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Rural Industries Research and Development Corporation

Supplying Organic Lamb

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by Viv Burnett

October 2008

RIRDC Publication No 08/177
RIRDC Project No PRJ-002884

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ISBN 1 74151 766 4
ISSN 1440-6845

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Published in October 2008
Printed by Union Offset Printing

Foreword

Australia is a leading producer and exporter of lamb and mutton with organic lamb representing less than one percent of total lamb production in Australia. Interest in Australian organic lamb as an export product has grown in recent years, especially from the US and south-east and northern Asia, and this has prompted investigation into the potential for further development of organic value chains.

To complement recent investment into demand information, supply data was needed to ensure appropriate development of future domestic and export value chains to better inform the organic industry and government with respect to future development of organic Australian lamb.

This project attempts to collate current knowledge about organic lamb supply capability and the issues that affect supply. Both supply and demand information is required if viable, competitive export value chains are to prosper.

The research will benefit all stakeholders in the organic lamb supply chain. This includes producers, processors, wholesalers, retailers, marketers, exporters and government agencies. The research will assist in identifying where more effort is needed to 'iron out' difficulties in the value chain, and assist in improving communication and knowledge transfer between stakeholders.

Importantly, the research shows that there is potential to produce about 110,000 certified organic lambs in Australia each year depending on seasonal conditions. Most industry stakeholders agree that there is potential for this supply base to grow in the next five years and for the industry to expand further into export. The supply is divided into two segments, bulk and boutique with different issues affecting each supply stream. Quality, quantity and processing are the main issues affecting the bulk segment whilst access to processing is the main issue affecting the boutique segment.

The key issue affecting future development is the meat processing sector, including location of certified organic abattoirs, boning and further processing capacity, and willingness to process organic livestock. Other key factors identified in this report include sheep breed and its effect on meat/fat quality, the ability to finish lamb to market specifications, transportation, and domestic competition.

This report, an addition to RIRDC's diverse range of over 1800 research publications, forms part of our Organic Systems Research and Development (R&D) Program, which aims to deliver R&D to facilitate the organic industry's capacity to meet rapidly increasing demand, domestically and globally.

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- downloads at www.rirdc.gov.au/fullreports/index.html
- purchases at www.rirdc.gov.au/eshop

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About the Author

The author is a research scientist working in organic farming systems for the Department of Primary Industries (DPI) in Victoria. The author has worked on seven research and development projects on behalf of Victorian DPI in partnership with RIRDC and the Grains Research and Development Corporation (GRDC). The most recently completed projects led by the author include DAV-222A: Establishing perennial pastures in organic systems (2007) and Organic Prime Lamb, part of the Naturally Victorian Initiative (2007).

Acknowledgments

The author would like to acknowledge all the organic lamb stakeholders who have willingly participated in the research for this project.

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Executive Summary

What the report is about

The research is important because it complements information already gathered on the demand for organic lamb in key export markets. This project attempts to collate current knowledge about organic lamb supply capability and the issues that affect supply. Both supply and demand information is required if viable, competitive export value chains are to prosper.

Who is the report targeted at?

The report is targeted at organic lamb stakeholders including producers, producer groups, processors, purchasers, exporters, organic certification agencies and government research and development agencies.

Background

Australia is a leading producer and exporter of lamb and mutton. Organic lamb production represents a small percentage (<1%) of total lamb production in Australia. Domestic demand for organic lamb has grown in the past decade and developments in processing in Victoria, New South Wales, and Queensland have occurred to meet supply into supermarket and retail butcher outlets. At the same time, more resilient breeds of sheep (Dorper, Damara) that are able to grow faster and present higher meat yields than the traditional Merino breed have been embraced by NSW western division producers, increasing the number of lambs available. Interest in Australian organic lamb as an export product has grown in recent years, especially from the US and south-east and northern Asia, and this has prompted investigation into the potential for further development of organic lamb value chains. To complement recent investment into demand information, supply data was needed to ensure appropriate development of future domestic and export value chains. This information can be used to better inform the organic industry and government with respect to future development of organic Australian lamb.

Aims/objectives

- To develop knowledge of current and projected (five years) supply capability for organic lamb from Australia (Victoria, NSW, SA, WA, Tasmania):
- To develop knowledge of the issues surrounding supply capability.

The research will benefit all stakeholders in the organic lamb supply chain. This includes producers, processors, wholesalers, retailers, marketers, exporters and government agencies. The research will assist in identifying where more effort is needed to 'iron out' difficulties in the value chain, and assist in improving communication and knowledge transfer between stakeholders.

