Comparative Advantage Study

of the

Manitoba Sheep Industry

for the

Manitoba Sheep Industry Initiative

by

Kelly Associates

October 9, 2001

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Table of Contents

1.0 EXECUTIVE SUMMARY

Background and Terms of Reference

The Manitoba Sheep Industry Initiative (MSII) is a two-year project of the Manitoba Sheep Association Inc. and Manitoba Agriculture and Food (MAF) with financial and in-kind support from the Manitoba Rural Adaptation Council (MRAC) and the Canadian Farm Business Management Council (CFBMC). The MRAC funding is provided under the Canadian Adaptation and Rural Development (CARD) federal funding program.

The Manitoba Sheep Industry Initiative (MSII) Comparative Advantage Study is a key component of an integrated initiative that has also involved the completion of a Cost of Production Study; the development of a Business Plan; and will culminate with the development of a Strategic Plan. Producer education about the future direction of the sheep industry is a significant part of the initiative.

This study deals with the Manitoba sheep industry's supply chain's (producers, processors, distributors and retailers) comparative advantage versus other competitors' supply chains' ability to satisfy consumers' demands for lamb products, mutton and wool. The definition of the term comparative advantage is provided in Section 3.0 of this report.

While it is not the subject of this report, there are other types of advantages that the sheep industry offers to producers compared to alternative crops and livestock. Sheep are known to be very efficient converters of forage (and grain/crop by-products) to meat/wool (a common rule of thumb is that 5 to 7 ewes can thrive on the same amount of pasture as one cow-calf pair). Therefore, the production of sheep/lambs can be a very attractive alternative to producers that are currently producing grains, special crops or other livestock. Sheep often fit well as an additional enterprise with grain production or with other types of livestock because the periods of peak labour requirements for sheep are often different than for the other enterprises.

Profile of Manitoba and Competitors

New Zealand and Australia

In this report all significant competitors have been examined and compared to the Manitoba industry. New Zealand and Australia are the dominant suppliers of dressed lamb and mutton to Canadian consumers. Canada only supplies approximately half of the domestic demand for lamb and mutton. The remainder is supplied mainly by New Zealand and Australia. These competitors' comparative advantages are significant.

New Zealand is the world’s acknowledged leader in the export marketing of premium quality grass-fed lamb products. It developed its marketing dominance over many years of consistently effective marketing programs. New Zealand supplies the majority (74.7%) of Canada's dressed lamb imports. Australia is the second largest exporter of sheep and lamb meat products, following New Zealand. Only in recent years has Australia begun to focus on the export of “prime lamb.” Traditionally the Australian sheep industry had been focussed on wool production and thus had been a bigger exporter of mutton than lamb.

United States

In the United States, as the domestic industry has declined, imports from New Zealand and Australia have increased to more than 31,800 metric tonnes in 1998 and continued to grow

despite the establishment of a 9 percent tariff on all imports from those two countries in 1999 (declining to 6 percent in 2000 and 3 percent in 2001). US imports have grown from approximately 13 percent of the domestic market in 1994, to 20 percent in 1996 and to the range of 27 percent in 1999.

In 1999, the US International Trade Commission ruled 6-0 that a surge of low-priced imported lamb meat had caused the threat of injury to US producers. In response, the Clinton Administration instituted import tariffs and announced support programs for the US sheep and lamb industry including $30 million of direct cash payments tied to production practices and quality incentives that improve competitiveness (part of a larger $100 million initiative). It also funds USDA purchases of lamb and expanded Scrapie eradication efforts. The World Trade Organization has ruled in Australia and New Zealand's favour regarding the acceptability of this program. In December 2000 the World Trade Organization Appellate Body overturned the decision by the U.S. International Trade Commission (ITC) to impose restraints on lamb meat imports. The Appellate Board's decision largely upheld a similar decision by a WTO Dispute Settlement Panel's decision that the ITC decision violated various provisions of the General Agreement on Tariffs and Trade (GATT) and the WTO Safeguards Agreements. The future of the program is under review by the Bush Administration and is uncertain.

Canada

The Canadian sheep industry has been growing since 1977. In the 1960's and 1970's, Canadian lamb production supplied only 17 percent of the domestic market. In recent years, Canadian production has supplied 35 to 40 percent of domestic requirements. The balance is supplied mostly from New Zealand and Australia, with small amounts coming from the US.

In Canada, Ontario is the only province that slaughters more lambs than it produces. Ontario and Manitoba are large net importers of lambs. However, Ontario exports almost no lambs (i.e. the lambs are processed in Ontario for consumption there, thus capturing the value-added processing benefits in Ontario), while Manitoba's net exports are more than the province's net imports (i.e. Manitoba imports lambs and then re-exports more than imported). The high level of lamb feeding that occurs in Canada's largest lamb feedlot operated by Roy Leitch Livestock Company Limited near Brandon, Manitoba accounts for this. Lambs are imported from the other western provinces and a few from the Rainy River area of Ontario to be finished and shipped to Ontario, Quebec and the US for slaughter. In total, more lambs are exported than imported because Manitoba produced lambs are also exported for slaughter.

Producers in several Canadian provinces and countries (e.g. Quebec, the U.S., etc.) benefit from significant government support programs including subsidized artificial insemination, embryo transplant and performance testing; tax reductions specifically for sheep and/or red meat production; and market protection against imports (U.S.). It is understood that Quebec receives significant levels of government support for its sheep industry's sire improvement, embryo transfer and artificial insemination programs.

Several provincial producer associations and marketing groups (e.g. Saskatchewan, Alberta, Ontario, Quebec) have producer check-offs that support their marketing, extension and other programs. The Saskatchewan Sheep Development Board has a producer check-off and operates an effective program to assemble and market lambs for producers; many are exported to other provinces. The Alberta Sheep and Wool Commission has worked closely with Canada West Foods to do marketing and promotions. Several provinces operate sire reference/genetic

improvement programs that provide producers with the opportunity to obtain superior quality genetics at a lower cost than would be the case otherwise.

Canadian lamb has changed little over recent years in terms of the fat levels and the ratio of saleable meat yield to the live weight of the animal at slaughter. The industry is generally quite small and fragmented compared to that of the major competitors, New Zealand and Australia and even the US. Australia and New Zealand have individual plants that kill 8,000 sheep and lambs per day (e.g. Southern Meats in the state of Victoria, Australia). The US has one or more plants that kill 1,000 lambs per day (e.g. Iowa Lamb). With those kinds of volumes, New Zealand and Australia have been able to implement quality control systems, grading systems, quality incentives and discounts that the Canadian industry has largely been unable to do. Therefore, in most cases, there has been no mechanism implemented to provide useful feedback to Canadian producers regarding consumers' preferences (i.e. what traits consumers value and will pay a premium for). There are several exceptions to this statement including the Quebec producer marketing groups; some of Ontario's contract sales; and many of the lambs processed by Canada West Foods.

The Quebec marketing groups take control of the slaughtering and marketing of their lambs and provide incentives/discounts to the producers based on the size and quality of each producer's lambs. Ontario has a program that pays incentives to producers based on carcass quality. However, only a small portion of Ontario and Quebec's lambs go through this type of system. Canada West, on a portion of its lamb purchases, bases its payments to producers on a grading system that includes incentives/discounts for carcass quality.

While wool is currently returning most commercial sheep operations low values (barely more than the cost of shearing) because of oversupply and changes in the textile markets, this situation is expected to change in future years. Traditionally wool has contributed 2 to 5% of the gross revenue of sheep operations in Canada (approximately $10 per ewe).

Alberta

Approximately 90% of Alberta's federally inspected slaughter is exported to other provinces, mainly to Ontario, Quebec and British Columbia.[1]

Alberta has over 50 abattoirs and packing plants spread throughout the province. All are provincially inspected with the exception of Canada West Foods Corporation of Innisfail, which is the only federally inspected lamb slaughter plant on the Prairies. Three auction markets hold regular sheep and lamb auctions in Edmonton, Camrose and Lloydminster and six order buyers purchase lambs and sheep in the North Central Region. In addition occasional auctions of sheep and goats take place at Barrhead, Drayton Valley and Rimbey.

Saskatchewan

Saskatchewan sheep numbers have increased steadily since 1986 to become the fourth largest in Canada. Recent changes in grain transportation policies are causing farmers to investigate alternatives to growing grain for shipment to export markets. Growing lower-cost forage crops and adding value through the production of livestock such as sheep appears to have potential to become more important in the future. Sheep production is spread throughout the province and is made up of farm flocks, range flocks and finishing operations. The Saskatchewan Sheep

[1] Ibid. p. 15.

Development Board (SSDB) is an organization that is funded by producer checkoff and is mandated to be the voice of the industry. It has been successful in assembling and marketing lambs for its members.

Manitoba

As shown in Section 4.5 of this document, Manitoba is the province that has shown the largest year-over-year increase in its breeding flock from July 2000 to July 2001. Manitoba is home to Canada's largest lamb order buyer and feedlot operator, Roy Leitch Livestock Company Limited, located near Brandon. It is estimated that nearly 100,000 lambs are fed annually in this province; significantly more lambs than are born in Manitoba.

Manitoba has a proven track record of being able to produce consistently good quality forage because of our long days and ample rainfall during the growing season. Manitoba produced alfalfa hay is regularly purchased by U.S. dairy farmers because of its high value versus its cost. Manitoba producers are able to produce this high quality forage inexpensively because of low-cost land. Manitoba cropland is approximately one-third of the cost of comparable Alberta land and one sixth of the cost of Southern Ontario cropland (though more productive, the Ontario land is not six times more productive than Manitoba cropland). This magnitude of difference in land costs creates a significant difference in the cost of production of forages and other crops.

