA
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John Cornish	South Australian Farmers Federation
Tony Brown	Australian Meat and Livestock Corporation
Dale Cameron	Tatiara Meat Co. Pty Ltd.
Gerald Martin	Producer, Consultant State Lamb Committee of South Australia