Methods used

Telephone or email contact was made with a wide range of organic lamb stakeholders and questions about current and projected supply were asked. Discussions about the issues surrounding supply were conducted. The information presented is general in nature and aims to present the major issues facing this sector of the organic industry.

Results/key findings

The current supply of organic lamb was estimated to be approximately 110,000 lambs per year with positive expectations for growth in the next five years. The supply was segmented into 'bulk' and 'boutique' with the bulk supply accounting for about 90%. The major issues surrounding supply included distance to processing infrastructure, access to processing for the boutique segment, breed differences, ability to finish lamb to market specifications and consistency of availability for the bulk sector.

Implications for stakeholders

The implications for the organic lamb industry are that an export value chain in organic lamb is most likely to develop from the bulk supply segment. The issues surrounding breed and the effect it might have on lean meat yield, fat, skins and ease of processing ought to be considered further by the industry and R&D agencies. In both bulk and boutique supply segments, closer alliances that achieve value, improve communication and provide valuable feedback for all stakeholders are needed and may have positive consequences for building communities and alliances. The development of specialist finishing farms needs to be further investigated and encouraged as a key method to reduce risks from variable seasonal conditions.

Recommendations

1. Research to investigate whether there are differences in fat quality, specifically fatty acid profiles, between breeds of lambs grown under different systems, for example, rangelands and native pastures, and high rainfall introduced pastures. This information will be important to substantiate the quality attributes of organic lamb in the future, and to support the concept of production and finishing in different locations as the most effective method to develop organic lamb value chains. This recommendation is targeted at the organic industry and R&D agencies.

2. Facilitation to encourage alliances between smaller producers, purchasers and processors so that this segment of the market place can be effectively developed. This recommendation is targeted at state Departments of Primary Industries and producer groups.

3. Further investigation into the economic viability of finishing farms close to processing infrastructure. This information is important for the development of export value chains. This recommendation is targeted at state Departments of Primary Industries, producer groups and the processing sector.

Introduction

Australia is a leading producer and exporter of lamb and mutton. It ranks third after China and the EU as a producer, with 7% of the world's supply. As an exporter, Australia ranks second only to New Zealand, producing over 250,000 tonnes carcase weight of lamb and mutton for export. Australian lamb is exported to the US (27.5%), North Asia (17.6%), Middle East (13.4%), EU (8%), Pacific (7.8%), Mexico (3.9%), South Africa (3.6%), South East Asia (3.4%), with the remaining 14.8% going to other smaller destinations (MLA, 2007).

Prime lamb production is concentrated in Victoria with 44.8% of the 412,600 tonnes carcase weight of lamb produced in 2006-2007. New South Wales produces 21.5% of this total, South Australia 17.4%, Western Australia 12.3%, Tasmania 2.5% and Queensland 1.5%. Mutton production (271,000 tonnes carcase weight) is concentrated in New South Wales with 30.5%, Victoria 27.6%, Western Australia 19.8%, South Australia 12.2%, Queensland 7.3% and Tasmania 2.7% (MLA, 2007).

Organic lamb production represents a small percentage (<1%) of total lamb production in Australia. It is estimated that about 7% of the 1500 organic farms in Australia produce some form of sheep meat (lamb or mutton) (Halpin, 2004). About 35% of this production is sold as organic product into the domestic market with the remainder being sold into the conventional domestic market.

Domestic demand for organic lamb has grown in the past decade in line with increases in demand for other organic products. This increased demand has seen developments in processing in Victoria (Gippsland), New South Wales (Gosford), and Queensland (Inglewood) to meet supply into supermarket and retail butcher outlets. At the same time, more resilient breeds of sheep (Dorper, Damara) that are able to grow faster and present higher meat yields than the traditional Merino breed have been embraced by NSW western division producers, increasing the number of lambs available.

Interest in Australian organic lamb as an export product has grown in recent years, especially from the US and south-east and northern Asia. In the US, the lamb market is segmented into four categories with grass fed occupying 80% of the current market. The remaining 20% is divided between 'natural', 'clean and green' and 'organic'. The retail sector is equally segmented into high end retail such as Wholefoods, middle retail (supermarkets) and the commodity retailers such as Wal-Mart. In south east Asia, interest in organic lamb has mostly come from the restaurant sector, often as a potential replacement for suckling pig which has disappeared from restaurant menus due to increased demand in China. In Japan and Korea, there is growing interest in lamb as an alternative source of animal protein apart from beef. Export of organic lamb from Australia is in its infancy with trial shipments to south-east Asia and the US.