Research prepared by the consulting team estimated the cost of production for hay for Manitoba, Ontario and Alberta. The estimated cost of production of alfalfa hay is approximately 33% higher in Alberta ($61.30 per ton) and 17% higher in Ontario ($53.64 per ton) than in Manitoba $45.95 per ton). A 2000 report from Kansas[2] estimates the cost of producing brome hay at $69.07 US per ton, or more than $100 Canadian. Average selling prices for hay in the US during the period 1988 to 1995 were estimated to range between $52.00 and $69.00 US per ton. [3]

Similar comparisons were prepared for pasture between Manitoba and Saskatchewan. It is estimated that, because of Manitoba's higher productivity, the cost per ewe per season would be approximately $19.04 in Manitoba compared to $20.32 in Saskatchewan.

These comparisons of forage and pasture costs illustrate a fundamentally important factor related to Manitoba' comparative advantage – forage accounts for 56% of total costs in a typical sheep operation. Low cost forage and pasture creates a fundamental advantage for Manitoba versus its competitors. Competitors cannot easily change this type of comparative advantage. Many of the other advantages can be improved upon, but this one must be the building block on which a strong industry can be built.

Manitoba's labour costs, which are closely tied to cost of living (housing, transportation, electricity, etc.), are generally lower than those of competitive production/processing areas (especially versus Alberta and Ontario). A potential strategic alliance partner, if looking at building a processing operation in Manitoba, would view this as a positive factor. However, many other factors such as property taxes, income tax levels, energy costs, etc. would also be significant factors. In some respects, Manitoba will be at a disadvantage to other provinces/states regarding taxation factors and perhaps fuel costs (especially versus Alberta). If a strategic alliance with a processor is an option that is to be pursued in the future, much more research will

[2] Kansas State University – Brome Hay Cost-Return Budget for Central and Eastern Kansas, October 2000.

[3] Morgan's Hay Articles and Commentary, June 28, 1995.

be required at a later date to build a strong business case for that option. The entire "package" of costs of building and operating a plant in Manitoba would ultimately be compared against building/operating elsewhere before a potential strategic ally would make a decision.

Manitoba's sheep industry has more than doubled (i.e. total number of sheep on farms at July 1st) between 1996 and 2001. If the Manitoba breeding flock continues to increase over the next ten years at 13 percent per year (the rate that it did from 1996 to 2001 - current numbers show that it is, in fact, increasing at an even higher rate) the number of breeding ewes may double in six years.

Manitoba's Comparative Advantage Situation

Manitoba is in a relatively weak position in terms of comparative advantage versus its competitors. When ranked on ten comparative advantage criteria against the competitors, as shown in Section 5.0 of this document, Manitoba ranked lower than all seven competitors. However, the factors in which Manitoba has some significant advantages compared to some of the competitors (i.e. in the area of low-cost production inputs compared to Ontario, Quebec, Alberta and Saskatchewan), are advantages that are not easily duplicated by competitors. For instance, it is very difficult for competitors to improve their cost of producing forage or grain by using a technology that is uniquely available to that area. The low costs of production in Manitoba are based on factors (distance from export markets, low land costs, freedom from drought, etc.) that are not applicable to competitors and which they cannot duplicate.

The Manitoba Sheep Association Inc., while it has very effectively and efficiently operated in recent years, has lacked resources to undertake major extension, marketing and education programs (i.e. was entirely dependent on volunteers). Most other provinces that have significant sheep industries have producer check-offs (in the case of Alberta it is compulsory) that provide relatively stable and secure funding to support their provincial associations or marketing groups. This type of funding has allowed Saskatchewan, Ontario, Quebec, New Brunswick and Alberta to hire professional staff to implement marketing programs and deliver extension initiatives. Most other provinces have at least one provincial government sheep specialist and academic staff in their universities and/or research stations who specialize in sheep research and extension. Manitoba Agriculture and Food has only recently arranged to hire a sheep specialist for this province. There is no research/extension specialist attached to any Manitoba universities or Agricultural Research Stations that is dedicated to sheep research/extension. This has been a serious impediment to the development of the Manitoba industry

Potential Opportunities to Improve Manitoba Comparative Advantage Situation

Manitoba has significant opportunities to increase lamb sales in Canada by displacing a portion of the imported lamb (from offshore and from Alberta) that is purchased by Manitoba consumers and/or selling into nearby U.S. markets. The decision will tend to be driven by determining which market will net the best return to Manitoba's producers and, hopefully, in the future Manitoba-based processors.

Manitoba has the potential in the future to position its lamb products as premium quality, locally produced products versus the imported products from offshore. This will require supply chain coordination and the involvement of a locally based processor. At some point in the near future, exploratory talks may be warranted with Saskatchewan producers and the Saskatchewan Sheep

Development Board to explore the potential to work together to jointly develop a coordinated supply chain and attract a processor to one of the two provinces.

The short-term priorities on which to take action are the opportunities to improve and increase production (please see Section 5 of this document). However, the full potential opportunity for increasing production is not possible unless some steps are taken to coordinate the supply chain activities to improve the quality of Manitoba lamb products, in the eyes of the consumers and to reduce the total system costs. These steps will likely be necessary to create the environment in which the Manitoba (and perhaps Saskatchewan) industry(s) can grow and thrive and in which producers can achieve a degree of control over their futures.

The Manitoba Sheep Association Inc. (MSA) would appear to be the logical organization to lead the implementation of the strategic options that are to be developed at the workshop planned for November 2nd and 3rd, 2001. However, in order to achieve its goals the association will need secure long-term funding, likely via a producer funded check-off.

2.0 BACKGROUND AND TERMS OF REFERENCE

2.1 Background

Manitoba is among the lowest-cost regions in North America for the production of livestock. This is because the selling prices of most feed grains and forages are determined by export market prices less freight to export ports. Because transportation costs to move crops to export markets is higher from Manitoba than from most other production areas, the price of grains in Manitoba is relatively low. This, in turn, keeps land values low, relative to many other regions of Canada and the United States. Thus, production costs for forages are also lower in Manitoba than in many other areas. Manitoba's climate (long sunny days and ample rainfall) is ideal for growing high quality hay and pasture. In a typical Manitoba 100-ewe operation, grain accounts for about 30 percent of total feed costs, while forage and pasture account for approximately 57 percent.

Relatively low-cost forages and feed grains, a base of 600 sheep producers (a proportion of whom possess high levels of production management skills and some of whom are significantly above the provincial average size), the largest lamb feedlot in Canada, and a favourable climate show that Manitoba has the potential to significantly expand its sheep industry. With the increases that have occurred with grain transportation costs and the increased interest in livestock production, it is believed that many new producers will be interested in sheep production.

There has been very consistent and rapid expansion in Manitoba's sheep industry during the period 1996 to 2001, with an increase of 110%, as shown in the table below.

Manitoba's July 1 Inventories of Sheep and Lambs on Farms 1990 to 2000

July 1st Inventories	Number of Sheep & Lambs on Farms
1990	34,400
1991	35,000
1992	34,900
1993	34,000
1994	33,000
1995	34,500
1996	37,500
1997	42,100
1998	49,000
1999	57,500
2000	78,800
2001	90,000

Source: Statistics Canada

Canada is a small player in terms of world sheep production. The total world sheep population is in the range of 900 million head. Sheep populations in Canada have declined from 3.6 million head in 1931 to an estimated 0.842 million head on January 1, 2001. Therefore, Canada's flock makes up less than one tenth of one percent of the world's sheep. The four largest producers of sheep are China (29% of the world's sheep), India (19%) and Australia (14%) and New Zealand (5%).

Canada is also a small player in terms of wool production. Canadian production has been in the range of 2.5 million pounds of raw wool annually in recent years, with the majority of this coming from Ontario and Alberta.[4] World production is estimated at 3 billion pounds annually. Thus, Canada's share of world production is than one-tenth of one percent. The current low prices have been due to a shift in world demand to finer textured wools, an increase in the use of synthetic fibres and reduced sales of formal business wear (i.e. suits). Research is being done to incorporate wool into blends with top performing synthetic fibre to make new products such as "sports wool," a blend of fine merino wool with a polyester outer face.

Australia, New Zealand and the United States are the source of most of the imported lamb and mutton that is sold in Canada. According to Statistics Canada, in 2000, imported dressed lamb and mutton amounted to 16,780 tonnes or approximately 62% of Canadian consumption. There has been a significant increase from 1998 levels, when total imports were 11,476 tonnes and 50% of the Canadian consumption. This is a significant upward trend in the amount of imports and the percentage of the Canadian market that has been supplied by imports in the last three years. Thus, there is a significant opportunity to increase sales of Canadian lamb by 1) replacing some portion of imports with Canadian produced lamb and 2) expanding the total market for lamb.

The following table shows the Canadian imports of lamb meat, mutton and offal from the US, Australia, New Zealand and other countries. The majority of the lamb meat (over 60% of total lamb and mutton meat imports) came from New Zealand. Most of the mutton imports (11% of total imports) came from Australia. There was significant growth in boneless lamb cuts (42% more) and bone-in mutton cuts (23% more) that were imported in 1999. New Zealand has been and continues to be the dominant source, and thus competitor, as it supplies about 67% of total imports, which in 1999 amounted to about 34% of total Canadian consumption. Also, New Zealand has an even larger share of the lamb products market, versus the mutton or offal products markets. Total imports increased by 6% from 1998 to 1999 and by an additional 38% from 1999 to 2000.