The combination of export inquiries and increased organic lamb production has prompted investigation into the potential for further development of organic lamb value chains. There has been significant investment into determining *demand* information for organic product (McKinna 2006), and specifically organic lamb (Victorian DPI Agribusiness Reports, personal communications) but there has been little investment into determining the nature of organic lamb *supply*. In 2000-2002 Victoria DPI invested in a project working with the organic livestock industries (lamb, beef, pork and dairy) aiming to:

1. Identify market demand and opportunities for organic livestock products in key export and domestic markets;
2. Quantify the supply capability of organic livestock within Victoria; and,
3. Identify impediments in the development of organic livestock supply chains.

The following publications were produced from the project:

- Japanese Market Overview for Organic Livestock Products,
- United Kingdom and Western Europe Market Overview for Organic Livestock Products,
- Organic Livestock Producer Economic Analyses Case Studies.

The results of this project demonstrated that opportunities exist for Australian producers in these markets.

In addition, DPI has worked closely with Meat and Livestock Australia representatives in key export markets (USA) where significant demand for organic lamb has been verified. RIRDC have invested into export opportunities for Australian organic product through McKinna and Associates (2006) with favourable feedback on the demand for Australian organic red meat in various export markets.

To complement the investment into demand information, supply data is needed to ensure appropriate development of future domestic and export value chains. This information can be used to better inform the organic industry and government with respect to future development of organic Australian lamb.

Aims/Objectives

This report aims to determine the current supply of organic lamb and where that supply is being produced, processed and marketed, provide an estimate of projected supply (five years), and explore the issues surrounding supply.

The research objectives are:

- To develop knowledge of current and projected (five years) supply capability for organic lamb from Australia (Victoria, NSW, SA, WA, Tasmania):
- To develop knowledge of the issues surrounding supply capability.

Methods

Contact (phone or email) was made with existing organic producer groups and individual producers, certified abattoirs and processors, and organic meat companies in each state to obtain information about current organic lamb production. Semi-structured interviews were conducted and questions about current and projected supply and the issues surrounding supply were asked. Individual producers were also contacted. The information presented is general in nature and aims to present the major issues facing this sector of the organic industry.

Results

How many lambs are produced and where?

Current production of organic lamb in Australia is estimated at between 100,000 and 120,000 lambs per year. Lambs are produced from central Queensland through to Tasmania, in South Australia and Western Australia. Production is concentrated in south east Australia, including western New South Wales (NSW), Victoria and South Australia (Figure 1). Large numbers of lambs are produced in Queensland (up to 20,000) in the Longreach/Blackall/Muttaburra regions, and as many as 26,000 lambs per year are produced in the Cunnamulla/Augathella/Dirranbandi region. Moving south, the western division of New South Wales including Broken Hill and Wilcannia rangelands produce about 37,000 lambs each year. In the NSW Riverina, a further 10,000 lambs are produced, supplemented by at least 7,000 in Victoria and 5,000 in South Australia. Smaller numbers of lambs are produced in Western Australia and in Tasmania.

Table 1. Estimated current production of organic lamb in Australia

State/Region	Number of lambs
(QLD) Longreach/Blackall/Muttaburra	20,000
(QLD) Cunnamulla/Augathella/Dirranbandi	26,000
(NSW) Western – Broken Hill/Wilcannia	37,000
(NSW) Riverina	10,000
Victoria	7,000
South Australia	5,000
Tasmania and Western Australia	6,500
Total	**111,500**

(Hannigan, 2007)

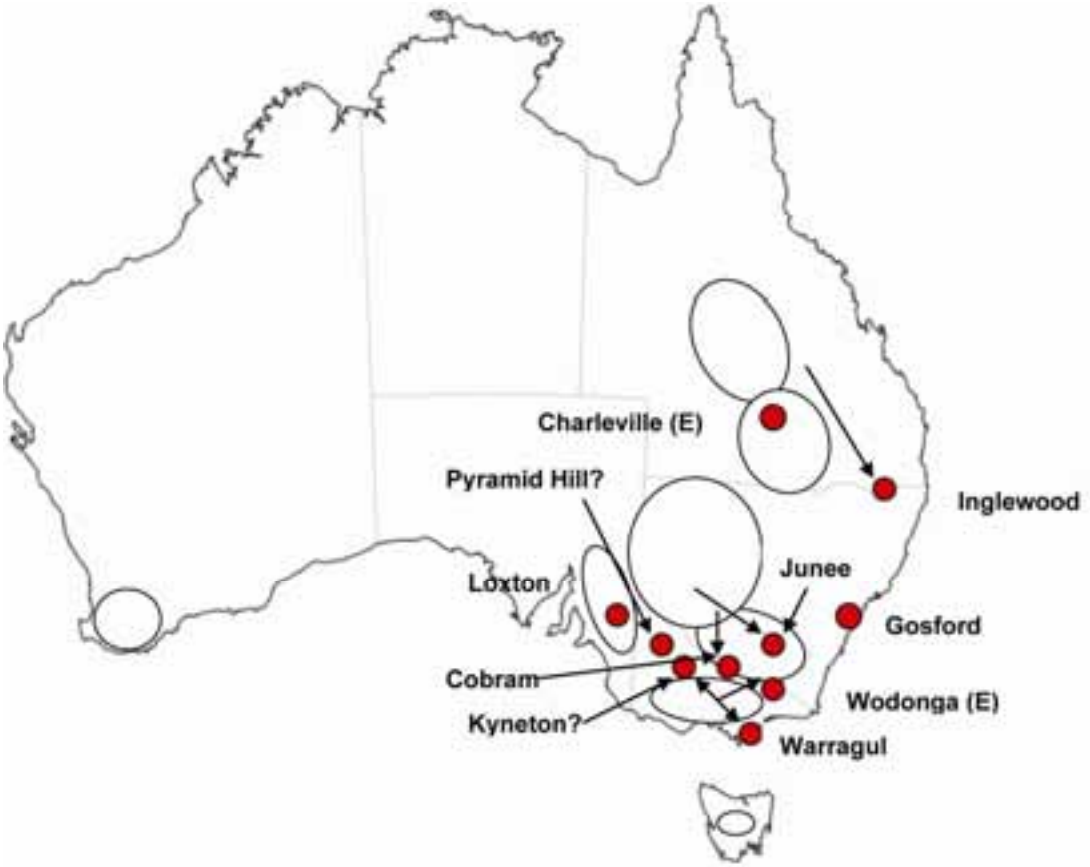

Figure 1. Current estimated production areas for organic lamb in Australia, showing location of major production regions, certified abattoirs (red dots), and movement of lambs (arrows) for processing.

What breeds of lambs are produced?

Organic lamb generally falls into three broad categories: 1. Crossbred lambs; 2. Merino lambs; or 3. Alternative breeds including Dorper, Dohne, Damara, and Samm (South African Meat Merino). Traditional Merino enterprises have been changing their farming systems to incorporate alternative breeds due to their hardiness in the rangeland environment, the fact that they generally don't require shearing, and increasing demand for the lamb product by processors and retailers. In Queensland, it is estimated that about 20% of organic lamb is still Merino, and up to 80% of the production is now Dorper or Dohne, with a small number of Samm being produced. The Dorper breed is a cross between the Dorset Horn and a Persian breed of shedding sheep, hence Dorper, and was introduced to Australia about 15 years ago. The Dohne breed is a dual purpose (meat and wool) cross between a Peppin-type Merino (wool production) with a German Mutton Merino, initiated by the South African Department of Agriculture during the 1930s. The Samm is known as the South African Mutton Merino and was originally known as the German Mutton Merino, imported to South Africa in the 1930s. The Samm is a dual purpose sheep producing both meat and wool. The Damara is a fat tail sheep grown for its hardiness and meat production, originating in Egypt but migrating to Africa.

Figure 2. Crossbred lambs (left) and Merino ewe with lamb (right).

In NSW western division and South Australian rangelands, the majority of lambs being produced are Dorper, Dorper/Merino crosses, Damara with some Merino production persisting, although current organic retail demand is for the Dorper, Dorper cross or crossbred lamb.