[4] Canadian Co-operative Wool Growers Limited website: www.wool.ca

Canadian Dressed Meat Imports 1998 and 1999 (tonnes)

Year:	1999					1998					Change
Source:	**US**	**AU**	**NZ**	**Other**	**Total**	**US**	**AU**	**NZ**	**Other**	**Total**	**%**
Lamb Carcasses	0	117	406	0	523	1	112	424	0	537	-3%
Lamb Cuts Bone-In	82	1,636	5,874	0	7,592	168	1,536	5,833	12	7,549	1%
Lamb Cuts Boneless	3	543	1,228	0	1,774	4	359	886	0	1,249	42%
Mutton Carcasses	0	141	142	0	283	0	206	159	0	365	-22%
Mutton Cuts Bone-In	0	1,007	434	0	1,441	0	870	300	0	1,170	23%
Mutton Boneless	0	215	38	0	253	0	144	125	0	269	-6%
Offal	168	55	14	0	237	244	0	31	0	275	-14%
Other Lamb and Mutton	0	44	15	0	59	0	33	29	0	62	-5%
Totals	250	3,758	8,151	0	12,162	417	3,260	7,787	12	11,476	6%

Source: Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1999, Table 10, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html)

2.2 Terms of Reference

The objectives of this Comparative Advantage Study project included the following:

- To provide:
  - An assessment of the competitive position of Manitoba producers and processors of Manitoba-produced lambs; and
  - An assessment of their ability to improve their comparative advantage and to provide the end users in specified target markets with Manitoba-grown and/or processed lamb products, rather than lamb meat from other North American or offshore sources.
- To identify opportunities to:
  - Develop increased sheep populations to add value to Manitoba forage and feed grains;
  - Develop a steady supply of consistently good quality lamb to processors to supply existing markets in Toronto, Montreal and Vancouver and to penetrate new markets such as Minneapolis and Chicago; and
  - Identify, through discussions with producers and processors, desirable product characteristics that may enhance market acceptance of Manitoba lamb. This may indicate a need for adoption of improved technologies in the production or in the processing of the end products.

3.0 COMPARATIVE ADVANTAGE FACTORS

3.1 Definition of the Term - Comparative Advantage [5]

Comparative Advantage and the related term Competitive Advantage are often used nearly interchangeably. Generally Comparative Advantage is used to encompass the factors that relate to locational advantages including low-cost/high quality resources such as:

- Raw materials (e.g. low-cost forages, grain, etc.);
- Human resources/labour (e.g. family labour and skilled workers on farms and in related supply and service industries),
- Capital resources (low-cost land, equity and financing to adequately fund farms and service industries);
- Physical infrastructure (roads, water, utilities, etc.);
- Information infrastructure (extension services regarding production practices, financial management, marketing, etc.);
- Administrative infrastructure (sheep association activities that represent the industry and promote its interests to government and others); and
- Scientific and technological infrastructure (university and other researchers developing leading edge practices related to production, processing, marketing, etc.).

3.2 Key Comparative Advantage Factors Related to the Sheep Industry

This Comparative Advantage Study (CAS) analyzes the competitive position of the Manitoba sheep industry relative to its competitors. The competitors are defined as those regions with sheep industries that supply the markets for lamb meat products that the Manitoba sheep industry either currently targets or wants to target in the future. Australia and New Zealand are among the main competitors with whom Manitoba producers do and will compete. For example, lamb products offered for sale in Manitoba stores and restaurants is almost always from either New Zealand or Alberta. The US industry is considered to be a competitor against whom Manitoba's industry will compete. It is expected that the Manitoba industry will, at some time in the future, expect to move increasing volumes of lambs and/or lamb products into the Minneapolis and Chicago markets. The sheep industries in Ontario, Quebec and Alberta are both competitors and customers of the Manitoba industry. Lamb feeders, processors and marketers in those provinces are customers of Manitoba producers and/or feedlots. Producers in those provinces plus other Canadian provinces (especially Saskatchewan) are competitors to Manitoba producers, in that virtually all producers supply a commodity product (lambs) to feedlots, brokers or processors. The key countries and provinces, as shown above, are profiled in this report and comparisons are made of their comparative advantages factors versus Manitoba's.

[5] The definitions used in this section are summarized from Michael E. Porter's book *On Competition,* a Harvard Business Review Book, 1998, pp. 322 – 331.

3.2.1 Key Comparative Advantage Factors for Commodity Lamb Markets

There are several unique factors that cause a region's sheep industry to have a comparative advantage relative to its competitors. These factors are described below.

Production Oriented Factors

1. Low-Cost Inputs – high quality inputs at a low cost to create low cost per $ of sales (e.g. low-cost forage and grain);
2. Level of management and technology use – "best practices" (e.g. genetics, flock health practices, etc.);
3. Optimal size of production units – "low-cost production"; and
4. Numbers of sheep – "critical mass" of a province, region, country.

Processing, Marketing and Supply Chain Oriented Factors

5. Uniform carcass size and consistent quality ready for the market when the consumer wants lamb products (prices tend to peak in March to June because of Easter and summer demand);
6. Efficient logistics [6] system to move animals and lamb products (transportation to/from grazing, backgrounding, feedlot, assembly yards, slaughter, processing, retailer, consumer) and an effective grading system and positive regulatory environment (e.g. federally inspected plants that allow processed products to be sold outside Manitoba);
7. Efficient slaughtering and processing capabilities – large, modern plants operating near capacity and doing significant value-added processing (this could potentially include multi-species processing plants);
8. Profitable markets for by-products including trim, offal, blood, skins, etc. (i.e. If a slaughter plant is to be successfully operated in Manitoba, there must be "critical mass" for processing of all by-products);
9. Effective marketing including attractive and functional packaging and labelling of the consumer products that displays the products in an appealing way is important for the product that is sold to consumers; other factors are important to the hotel, institutional and restaurant (HRI) markets (also referred to as food service markets) including uniform portion control, separate packaging of individual portions and ease of preparation; and

Extension/Education/Association Factors

10. Effective industry associations, farmer groups, New Generation Co-ops, etc. and government support (e.g. extension, research, technology improvement, marketing programs and tax reductions that are specific to the sheep industry) that play a role in promoting the expansion of the industry to create "critical mass" and attract a co-ordinator and/or, eventually a processor (several models exist, including the Sask. Sheep Development Board, Alberta Sheep and Wool Commission, Ontario Sheep Marketing Agency).

[6] Logistics is defined as the planning, implementation, coordination, and movement of animals and products.

3.2.2 Key Comparative Advantage Factors for Niche Lamb Markets

The factors related to niche markets are different than those for commodities markets, because cost-efficiency factors are not as important in niche markets as in commodity markets. Niche markets, by definition, are markets where the customers are willing to pay a premium price for quality (as defined by the customers – including uniqueness, production methods, etc.). Examples of niche markets for lamb would include "natural lamb" (i.e. without antibiotics or growth hormones) and "organic" (i.e. without antibiotics and growth hormones and fed grain and forage that has been grown organically).

1. Use (or in some cases, non-use) of management practices and technologies that create value as defined by the consumer;
2. Slaughtering procedures may be an important factor if pursuing Kosher, Halal and other ethnic/religious markets;
3. The role of producer groups, New Generation Co-ops and certification agencies may be significant in some niche markets including organic, natural, etc.; and
4. Having consistent supplies of product available to consumers is often the biggest challenge for niche marketers. Often it is necessary for groups of producers to work together to adequately address the need to have product available for consumers on a regular basis.

4.0 PROFILE OF MANITOBA AND COMPETITORS

The following sections will give a brief overview of each of the major production areas that compete with the Manitoba sheep industry and highlight key comparative advantages that each has relative to the others and to the Manitoba sheep industry.

4.1 Global Overview

The global sheep numbers have been declining over recent years.

Most sheep are raised on forage-based production systems and either fattened on forage or on a combination of forage and limited amounts of grain.

Both New Zealand and Australia have significant economies of scale advantages compared to the small industry in Canada. For example, the large lamb slaughter plants that are common in Australia and New Zealand run at a chain speed of 560 to 600 head per hour, while the largest Canadian plant (Canada West Foods Corp. in Innisfail, Alberta) operates at a chain speed of 110 head per hour. During the 1990s, the Canada West plant was operating at less than 1/3 of its potential lamb killing capacity, resulting in high killing fees per head relative to the more efficient foreign plants[7] (in 2001, it is understood that Canada West is utilizing about 50% of its capacity for lamb killing and also processing pork to make the operation viable).

4.2 New Zealand

New Zealand is the world's acknowledged leader in the export marketing of premium quality grass-fed lamb products. It developed its marketing dominance over many years of consistently effective marketing programs. Some of the innovative programs have included operating subsidiary marketing companies (New Zealand Lamb Company Canada and New Zealand Lamb Cooperative Inc. USA) [8] [9] in North America for over forty years; processing lamb in transit to North America onboard ship and establishing a lamb flock in BC. Inexpensive water-based transportation to North American has played a major role in New Zealand's success in supplying foreign markets. New Zealand's longstanding preferential relationship with the United Kingdom ended with the UK joining the European Union. There is now little or no New Zealand or Australian lamb or mutton shipped into the EU markets because of the high tariff barriers that are imposed on imports into the EU.

The overwhelming majority of New Zealand's 47 million sheep flock is the Romney breed – a breed well known for producing very consistent and good quality lambs (i.e. an excellent genetics package on which to build the meat lamb industry). Therefore, the lamb available from New Zealand is a consistent high quality product.

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[7] Stanford, K., Hobbs, J.E., Gilbert M., Jones, S.D.M., Price M.A., and Klein, K.K., Canadian Lamb Marketing Including a survey of Canadian lamb abattoirs and marketing groups. October 20, 1997, p. 5.