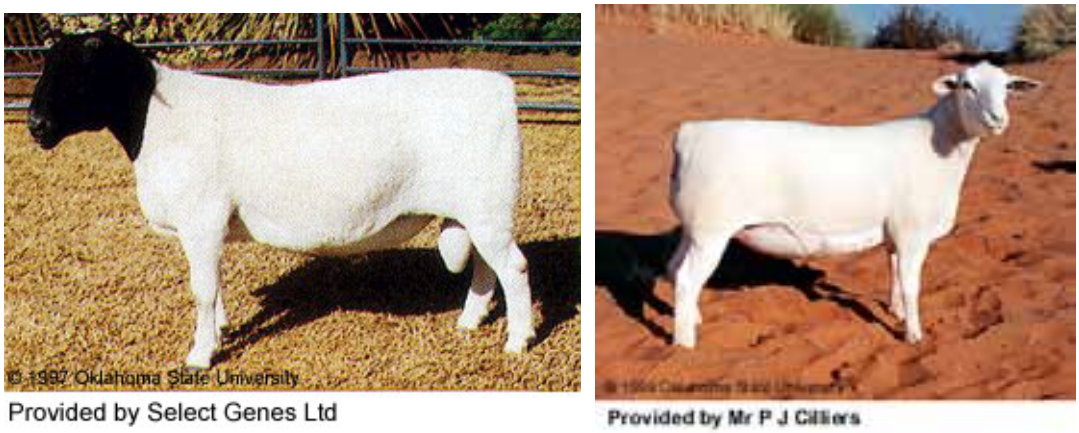

Figure 3. Dorper (left) and White Dorper (right) sheep.

Figure 4. Damara (left) and Samm sheep (right).

In the Riverina, Victoria and Tasmania, crossbred lambs are dominant. In Western Australia, lambs are either Merino or crossbreds.

When are the lambs available?

In Queensland, in the northern areas, joining usually occurs in December/January with lambing in May/June of the following year. Finished lambs are then ready for market in the following February/March at about 8-9 months of age. In the southern areas of Queensland, joining occurs in March/April, with lambing in August, and finishing extending through to April/May of the following year (Table 2).

In NSW western division, lambs are available throughout the year due to flexible joining and lambing practices and the 'all year round breeding' capacity of the Dorper and Dohne breeds. In the Riverina, Victoria, Tasmania and southern parts of South Australia, seasonal lamb production is concentrated during the October to December period. If producers in southern areas have perennial pastures such as lucerne, supply can be extended through to March in some areas with a spring lambing schedule. In Western Australia, sucker lambs (lambs not weaned from their mothers prior to sale) are generally available from October through to December, whilst carryover lambs (weaned lambs) are available from December onwards, often being finished on a combination of crop stubbles and grain.

Figure 5. Crossbred lambs finishing on annual pasture in north east Victoria.

Table 2. Organic lamb availability throughout the year.

State/Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
QLD												
NSW												
VIC												
SA												
TAS												
WA												

What are the issues surrounding lamb supply?

Supply segmentation

There are two supply segments within the domestic market for certified organic lamb. The '*bulk*' (about 90%) of lamb produced is sold into the supermarket chains. This lamb is primarily sourced from larger producers in western NSW and Queensland, with only minor quantities sourced from Victoria. The economics of freight and processing facilities currently preclude lambs from South Australia being included in the bulk supply. The other segment of organic lamb supply (about 10%) is the smaller '*boutique*' segment, consisting of producers located in all states, but producing smaller quantities of lamb which is sold to local specialty butchers, or through farmers' markets or general markets in close proximity to the major cities. There are issues that affect both supply segments and issues that are more important to one segment over another.

Abattoirs and processing facilities

There exist a number of potential processing facilities for organic lamb product (Figure 1), but there are a number of issues in getting lambs slaughtered and processed. Firstly, distance to a certified organic abattoir for slaughter is a major issue, both for bulk and boutique segments. There is no certified abattoir in the western division of NSW and this has been cited by stakeholders as a potential problem for further development of the industry. This necessitates lengthy transportation of lambs to Junee, or in the case of Queensland, to Inglewood, Charleville or Killarney abattoirs for slaughter (Figure 1) in the case of bulk supply. In the case of the boutique supply, abattoirs in Victoria and South Australia are often used (Warragul, Wodonga, Cobram and Loxton) and transportation is still an issue for some producers and purchasers. Current organic standards state that, 'No transport leg shall exceed eight hours. Exceptions to this requirement include those cases where there is no certified organic abattoir within eight hours drive, or where there is no abattoir capable of satisfying national or importing country requirements within an eight hours drive.' (NASAA, 2007). Despite the exceptions, lengthy transportation of young animals has implications for animal health and welfare. Animals can become stressed from standing and bracing with lengthy road transportation and bruising and damage to the skin can often occur from handling. Distance to slaughter and then distance to further processing affect economic returns and the shelf life of the lamb product.