[8] New Zealand Lamb Company Canada, President: Anthony (Tony) Ruffo, 10 Shorncliffe Road, Etobicoke, Ontario, M9B 3S3, Phone: 416-231-5262, Fax: 416-231-8934, Website: http://www.nzlamb.ca

[9] New Zealand Lamb Cooperative, Inc. USA, President: & COO: Richard G. Lawrence, Vice President Sales & Marketing: Shane O'Hara, 106 Corporate Park Drive, White Plains, New York, 10604, Phone 800-GET-LAMB, 914-253-6904, Fax: 914-253-8155, Website: http://www.nzlamb.com

All areas of New Zealand are within the temperate climate zone. Droughts are a rare occurrence. Twelve month per year grazing is practiced using high levels of rotational and mixed species grazing techniques. Being a small country consisting of two islands, no location is more than a short drive to the coast. This has made it very efficient to locate modern, large capacity slaughterhouses on tidewater – ideally located for exporting.

New Zealand's close proximity to Asian markets has given it a natural advantage in aggressively pursuing those markets. The same patient, consistent and innovative marketing techniques that have been so successful in dominating the North American lamb markets have also been effective in the Asian market.

New Zealand has had a very strong, unified industry association/alliance for many years. This alliance of government departments, private sector companies and producer organizations has played a major role in the success of the export marketing programs. The New Zealand Beef and Lamb Bureau does much of the export marketing activity on behalf of the red meat industry. Currently the Meat New Zealand Board and the Wool Board are planning to amalgamate by January 2002.

New Zealand Lamb Marketing

The Meat New Zealand website (www.meatnz.co.nz) cites New Zealand's "natural" advantages:

- "New Zealand's island status and natural farming systems, where livestock graze pasture outdoors all year, reduce the chances of serious animal health problems. This assists New Zealand's excellent food safety record. NZ is free of BSE, Scrapie and other transmissible spongiform encephalopathies and has never had an outbreak of foot and mouth disease. In a BSE risk assessment by the EU's Scientific Steering Committee published in July 2000, New Zealand was classified as the lowest risk category."
- "Quality, food safety, hygiene and tenderness" are stressed throughout the website.
- "New Zealand is the World's largest exporter of lamb processed to Muslim requirements (Halal). New Zealand processors are expert at meeting all types of specialist specifications."
- "All New Zealand Lamb that is exported complies with an objective tenderness standard, one of the few standards of its kind in the world. These standards are regularly audited, and periodically checked by taste panels. Accelerated Conditioning and Aging (AC & A) ensures that New Zealand Lamb scores consistently high for tenderness. AC & A give meat processors fine control over the level of tenderness in meat, so New Zealand Lamb virtually can be guaranteed tender (as long as it is cooked appropriately)"
- "Accelerated Conditioning (AC), using electrical stimulation of the carcass, has been developed to speed up the process. AC reduces conditioning times to a couple of hours."
- "Aging is another process that makes meat tender. Fresh lamb needs time to age. During the aging process, naturally occurring enzymes break down and soften the muscle fibres, making the meat more tender."
- Packaging designed to promote the shelf-life of lamb also allows it to continue aging naturally, becoming superbly tender by the time it is ready to use. Vacuum packaging and Controlled Atmosphere Packaging (CAP) technologies respectively perfected and developed by New Zealand meat scientists, allow New Zealand Lamb to age to perfection."

This website also provides links to:

- "USA Retailers" by state including SAM'S Club, Safeway, Kroger, Winn-Dixie and many others; and
- "UK Retailers."

New Zealand Lamb Company Canada and New Zealand Lamb Cooperative, Inc. USA operate in Canada and the US, respectively from headquarters in Etobicoke, Ontario and White Plains, New York. Both companies have been operating in their respective countries for over forty years and marketing high quality lamb for over thirty years through extensive networks of brokers and sales representatives.

All the lamb products that these companies sell are:

- Processed in HACCP certified plants that meet ISO 9002 standards and are USDA and CFIA approved;
- Free of growth stimulants or antibiotics;
- Processed using state-of-the-art accelerated conditioning aging techniques to ensure that the products meet the consumers' demands for palatability and tenderness; and
- Shipped using leading packaging techniques including controlled atmosphere packaging, retail case ready packaging and vacuum packaging.

The New Zealand Lamb Company has a sophisticated and reliable distribution network strategically located throughout New Zealand and North America. All products are shipped in temperature-controlled containers. The companies have developed different products for each market in which they sell. The product listing for the US is similar, but different from the listing for Canada. They offer different brands that have been developed to particular market segments. In the US, they also offer custom packing and private label programs.

Horizon Meats New Zealand Limited (HMNZL) [10] and its associated company, Blue Sky Meats (NZ) Limited provide an excellent example of the reason why New Zealand has been successful in capturing export markets for lamb and mutton. HMNZL is a specialist meat marketing company established in 1987 that has been involved in a partnership with Blue Sky Meats from its inception. All the meat processed by Blue Sky is marketed by HMNZL under the Horizon brand. The Horizon brand has developed a positive reputation in global markets because the company has been able to consistently supply high quality products and reliable service.

The Horizon Meats team includes experienced marketing, production and logistics personnel. They handle inventory control, sales and marketing, shipping, foreign exchange and documentation. Horizon Meats' marketing strategy is built around extensive market coverage through a select group of reliable customers including HRI distributors, manufacturers, supermarkets and caterers. Horizon and its producer/suppliers favour long-term relationships with companies that share a commitment to quality.

Blue Sky Meats (NZ) Limited is located on the South Island of New Zealand. Established in 1987, Blue Sky processes lamb, mutton and veal. The slaughter line operates 20 hours per day, 5

[10] Horizon Meats New Zealand Limited, PO Box 4249, Cnr Augustus Tce & The Strand, Auckland 1, New Zealand, Phone: 64-9-366-6234, Fax: 64-9-308-9986, info@lamb.co.nz www.lambnz.co.nz

days per week and 10 hours per day on the other 2 days. The boning and cutting room operates 20 hours per day, 7 days per week. The plant processes 26,620 stock units per week (i.e. approximately 2,200 stock units per 10 hour shift), with approximately 90% being further processed. HACCP based procedures are followed throughout the process. The plant is EU and USDA approved. The types of products that are exported include processed chilled and frozen lamb and mutton cuts, boneless mutton as well as veal products.

Blue Sky consistently bases stock procurement on forward contracts in order to meet projected sales requirements. It is common to have 90% of daily stock requirements contracted from producers. The contract specifies the date of slaughter, number of animals, specifications of animals and premium to be received by the producer for entering into the contract.

Liberty Leg of Lamb – is one example of a top-of-the-line product that is promoted on the company's website (www.lambnz.co.nz/products/).

Some of the language used to describe this product includes:

- Our discerning customers are assured that the fresh meat they receive is of the highest quality, bred to strict specifications by selected suppliers;
- Grown in New Zealand's clean healthy environment;
- Processed (slaughtered, boned, chilled, frozen) using the latest hi-tech, automated equipment, thus minimizing damage to the muscle tissue;
- Produced in accordance with stringent hygiene and quality controls at every stage;
- To ensure tenderness, Horizon lamb is accelerated, conditioned and aged, fresh/chilled or deep frozen for export;
- Original fresh quality is sustained by notable advances in agricultural technology and the rigorously applied New Zealand health regulations, precautions and safety standards throughout production;
- The lamb is individually wrapped or vacuum packed and presented in standard cartons or convenient catering size half-cartons and promptly freighted by air or sea; and
- Horizon will match customer orders within 24 hours.

4.3 Australia

Australia is the second largest exporter of sheep and lamb meat products, following New Zealand. Only in recent years has Australia begun to focus on the export of "prime lamb." Traditionally the Australian sheep industry had been focussed on wool production and thus had been a bigger exporter of mutton than lamb. The normal practice was to keep the lambs until they can be shorn before slaughtering them – thus the lambs (actually hoggets) were older when they were slaughtered. The domestic consumers in New Zealand and Australian prefer the meat from hoggets, preferring the somewhat stronger flavour and larger serving size. However, the export markets prefer lamb. New Zealand has actively pursued the export lamb market for many years, whereas Australia has only begun to actively pursue this market in the last two or three years, largely as a result of the collapse of wool prices in the late 1990s.

Most of Australia's 126 million sheep flock (75 to 80 percent) are Merino, because of the excellent quality of the fine wool that is produced by that breed. The Merino is a large framed, lean animal. To achieve a shorter, more compact lamb carcass, most of the specialist growers that are focussing on producing prime lamb are cross-breeding with Suffolk and other "meat" or "dual purpose" breeds. A few growers are experimenting with milk-fed and grain-fed carcasses.

Sheep are raised throughout southern Australia in (relatively) moderate to high rainfall areas and in the drier areas of New South Wales and Queensland. The makeup of the Australian sheep flock is shown in the table below.

Sheep Breeds in Australia [11]

Breed	Percentage of Total	Main Purpose
Merino	75%	Fine wool production
First Cross Merino Ewes	12%	To mother lambs for the domestic market Mostly Merino X Border Leicester
Merino Derived Crosses	9%	Dual purpose breeds – both wool and meat
Short-Wool Meat Breeds	4%	For Prime Lamb production

Australia is a large island with most of the population spread along the coasts. It has a significant number of major ocean ports. However, the sheep production areas are quite spread out and many are not located close to the coasts. This means that the Australian industry has more of a logistical challenge to bring lambs to processing plants than the New Zealand industry does

The estimated Australian flock at March 31/99 was little changed from the previous year at 117 million head. The forecast number of ewes to be mated for the year ending March 31, 2000 was estimated at 52.9 million, similar to the previous season.

Australia is the world's predominant supplier of fine wools. Australian wool prices improved considerably during 2000 with the strengthening of most of the Asian economies. It was reported that China purchase 9 percent more wool from Australia at 5 to 10 percent higher prices compared to 1999.