Figure 6. Organic lamb carcases in abattoir chiller.

Secondly, not all abattoirs have an export accreditation and this will affect the development of an export lamb supply chain in the future. Traditionally, the export market is highly volatile and there is a perception that prices obtained for export product often exceed those for domestic sales. Industry consultation has revealed that there is still significant unmet capacity within the domestic market so export accreditation for abattoirs might not be as important at this point in time. Certified organic ***and*** export accredited abattoirs include Charleville in Queensland, Goulburn in NSW and Wodonga in Victoria. Future export organic lamb supply chains will need to consider the appropriate processing facilities to achieve efficiencies in production, finishing, slaughter and processing.

Thirdly, some abattoirs have boning and further processing infrastructure and others don't have this capacity. Practically, this means that lamb carcases often have to be transported to another facility for further processing and this will increase costs to the purchaser and ultimately, to the consumer. Ideally, the maximum amount of time between slaughter and packaging of the lamb cut is two days, and if lamb carcases have to be transported to boning facilities away from the abattoir, this shortens the shelf life of the product. Having boning and further processing facilities with the abattoir would be a distinct advantage in future supply chain development.

An emerging trend in domestic organic meat purchasing is that consumers are becoming increasingly demanding for high quality meat products. In the domestic market the average premium on organic lamb product is in the order of 20-25% and consumers want a premium product for this price. This means that purchasers of lambs will seek only those animals that fit the required specifications. On farm, this means that purchasers will prefer to work with larger producers who can offer many lambs from which to choose, in order to fill the truck capacity, minimise transport costs and achieve economies of scale.

Lastly, in abattoirs, volume pays and this seriously affects the boutique supply. Larger consignments of livestock are usually given preference over smaller numbers and this presents some difficulty for smaller organic producers and marketers who deal with smaller lots. The certified abattoirs are dual purpose, slaughtering both conventional and organic livestock, and many have difficulty accommodating small organic kills at the expense of larger conventional contracts.

Unable to finish lambs in all seasons

Lamb finishing refers to the period of time after the lamb has been weaned from its mother until it has reached the required weight for market (about 45-50 kg liveweight). In southern states, in most seasons, lamb finishing is not an issue, as the lamb has sufficient feed in line with spring pasture growth. The finishing period can be extended into January through to March if producers have summer active perennial species such as lucerne. The seasonal pattern of finishing in these areas is not expected to change significantly as current predictions for climate change in south east Australia include increased temperature and increased CO_2 which may result in more or less pasture growth depending on rainfall patterns. However, large numbers of organic lambs are produced in rangeland environments in western NSW and in Queensland. There are some seasons when climatic conditions will not be conducive to finishing this lamb to market specifications (18-23 kg carcase weight) within the time frame for lamb (less than 12 months of age).

Figure 7. Crossbred ewe with new lamb

This means that lambs are kept until they are older and then sold as hogget or mutton, generally into the conventional market. Variation in rainfall in the rangelands from year to year may result in drastic reductions in the number of lambs available and some industry stakeholders estimate that numbers can halve in any one year depending on seasonal conditions.

Figure 8. Second cross lambs being finished with organic soybean meal supplement.

There are some alternatives to address the issue of lamb finishing in the western division. Firstly, producers can partner with a specialist finisher closer to processing facilities to ensure that lambs are finished to market specifications in the required time frame. In South Australia, where distance to certified abattoirs is a major issue, producers may choose to sell store lambs at lower weights to specialist finishers in Victoria or NSW who are closer to processing facilities. Alternatively, producers can supplementary feed their lambs to achieve the desired growth rate for marketing as lamb. Supplementary feed using forage or grain is an expensive and problematic option and producers should consider carefully before using this option. Grain feeding, where a high proportion of cereal grain is used for long periods (eight weeks or more), can affect the eating quality of the meat product (MLA, 2006). Certified organic grain is often expensive and difficult to source at the time when it is needed for lamb finishing and there are additional labour costs involved in grain feeding. There is also a risk of feeding problems with the introduction of a grain based diet (grain introduction too rapid, shy feeders), which may result in lamb losses.

Variation in lamb

Variation in product quality occurs in all food supply chains. Industry consultation revealed that variation in the lamb supply was an issue, both in the bulk and the boutique segments. There could be a variety of causes for variation resulting in quality differences, including breed, finishing system, transportation effects, slaughter practices, hanging and chilling practices. There are a number of potential areas where variation in the organic lamb supply chain can be minimised. Generally, purchasers of organic lamb require animals to have a carcase weight between 18-23 kg and a fat score of 2-3. This specification may change slightly during the season depending on demand and supply. This specification translates to an estimated liveweight of about 45kg. This source of variation can be reduced by assessing lambs in the field by weighing them to find their liveweight, and by using condition scoring to assess their fat score. This will provide information on lambs in preparation for market readiness. Producers can also seek feedback from the processor as to the performance of their lambs in the abattoir, so that they can compare the liveweight with the carcase weight and condition score.

Consultation with stakeholders also revealed that there might be differences between the quality of carcases and fat profiles from different breeds of sheep, for example, differences between Dorpers and crossbreds. Processor and purchaser consultation indicated that Merino and Damaras were not being purchased in the bulk supply segment for the domestic market due to differences in meat yield and

difficulties in processing the skin from Damaras. However, if an export value chain was developed further, these breeds may need to be used in order to achieve the numbers but producers would not earn the same from these breeds as from Dorpers or crossbreds. This has implications for the development of an organic lamb export supply chain where lambs from different breeds may be used to maintain supply.

Webb (1995) has found breed differences (between Dorper and SAMM) in the thickness of the subcutaneous adipose tissue and in the proportions of different fatty acids (myristic, heptadecenois, oleic). It is also known that finishing systems, whether pasture or grain based, can affect the colour of meat and the ratio of polyunsaturated fatty acids to saturated fatty acids (Diaz, 2002). Generally, green pasture can result in higher proportions of saturated fatty acids which result in harder setting fat once the carcase is chilled. Grain feeding can result in a higher proportion of mono or poly unsaturated fat which doesn't set as hard once chilled (Hopkins, D. 2008, *pers. comm*.). It is not known whether there are significant differences in fat profiles or carcase quality between different breeds of lambs that may be transported from a rangeland environment to be finished on pasture. Research to answer this question may provide good information to support the feasibility of specialist finishing farms.

Variation in meat quality can also be caused by stress in the lamb prior to slaughter and from practices in the abattoir. Organic standards require that animals are appropriately transported, provided with water and feed and are not kept at abattoirs for long periods of time before slaughter. If current standards are being adhered to, then stress is already being minimised. Meat yield and the dressing percentage can also be affected by different skinning practices in the abattoir. 'Over the shoulder' skinning usually results in better yield and dressing as opposed to inverted 'over the rump' skinning practice. Meat quality can also be affected by chilling practices in the abattoir and their effect on the pH of the meat. If carcases are chilled too quickly, temperature decline is more than the pH decline and can result in cold shortening of muscles, and darker coloured meat. If carcases are chilled too slowly, muscle pH decreases rapidly and may result in heat shortening, and paler meat colour (MLA, 2006). Appropriate and consistent pre and post-slaughter management of organic lamb needs to be ensured if consistency in quality is to be maintained.

Consistency of availability

A consistent supply of quality lambs each week is required for the development of any supply chain, domestic or export. In southern areas (Victoria and Tasmania), lamb supply is highly seasonal and concentrated during the months from October through to January. In the western division of NSW supply is more consistent throughout the year providing there is adequate feed available and Dorpers and/or Dohnes are being grown. Current year-round supply into the major supermarkets is largely being met by lamb supply from the western division of NSW and from Queensland, with only very limited supply from other areas. Stakeholder consultation revealed that this supply is reasonably stable but would be affected by significant changes in seasonal conditions. Farmers' markets and specialty retail butchers are being supplied by smaller producers and marketers in southern areas and continuity of supply may not be as important as with the major supermarket chains.

What might be the projected supply in 5 years?

All stakeholders contacted provided a positive outlook on the supply of certified organic lamb into the future but were reluctant to provide estimations of growth. Consultation revealed that supply was expected to grow to meet the increasing demand of the domestic market for this product. A caveat was placed on the capacity of the rangelands to produce larger numbers of lamb because of the uncertainty surrounding season and its effects on feed production, but given 'normal' seasons, production was expected to increase.

The purchasing and processing sector also indicated a positive outlook for the expansion of the industry. These stakeholders indicated that domestic demand was still outstripping supply and would be for some time, but that exports would become feasible within the next 5 years. The high value of the Australian dollar in relation to the US dollar was a dampening influence on the development of this export outlet, but opportunities to develop export into Asian markets still existed.