Agriculture utilizes almost 60 percent of the total land area of Australia – almost 90 percent of that 60 percent (i.e. 54 percent of the total area of Australia) is in permanent pasture. There are approximately 130,000 farms. Agriculture and related services directly employ 500,00 people out of a total population of approximately 18.6 million.

The domestic food processing industry is large and more sophisticated than the population size would dictate. This is a direct result of country's aggressive export oriented agricultural industry. The food processing and packaging industries employ 170,000 people and account for 21 percent of all manufacturing, making it the largest manufacturing sector in Australia.

Highly variable climatic conditions have caused problems for the agricultural industry. As recently as the early 1990s, serious droughts disrupted Australia's ability to maintain its export sales including lamb and mutton.

The Australian government has promoted Australian agri-food products under a single banner in export markets. In doing so the government has pushed producers and processors to produce quality products that will meet the high standards of Asian consumers. This strategy has been

[11] Castricum Brothers website: http://www.castricum.com.au/facts/industry_sheep.htm

particularly successful in Japan where Australian pork and beef products are viewed as being equivalent to Japanese products. [12]

The "Supermarket to Asia" initiative was established in 1996 by the Australian government to create an umbrella image for Australian agri-food products, provide strategic direction for the agricultural industry and to remove impediments to export growth, both domestically and internationally. During the economic downturn in Asia in 1997, Australia was successful in developing new markets in Libya and India for meat products. The Australian government has also created an internet-based trading platform for Australian producers and Asian buyers called Quality Food Australia Online (QFAO). Besides matching buyers and sellers, it is hoped that QFAO may facilitate the exporting process by arranging payments, transportation and government clearances.

Australian Exports of Meat Products (Millions of AUS $)

Market	1994-95	1995-96	1996-97	1997-98
Asia	2628	2568	2244	2390
All Countries	4200	4017	3703	3703
Asian Share	63%	64%	61%	61%

Australia's Processing and Exporting Industry

Australia has several very large meat processors that are actively pursuing export markets including:

- **Southern Meats Pty. Ltd.,** Goulburn, New South Wales:
  - Market mutton, lamb and offal under the Fine Brand label;
  - Process 8,000 sheep and lambs per day in one plant;
  - Uses the latest high-tech equipment to slaughter, bone, chill, freeze and render by-products; [13]
  - All products are slaughtered to Halal practices with strict hygiene and quality control;
  - All by-products are processed into tallow; meat and bone meal; pet food, blood meal, etc.; and
  - Sheepskins are treated and prepared for exports.

- **Castricum Brothers**, Dandenong, Victoria:

[12] Agriculture and Agri-Food Canada, Agri-Food Trade Service, *Agri-Food Country Profile – Australia,* August 1999, http://atn-riae.agr.ca/public/htmldocs/e2521.htm

[13] Offal meat include liver, kidney (excellent sources of vitamin A and iron, low in fat, but high in cholesterol), tongue, heart, tail, brains, sweetbread and tripe. Offal meats such as lungs, spinal cords and tendons are used in pet foods. Source: Castricum website: http://www/castriucm.com.au/facts/byproducts.htm

  - Operate a modern, sophisticated meat and skin processing plant (large emphasis on skins because skins, if properly handled can provide 30% of the return from a lamb for a processor); and
  - Their own Livestock Buying Group select cross-bred lambs exercising tough quality control specifications.

- **Wammco International**, Perth, Western Australia:
  - The trading name for the Western Australian Meat Marketing Cooperative Limited, which is Australia's largest exporter of lamb, specializing in premium quality chilled and frozen lamb, mutton, goat, beef and venison;
  - Has been exporting for over 25 years and currently exports to over 55 countries;
  - All products are processed in modern facilities that are EU, USDA and Halal approved, ensuring highest quality and hygiene standards;
  - Lambs are supplied by about 6,500 coop members who manage flocks of about 30 million sheep to produce lambs that are market ready 12 months per year;
  - Over the past two years, the coop has increased processing capacity by 70 percent and slaughters over 1 million lambs for export markets;
  - All production is free range and naturally produced; and
  - Product can be shipped chilled or frozen by sea or air.
- **SBA Foods**, Victoria and Tasmania:
  - Operates three processing plants at Altona, Victoria; Longford and King Island, Tasmania;
  - Total sales revenue in excess of AUS $200 million made up of 30% domestic sales and 70% export sales;
  - Fourth largest within the Australian meat exporting industry processing approximately 120,000 tonnes of beef, lamb and mutton (about 5 percent of national volume) total per year;
  - Carries out trading activities in Japan and internationally through 65 subsidiary companies and 47 associated companies in 19 countries.
- **Australian Lamb Company PLC**, Victoria
  - Operating since 1994;
  - Also operate a trading company that handles beef, veal, pork, mutton, goat, venison, poultry, game meats and dairy products;
  - Their major processing facility is located 30 minutes from Melbourne International Airport, offering the capability to ship chilled product worldwide for arrival within 36 hours of being processed; and
  - In consultation with customers, have developed a wide range of innovative lamb products to satisfy diverse markets.

Australia's Comparative Advantages

Australia cites the following benefits of its location, climate, etc.:

- Australia jealously guards the health status of its sheep flock, aided by its isolation, strict customs controls and extensive quarantine regulations;
- Australia's animals are raised in natural, free-range conditions;
- Australian producers and processors use the latest farm management, animal husbandry and meat processing techniques. In many cases Australia has been at the forefront of technological advancements in livestock and meat production, handling and transportation;
- The Australian government and AUS-MEAT (the industry standards organization) impose rigorous quality and food safety codes. A large proportion of Australian meat production is exported to over 100 countries around the world.
- Lamb Australia provides information to assist specialist lamb producers to improve the management of their enterprises (http://www.lamb-australia.com.au); and
- Meat and Livestock Australia is a resource for producers, processors, exporters, retailers, foodservice providers and consumers (http://www.mla.com.au).

4.4 United States

The mainstay of the US sheep industry has been large sheep ranches operating on large grazing leases owned by the federal government. Predator control has been an ongoing issue – how much and who pays for it being the primary points of contention. In early 2001, there were 325 migrant sheepherders working on California sheep ranches under a three-year federal contract.

US Breeding Flock

As of January 1st, 2000 The United States Department of Agriculture (USDA) estimated that there were 4.2 million head of breeding ewes and 206,000 breeding rams in the US. This was a 2.2 percent reduction from the previous year and the smallest breeding flock on record. The 1999 breeding sheep inventory had declined by 4.0% from 1998. The latest available estimates of US breeding flock size at January 1st, 2001 put the number at 7 percent below the January 1st, 2000 number or approximately 3.9 million breeding ewes and 192,000 breeding rams.

The estimated total US sheep population at July 1, 1999 was 9.0 million head, 4.3% less than the year before. The July 1, 1999 inventory of market lambs was estimated at 3.575 million head, a decrease of 4.4% from the year earlier.

Sheep Numbers in the Top 10 US States – 2001 USDA Census

State	Number of Sheep
Texas	1,200,000
California	800,000
Wyoming	570,000
Colorado	440,000
South Dakota	420,000
Utah	400,000
Montana	370,000
New Mexico	290,000
Idaho	275,000
Iowa	265,000
10-State Total	**5,030,000**

California's sheep numbers have declined from 1.2 million in 1980 to 800,000 in 2001. The price of wool has declined from a high point of $1.40 per pound in the late 1980s to 38 cents per pound in early 2001. The US industry has seen declining sheep numbers since the 1940s.

US Sheep Industry Associations

The main industry association is the American Sheep Industry Association (ASI). It represents sheep producers' interest to government.

The American Lamb Council promotes lamb to consumer using the Internet and other media.

US Lamb Production and Slaughter

United States slaughterings during the first half of 1999 continued the downward trend of the last five years. Slaughter to July 1st, 1999 was 2.1 million head, a reduction of 6% from the previous year. Commercial lamb slaughter for the first 10 months of 2000 totalled 2.858 million head, 5.2 percent below the same period the previous year. The pounds of meat produced only declined by 4.6 percent because the average carcass size increased to 66.1 pounds, an increase of 0.5 pounds from the previous year. This is in line with the trend that has been occurring In the US since at least 1970 of the average carcass weight increasing by an average of 0.5 pounds per year. [14]

The average size of an American lamb carcass is approximately 25 percent larger than a New Zealand/Australia lamb carcass. The American sheep industry believes that American restaurants prefer the larger cuts that come from the larger carcasses. According to American taste tests, American consumers prefer the milder flavour of North American grain-finished lamb by a factor of 3-to-1 over the grass-fed off shore product. [15]

US Lamb and Mutton Imports

As the domestic industry has declined, imports from New Zealand and Australia have increased to more than 31,800 metric tonnes in 1998 and continued to grow despite the establishment of a 9 percent tariff on all imports from those two countries in 1999 (declining to 6 percent in 2000

[14] The production and slaughter information shown in this section is taken from the American Sheep Institute website – http://www.sheepusa.org/news/cfapps/articleView.asp?articleID=1725&articleTypeID=7

[15] American Sheep Industry Association website: www.sheepusa.org/news/ffpdf/jones 93.htm

and 3 percent in 2001). US imports have grown from approximately 13 percent of the domestic market in 1994, to 20 percent in 1996 and to the range of 27 percent in 1999.

Through the end of September 2000, year-to-date lamb imports were up 9 percent from the previous year. Most of the increase was due to a 12 percent increase of imports from Australia. Mutton imports increased 45 percent while combined lamb and mutton imports were up 17 percent. It is believed that the reason why the imports increased in the face of the Section 201 increased tariffs on imports is because the Australian and New Zealand currencies fell 11 and 18 percent, respectively, compared to the US dollar. Also Australia's production level increased more than New Zealand's decreased and their exports to Asia declined.

Wool Market

In 2000 the value of wool at the producer level was at its lowest level since the early 1970s (approximately 30 to 35 US cents per pound).

Dakota Lamb Growers Cooperative [16] markets lamb products under the Dakota Lean Premium Lamb label. The cooperative was incorporated April 16, 1999 after three years of feasibility studies, market research and market development. The coop's goals are to produce premium quality lamb products and to market a consistent product at a consistent price benefiting local lamb producers. Lamb sold under the coop's label must meet certain criteria including weight, percentage of fat and confirmation requirements. These criteria are indicators of muscle mass, youth and leanness; qualities that consumers desire. It is expected that by reporting the results of the lamb quality "grading" system to members on each lamb that is sold and by utilizing the penalties and incentives that are shown below, that producers will soon adapt their production practices to maximize incentives and minimize penalties. Thus, the coop will receive the type of lambs that it needs to fill its requirements and consistently provide a product seen as premium quality by its customers.

The coop has been operating for about 14 weeks as at July 1st, 2001, and was then processing about 100 to 150 lambs per week. The lambs are custom processed by Dakota Country Meats in Jamestown, North Dakota. The coop members have decided to raise and market only "natural" lamb (no antibiotic and growth hormones are given to the lambs during their lives). The current premium that is passed through to producers for the "natural" lamb versus regular lamb is estimated at twelve cents per pound (carcass basis). Trim is utilized to make several (approximately 6 different) types of low-fat sausages. Skins are salted and sold for about $10 per skin. A system is being developed where the prices that grocery stores will pay for the coop's products will be set for a year at a time. Grocery stores have said that they prefer this better than having prices fluctuate during the year. Producers would then be paid based on this level price.

The producers are paid based on the quality of their lambs. There are several categories of premiums and discounts for weight, backfat, and size of ribeye and time of year. Producers receive an initial payment at the time of delivery and a final payment, with information about the lamb quality ratings, when the slaughter/processing is completed.

[16] Dakota Lamb Growers Cooperative, RR 2 Box 120, Northwood, North Dakota 58267, Processing Facility: Dakota Country Meats, 1902 8th Avenue SW, Jamestown, North Dakota 58401, Phone: 1-888-822-LAMB (1-888-882-5262), 701-252-1871, Fax: 701-252-8967, Contact: Fred Eagleson, E-mail: dakotalamb@buffalocity.net

Some of the incentives and discounts are as follows:

Factor	Acceptable Range	Premium Paid	Discounted Range
Carcass Weight	55 to 80 pounds	60 to 75 pounds	< 55 and > 80
Backfat		≤ ¼ inch	
Ribeye area		≥ 2 ½ square inch	
Off Season Delivery		e.g. March – April	

Initially 90 members of the coop purchased membership shares at $100 per member. The subsequent equity drive in late 2000 and early 2001 raised membership to 104 members and sold equity shares for 8,400 lambs per year of slaughter/processing capacity at $20 per lamb.[17] Most of the coop members took a cautious approach, only purchasing enough equity/delivery shares for about 20% to 25% of their expected lamb crop to be sold through the coop.

Initial plans were to process 40 lambs per week by the end of 1999. The start-up was delayed by more than eighteen months. The coop initially targeted Middle Eastern restaurants throughout the United States with an initial concentration on the Milwaukee, Chicago and Detroit areas. Specific criteria including weight, percentage and placement of fat, conformation and flank colour are required for the meat products to meet Halal standards. Sales to this market have not developed as successfully as expected. However, retail sales have developed more quickly than expected.

The Dakota Country Meats processing plant (the processor of the coop's lambs) is USDA inspected allowing the coop's products to be sold anywhere in the US market. The group's long-term target is to process 500 lambs per week or 20,000 per year by utilizing a larger custom processor (potentially Iowa Lamb) in future because Dakota Country Meats of Jamestown, North Dakota is nearly at its maximum capacity. The coop has been able to secure sufficient supplies to meet its customer demand throughout the toughest time of the year (April, May and June) in 2001. It is difficult to get lambs that are ready for market at that time because of several reasons including the sheep's natural tendency to not lamb in the fall and the difficulty of getting lambs to finish during the late winter months. Also, farmers that run both lambs and crop farms are busy with seeding in April through June and sometimes neglect the management of the lambs.

The coop is assisting some of its members to make arrangements with custom feeders near the slaughter plant to finish their lambs. This will be a major benefit for some of the members that are greater distances from the plant. Management expects that the incentive for off-season delivery will encourage producers to spread deliveries throughout the year, to provide a continuous supply to customers.

The coop received $55,000 from the North Dakota Agricultural Products Utilization Committee and other groups (including banks and rural electric cooperatives) to assist with start-up. The North Dakota State University, Fargo provided technical support to help ensure consistent quality standards. The Chief Executive Officer of the coop felt that the support received from government departments and universities was invaluable in assisting the coop to become established and to deal with the quality and financial issues during their start-up period.

[17] Personal communications with Mr. David Merwin, Chief Executive Officer of the Dakota Lamb Growers Cooperative. Phone: 701-567-2723, e-mail: merwindp@pop.ctctel.com

Mountain States Lamb Cooperative (MSLC) [18] is bringing together all sectors of the lamb industry in a vertically integrated system (owned and controlled by producers) to produce premium quality lamb products that will expand existing markets and increase consumer demand. The MSLC is a "third generation" closed cooperative made up initially of eighty producer and feeder members from the states of Wyoming, Colorado, Montana, Idaho, Utah and South Dakota and other members from California, Arizona and Nevada. The current members of the coop produce 350,000 lambs annually.

US Government Support for the Lamb Industry

In 1999, the US International Trade Commission ruled 6-0 that a surge of low-priced imported lamb meat had caused the threat of injury to US producers. In response, the Clinton Administration instituted import tariffs and announced support programs for the US sheep and lamb industry including $30 million of direct cash payments tied to production practices and quality incentives that improve competitiveness (part of a larger $100 million initiative). It also funds USDA purchases of lamb and expanded Scrapie eradication efforts. The future of this program is under review by the Bush Administration and is uncertain.

In December 2000 the World Trade Organization Appellate Body overturned the decision by the U.S. International Trade Commission (ITC) to impose restraints on lamb meat imports. The Appellate Board's decision largely upheld a similar decision by a WTO Dispute Settlement Panel's decision that the ITC decision violated various provisions of the General Agreement on Tariffs and Trade (GATT) and the WTO Safeguards Agreements.

As part of the Clinton Administration's three-year $100 million assistance plan to help US sheep and lamb farmers, on November 15, 2000 Agriculture Secretary Dan Glickman announced 15 grants totalling nearly $3.85 million to fund marketing and promotion projects to help increase sales of US lamb. [19]

[18] September 1, 2000 news release from Senator Mike Enzi, R- Wyoming. http://enzi.senate.gov/lamb1.htm

[19] United States Department of Agriculture, Office of Communications, 1400 Independence Avenue, SW Washington, DC 20250-1300, Phone: 202-720-4623, E-mail: oc.nes@usda.gov http://www.usda.gov/news/releases/2000/11/0397.htm

The grants included the following:

US Government Grants to Support the Lamb Industry Announced November 15, 2000

Recipients	Grant Amount	Purpose
National Meat Association	$500,000	Media advertising campaign in specific market regions
American Lamb Council	$1,800,000	5 proposals: 1) Develop a US lamb seal 2) Conduct targeted retail promotions 3) Conduct culinary outreach 4) Develop a lamb information centre 5) Conduct a consumer positioning campaign
Cornell University	$249,488	5 proposals: 1) Develop a small ruminant teleauction 2) Design a kosher/halal harvesting facility 3) Establish a marketing pool 4) Create the Northeast Regional Marketing Association 5) Convene two marketing summits
Meat Export Federation	$225,500	Conduct an exporter training seminar and conduct in-country marketing in Mexico
Iowa Lamb	$226,500	Conduct lamb retail promotion campaigns in two supermarket chains in the Southeast and a foodservice promotion in the western US
Wolverine Packing Company	$250,000	Conduct Midwest regional supermarket lamb promotion using pre-printed, full-colour consumer-friendly packaging for retailers
Dakota Lamb	$250,000	Development of value-added lamb products and development of natural and organic lamb markets
Kansa State University	$200,186	Research on utilizing lower valued lamb cuts
Colorado State University & Mountain States Lamb Cooperative	$115,000	Design criteria and a grid for value based marketing

4.5 Canada

The Canadian sheep industry has been growing since 1977 after many years of steady decline in sheep numbers. In the period from the early 1960s, through the late 1970s, Canadian producers and processors supplied only about 17 percent of domestic lamb consumption. The remainder was supplied by imports, mainly from New Zealand, Australia and the United States. [20] Since the late 1970s Canada's level of self-sufficiency has approximately doubled to the 35 to 40 percent range. As shown in the table below, most provinces are sharing in the recent growth of the industry.