Implications

Export development

The research has revealed that an export value chain in organic lamb is most likely to develop from the bulk supply segment as it is this segment that has the capacity to supply sufficient numbers of lambs on a year round basis. This means that the location of certified organic and export accredited abattoirs and processing facilities becomes critically important. Currently these are located at Charleville in Queensland, Goulburn in NSW and Wodonga in Victoria. Use of these existing facilities to develop the export value chain will likely be more efficient than attempting to get new processing infrastructure built.

Breed

If the organic lamb industry is to develop further and expand into export markets, the issues surrounding breed and the effect it might have on lean meat yield, fat, skins and ease of processing ought to be considered. The domestic market is already demanding specific breeds based on quality attributes and there is little reason to suggest that an export market will be any different. Research to investigate meat and fat quality differences between breeds that are produced and finished in the rangeland environment as opposed to finished on pasture in higher rainfall areas may be warranted to prepare for the development of export supply. If significant differences are identified some consolidation into the required breeds may be required.

Abattoir accreditation

The development of the certified organic lamb value chain is entirely dependent on processing capacity. The research has identified a number of issues surrounding processing of organic lamb, both in the bulk and boutique segments. In both supply segments closer alliances that achieve value, improve communication and provide valuable feedback for all stakeholders, are needed to facilitate the slaughter and processing of the lamb product.

Finishing farms

The bulk production of organic lamb in the western division of NSW and in Queensland means that there is a risk of fluctuations in the numbers of lambs produced and in the capacity to finish lambs to market specifications. This risk can be reduced by developing production and finishing capacity in close proximity to existing processing facilities. The development of specialist finishing farms is not a new concept and is being trialled in a small way by organic industry stakeholders. This development needs to be further investigated and encouraged as a key method to reduce risks from variable seasonal conditions.

Recommendations

1. Research to investigate whether there are differences in fat quality, specifically fatty acid profiles, between breeds of lambs grown under different systems, for example, rangelands and native pastures, and high rainfall introduced pastures. This information will be important to substantiate the quality attributes of organic lamb in the future, and to support the concept of production and finishing in different locations as the most effective method to develop organic lamb value chains.

2. Facilitation to encourage alliances between smaller producers, purchasers and processors so that this segment of the market place can be effectively developed.

3. Further investigation into the economic viability of finishing farms close to processing infrastructure. This information is important for the development of export value chains.

Figure 9. Second cross lamb.

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Appendix I

Organic Lamb Stakeholders

- Central Victorian Organic Network
- Riverina Organic Farmers Organisation
- Southern Organic Livestock Incorporated
- Red Earth Organics
- Murray Darling Organics Incorporated
- The Organic Meat Company
- Cleavers
- Rural Organics
- Australian Organic Meat
- The Australian Organic Red Meat Association
- Organic Growers of Western Australia
- Tasmanian Organic Dynamic Producers
- NSW Department of Primary Industries
- Victorian Department of Primary Industries
- Queensland Department of Primary Industries
- South Australian Department of Primary Industries
- Tasmanian Department of Primary Industries and Water
- Western Australian Department of Agriculture and Food
- Australian Certified Organic/Biological Farmers of Australia Co-operative Ltd
- National Association for Sustainable Agriculture Australia
- Certified Organic Abattoirs

Supplying Organic Lamb

by Viv Burnett
RIRDC publication number 08/177

Australia is a leading producer and exporter of lamb and mutton with organic lamb representing less than one percent of total lamb production in Australia. Interest in Australian organic lamb as an export product has grown in recent years, especially from the US and south-east and northern Asia, and this has prompted investigation into the potential for further development of organic value chains.

This publication collates current knowledge about organic lamb supply capability and the issues that affect supply. It shows there is potential to produce about 110,000 certified organic lambs in Australia each year depending on seasonal conditions. Most industry stakeholders agree that there is potential for this supply base to grow in the next five years and for the industry to expand further into export.

The key issue affecting future development is the meat processing sector, including location of certified organic abattoirs, boning and further processing capacity, and willingness to process organic livestock. Other key factors identified in this report include sheep breed and its effect on meat/fat quality, the ability to finish lamb to market specifications, transportation, and domestic competition.

This report is an addition to RIRDC's diverse range of over 1800 research publications and forms part of our Organic Systems Research and Development Program that aims to deliver R&D to facilitate the organic industry's capacity to meet rapidly increasing demand, domestically and globally.

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