[20] Canadian Sheep Federation, *A Strategic Business Plan for the Canadian Sheep Federation*, February 1999, p. 7 http://www.cansheep.ca/strgbus.htm

Canadian Sheep & Lambs on Farms, by Province. July 1, 2001

(July 1, 2000 in brackets)

Province	Rams	Ewes	Replacement Lambs	Market Lambs	Provincial Total
Newfoundland	200 (200)	3,500 (3,300)	600 (600)	2,900 (2,500)	7,200 (6,600)
Prince Edward Island	100 (100)	1,600 (1,800)	300 (300)	1,700 (1,900)	3,700 (4,100)
Nova Scotia	700 (600)	13,200 (12,700)	2,900 (2,800)	11,300 (12,300)	28,100 (28,400)
New Brunswick	200 (200)	4,500 (4,500)	900 (1,000)	3,500 (3,600)	9,100 (9,300)
Quebec	4,400 (4,000)	117,000 (106,500)	24,500 (22,000)	60,000 (47,500)	205,900 (180,000)
Ontario	7,800 (8,500)	151,000 (147,500)	39,700 (37,000)	83,000 (92,000)	281,500 (285,000)
EAST	**13,400** **(13,600)**	**290,800** **(276,300)**	**68,900** **(63,700)**	**162,400** **(159,800)**	**535,500** **(513,400)**
EAST 01/00 %	**98.5%**	**105.2%**	**108.2%**	**101.6%**	**104.3%**
Manitoba	1,500 (1,500)	33,800 (31,000)	12,400 (7,000)	31,100 (39,300)	78,800 (78,800)
Saskatchewan	3,500 (3,200)	54,000 (47,500)	18,000 (17,000)	47,200 (37,000)	122,700 (104,700)
Alberta	6,000 (5,700)	113,200 (112,100)	28,100 (27,300)	87,000 (78,500)	234,300 (223,600)
British Columbia	2,300 (2,300)	31,500 (26,500)	7,200 (7,700)	29,000 (21,500)	70,000 (58,000)
WEST	**13,300** **(12,700)**	**232,500** **(217,100)**	**65,700** **(59,000)**	**194,300** **(176,300)**	**505,800** **(465,100)**
WEST 01/00 %	**104.7%**	**107.1%**	**111.4%**	**110.2%**	**108.8%**
CANADA	**26,700** **(26,300)**	**523,300** **(493,400)**	**134,600** **(122,700)**	**356,700** **(336,100)**	**1,041,300** **(978,500)**
01/00 %	**101.5%**	**106.1%**	**109.7%**	**106.1%**	**106.4%**

Source: Statistics Canada Catalogue # 23-603-UPE

The table above shows that, according to the latest Statistics Canada information, sheep and lamb numbers have increased in Newfoundland, Quebec, Saskatchewan, Alberta and British Columbia from July 1st, 2000 to July 1st, 2001. Numbers held steady in Manitoba and declined slightly in PEI, Nova Scotia, New Brunswick and Ontario. The provinces with the largest increases in total numbers were Quebec, Saskatchewan, Alberta and BC. Manitoba's breeding flock (ewes and replacement lambs) increased by more than 20 percent – significantly more than the rate of increase in any other province. This would indicate that Manitoba is about to increase lamb production very significantly in the coming months and years.

Canadian Supply and Disposition Information

The following table shows supply and disposition information for the Canadian sheep industry for the period July 1, 1999 to July 1, 2000. The table shows that Ontario, Alberta, Quebec, Saskatchewan, B.C. and Manitoba produce the majority of Canadian lambs. Ontario is the only province that slaughters more lambs than it produces. Ontario and Manitoba are large net

importers of lambs. However, Ontario exports almost no lambs (i.e. the lambs are processed in Ontario for consumption there, thus capturing the value-added processing benefits in Ontario), while Manitoba's net exports are more than the province's net imports (i.e. Manitoba imports lambs and then re-exports more than imported). The high level of lamb feeding that occurs in Canada's largest lamb feedlot located near Brandon Manitoba accounts for this. Lambs are imported from the other western provinces and a few from the Rainy River area of Ontario to be finished and shipped to Ontario, Quebec and the US for slaughter. In total more lambs are exported than imported because Manitoba produced lambs are also exported for slaughter.

The table also shows the significance of farm sales to consumers in some provinces (e.g. in Newfoundland, 73% of the slaughter is made up of sales direct to consumers, Quebec 9%, Ontario 14%, Manitoba 35%, Saskatchewan 78% and BC 63%). These percentages are significant because it represents volume that does not enter into a formal "feeder to slaughter/processor to wholesaler to retailer" type of distribution channel, which is common to the "commodity" oriented supply chain. Instead, these lambs are, in effect, entering into a large "niche" market that includes "farm gate" and "home freezer" sales. Depending on the legal requirements in each province, these animals may be slaughtered on the farm or at local abattoirs and packing plants.

A disadvantage of this system is that, for those animals that are slaughtered on farm, there is probably less value-added processing done to the end product (e.g. sausage making – unless the farmer is also a sausage maker – but, in many provinces regulations would not allow this type of processing on farm). Offsetting this potentially reduced amount of value-added processing, it may be that on these farm gate sales the consumers pay a premium to the commodity price that producers would receive through the normal marketing channel (i.e. the producer would receive something between the normal producer selling price and the normal retail store price.

Where the slaughtering is done in an inspected plant, an advantage to the system is that the value-added (e.g. sausage making) is likely captured/shared by the producer and the local abattoir/packing plant, rather than further up the distribution chain. Both the farm gate sales and the home freezer sales would normally increase the producers' profits from the undertaking of the additional slaughter/processing and marketing services. However, very little value-added processing is done in Manitoba processing plants. Restrictions on rendering of sheep offal, etc. because of Scrapie, may mean that the "waste" may have to be land filled in the future.

Canadian Sheep & Lambs, Supply-Disposition Balance Sheet
July 1999 – July 2000

Province	Inventory July 1/99	Lambs Born	Imports (including interprovincial)	Total Supplies	Exports (including interprovincial)	Slaughter including farm sales to consumers	Farm Sales to con-Summers	Inventory July 1/00
NF	6,500	4,600	0	11,100	0	3,700	2,700	6,400
PEI	4,000	3,400	0	7,400	1,800	800	400	4,100
NS	28,100	21,300	0	49,400	6,500	12,900	2,800	27,900
NB	8,800	5,900	0	14,700	2,400	2,000	1,100	9,300
QC	162,000	147,500	100	309,600	8,600	99,500	9,400	180,000
ON	253,300	262,400	63,800	579,500	600	265,500	36,900	280,000
EAST	**462,700**	**445,100**	**44,800**	**952,600**	**800**	**384,400**	**53,300**	**507,700**
MB	57,500	45,100	24,900	127,500	27,800	16,600	5,800	78,600
SK	83,400	71,400	2,300	157,100	32,100	14,700	11,400	102,000
AB	214,100	170,200	300	384,600	62,000	71,200	6,500	229,600
BC	65,000	62,000	7,900	134,900	1,100	52,200	32,700	70,000
WEST	**420,000**	**348,700**	**3,800**	**722,500**	**90,500**	**154,700**	**56,400**	**480,200**
CAN	**882,700**	**793,800**	**4,500**	**1,681,000**	**47,200**	**539,100**	**109,700**	**987,900**

Canadian Imports of Lamb and Mutton

Despite the increase in Canadian production levels, since 1990, Canadian producers have only supplied between 37 and 50 percent of the Canadian consumption of lamb and mutton. The remainder has been imported mainly from New Zealand, and, to a lesser extent from Australia. Canadians' per capita consumption of lamb and mutton has remained stable over the last two decades while beef and pork consumption have declined and poultry has increased. Canada has no tariffs or import restrictions (other than health related requirements) on the importation of lamb.

Provincial Support of Sheep Industry Associations and Producer Marketing Groups

Producers in several Canadian provinces and countries (e.g. Quebec, the U.S., etc.) benefit from significant government support programs including subsidized artificial insemination, flock health programs, embryo transplant and sire evaluation services; tax reductions specifically for sheep and/or red meat production; and market protection against imports (U.S.). It is understood that Quebec receives significant levels of government support for its sheep industry's sire improvement, embryo transfer and artificial insemination programs. Alberta and Ontario have flock health programs that were assisted at their inception by government support and, in some cases, still benefit from logistical and/or financial assistance from government.

Several provincial producer associations and marketing groups (e.g. Saskatchewan, Alberta, Ontario, Quebec) have producer check-offs that support their marketing, extension and other programs. The Saskatchewan Sheep Development Board has a producer check-off and operates an effective program to assemble and market lambs for producers; many are exported to other provinces. The Alberta Sheep and Wool Commission has worked closely with Canada West Foods to do marketing and promotions. Several provinces operate sire reference/genetic

improvement programs that provide producers with the opportunity to obtain superior quality genetics at a lower cost than would be the case otherwise. Further details of the programs are shown under the provincial headings in this section.

Lamb Quality, Processing and Grading Systems

Canadian lamb has changed little over recent years in terms of the fat levels and the ratio of saleable meat yield to the live weight of the animal at slaughter. The industry is generally quite small and fragmented compared to that of the major competitors, New Zealand and Australia and even the US. Australia and New Zealand have individual plants that kill 8,000 sheep and lambs per day (Southern Meats in the state of Victoria, Australia). The US has one or more plants that kill 1,000 lambs per day (e.g. Iowa Lamb). With those kinds of volumes, New Zealand and Australia have been able to implement quality control systems, grading systems, quality incentives and discounts that the Canadian industry has largely been unable to do. Therefore, in most cases, there has been no mechanism implemented to provide useful feedback to producers regarding consumers' preferences (i.e. what traits consumers value and will pay a premium for). There are several exceptions to this statement including the Quebec producer marketing groups, Northumberlamb Cooperative, some of Ontario's contract sales and a portion of the lambs processed by Canada West Foods. The Quebec marketing groups take control of the slaughtering and marketing of their lambs and provide incentives/discounts to the producers based on the size and quality of each producer's lambs. Northumberlamb Cooperative has utilized programs that reward producers for the quality and size of their lambs. Ontario has a program that pays incentives to producers based on carcass quality. However, only a small portion of Ontario and Quebec's lambs go through this type of system. Canada West, on a portion of its lamb purchases, bases its payments to producers on a grading system and includes incentives/discounts for carcass quality. However, Canada West buys a large proportion of its lamb requirements from producers on a live basis with no rail grade discounts or premiums.

In a survey of American consumers conducted in 1995, lamb was perceived as the least desirable of the red meats. Consumers said they wanted meat with consistent quality; more lean meat; less fat (the minimal fat level required to maintain juiciness and flavour); portions that are considered good value for money with minimal wastage; convenience/ease in cooking; and a high level of choice/flexibility in available cuts.[21]

In the mid 1970s, lambs were slaughtered in 74 federally inspected plants and approximately 300 provincially inspected abattoirs. In the 1990s, federal inspection of lamb slaughter became highly concentrated in a total of 22 plants; 12 in Quebec, 6 in Ontario, 2 in British Columbia and one plant in each of Nova Scotia and Alberta. The majority of provincially inspected plants kill small numbers of lambs. In fact, it was estimated in the late 1990s that the ten largest plants (regardless of whether federally or provincially inspected), would likely have processed less than 50 percent of Canadian slaughter lambs.[22] In the late 1990s, a significant portion of the slaughter in Ontario shifted from federally inspected to provincially inspected plants. In some cases nothing changed except the plant switched from being a federally inspected to being a provincially inspected plant. Because export sales are not important to Ontario lamb processors, being restricted to only

[21] Stanford, K., Hobbs, J.E., Gilbert M., Jones, S.D.M., Price M.A., and Klein, K.K., Canadian Lamb Marketing Including a survey of Canadian lamb abattoirs and marketing groups. October 20, 1997, p. 2.

[22] Ibid, p. 8.

selling their product in Ontario was not seen as a serious restriction. Since provincial inspection was less expensive the plants opted to switch.

The value of market lambs at a given location is generally determined by the prices that Ontario, Quebec and Alberta processors are willing to pay adjusted for freight, shrinkage, brokerage fees, etc. The Alberta price is determined, to a large extent by the wholesale prices in the Toronto and Montreal markets. A grading system is used to varying degrees by Canadian processors to determine premiums and discounts from the base price. The Ontario market prefers lighter lambs (80-95 pounds live weight), while Alberta prefers larger lambs (110-115 pounds live weight). Lambs must be less than a year of age, and meet criteria for flank muscle colour and fat cover and colour to be eligible for the AAA designation. The fat measurement over the 12^{th} rib determines the "yield grade" which also may play a role in determining the price paid to dealers or producers.

British Columbia lamb producers sell the majority (60%) of their lamb production at the farm-gate to a largely ethnic market and slaughtered without inspection. About 25 percent of BC-produced lambs were slaughtered in BC plants. The remainder were shipped to Alberta or Manitoba as feeders or as finished lambs. [23]

In 1996, eastern Canadian lambs were slaughtered in Quebec (approximately 4,500 from New Brunswick) and at the Northumberlamb Cooperative plant in Truro, Nova Scotia. The New Brunswick Sheep Breeders Cooperative has been quite successful buying from producers and selling to processors, mainly Northumberlamb and a federally inspected plant in Antigonish, Nova Scotia. The remainder of the New Brunswick lambs were slaughtered in provincially inspected plants in New Brunswick and sold through retailers or direct to consumers (about 1,500 and 1,000 lambs, respectively). Northumberlamb processed approximately 4,000 lambs and sold most of the production to the Sobey's supermarket chain. The coop has very specific requirements – 17 to 20 kilogram carcass weights, with penalties for overweight, fat or under-finished lambs. The Maritime Cattle Market sold approximately 3,000 Nova Scotia lambs plus about 1,400 lambs from Prince Edward Island, with the majority being transported to Quebec for slaughter. An additional 1,300 Nova Scotia lambs were slaughtered in the province's 1 federally inspected plant and the 11 provincially inspected plants. 2,500 lambs were also custom-killed in inspected abattoirs and sold in the home-freezer market in Nova Scotia. The remaining 950 Nova Scotia lambs were sold at the farm gate or eaten on the farm.

Processing

The Canadian per capita consumption of lamb and mutton peaked in the early 1920s at about 3.3 kilograms per person per year. By the 1980s and 1990s, consumption had levelled off in the .7 to .8 kilogram per person range. Unlike other red meats for which per capita consumption declined, per capita lamb consumption remained relatively constant throughout the 1980s and 1990s.

Consumer demand for Canadian lamb is geographically concentrated in the provinces of Quebec, Ontario and British Columbia. Slaughtering and processing is concentrated in Quebec, Ontario, and Alberta with small amounts occurring in other provinces. In 1999, Ontario processed 56.4 percent of the Canadian total sheep and lamb slaughter; Quebec, 21.9 percent; Saskatchewan, Alberta and BC, 18.7 percent; the Atlantic Provinces, 2.4 percent; and Manitoba 0.6 percent.

[23] Ibid. p. 14.

Processing has traditionally been concentrated during the months leading up to the major holiday seasons of Easter and Christmas, but in recent years this has been changing. Sales are concentrated in the areas that are more heavily populated, and especially in those areas with higher ethnic populations (UK, Mediterranean and Middle Eastern). The specific cities where this occurs include Toronto, Montreal, Vancouver and Ottawa. [24]

Canadian slaughter of sheep and lambs in federal and provincial inspected facilities for the first six months of 1999 increased 5.9% over the previous year to 162,969 head. Ontario and Quebec slaughter volumes increased by 16% and 9.3%, respectively. Ontario accounts for 58% of the total Canadian sheep and lamb slaughter, while Quebec makes up 24%, the western provinces make up 17% and Atlantic Canada accounts for 1%. Slaughterings in the western provinces declined by 15.7% to 28,176 head while slaughterings in the Atlantic Provinces declined 52.6% to 1,796 head.

The following table shows the number of sheep and lambs slaughtered monthly in federally inspected plants in the West, Ontario, Quebec and the Atlantic Provinces during 1999. It shows that although slaughter volumes peaked in March (Easter season) the slaughter remained high during April, June, July, September and December. The slaughter volumes were more "smoothed out" than they had traditionally been in the past; at least partially addressing the desire of consumers to have a consistent supply of domestically produced lamb available throughout the year. This consistent supply is particularly important to the restaurant (food service) sector. Restaurants will not put an item on their regular menu unless they can be assured a consistent, high quality supply for a long period of time. If domestic supplies cannot be virtually guaranteed, but New Zealand lamb is available on a reliable basis year round, the food service supplier has little choice but to promote New Zealand lamb.

The table shows that Quebec has accounted for 35% to 45% of the federally inspected Canadian slaughter volume in recent years (45% in 1999). It also shows that Canadian federally inspected slaughter volumes have steadily declined since 1996, with Ontario decreasing 48% and the West decreasing 28% from 1996 to 1999. Meanwhile, volumes in Quebec held almost steady and volumes in the Atlantic Provinces increased by more than three times.

[24] Op. Cit., Canadian Sheep Federation, p. 7.

1999 Monthly and 1995 to 1999 Annual Canadian Slaughter of Sheep and Lambs in Federally Inspected Plants

	West	Ontario	Quebec	Atlantic	Canada
January	3,645	1,674	2,935	281	8,535
February	3,151	1,855	3,487	225	8,718
March	6,337	3,648	10,150	282	20,417
April	3,428	2,825	4,053	193	10,499
May	2,543	2,393	4,007	145	9,088
June	2,758	2,588	5,339	245	10,930
July	3,006	2,123	4,884	251	10,264
August	2,979	2,086	4,620	221	9,906
September	4,498	1,991	5,208	322	12,019
October	3,696	269	3,607	184	7,756
November	4,058	610	3,470	113	8,251
December	6,151	599	7,288	209	14,247
Total 1999	**46,250**	**22,661**	**59,048**	**2,671**	**130,630**
Total 1998	50,932	27,864	57,570	2,668	139,034
Total 1997	59,843	28,550	59,868	2,294	150,555
Total 1996	64,542	43,610	59,631	805	168,588
Total 1995	58,315	28,405	59,225	740	146,685

Sources: Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1999, Table 37, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html)

The following table shows the average carcass weights of slaughter sheep and lambs slaughtered in federally inspected plants for each month of 1999.

It shows that the average weight of slaughter animals in the West is consistently more than five pounds heavier than the Canadian average, while the Eastern averages are three to five pounds less than the Canadian average. The low slaughter weight in Quebec in March reflected the higher proportion of milk-fed lambs that were slaughtered during that month for the Easter period.

1999 Monthly and 1995 to 1999 Annual Canadian Average Carcass Weights (Pounds)

	West	Ontario	Quebec	Atlantic	Canada
January	54.5	44.2	43.7	46.2	49.0
February	53.1	42.6	44.9	40.0	47.6
March	54.9	40.1	**38.1**	46.2	43.8
April	52.5	42.8	42.9	45.7	46.9
May	51.5	41.7	45.3	43.9	46.4
June	52.6	43.1	43.3	42.7	45.8
July	52.4	41.6	43.2	41.1	46.6
August	52.2	42.2	44.0	41.8	46.6
September	50.4	31.6	46.2	43.0	48.0
October	50.9	42.2	47.2	45.7	49.0
November	52.1	49.4	45.2	50.4	49.1
December	52.8	50.0	42.5	48.4	47.5
Total 1999	**52.5**	**42.5**	**43.3**	**44.3**	**46.9**
Total 1998	54.2	46.9	42.9	43.0	48.2
Total 1997	55.7	43.4	41.0	42.5	47.6
Total 1996	49.6	45.6	39.4	39.7	46.1
Total 1995	51.6	43.3	41.5	40.9	46.3

Sources: Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1999, Table 37, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html)

The following table shows the number of sheep and lambs slaughtered in provincially inspected plants during each month of 1999. It shows that Ontario slaughtered far more animals in provincially inspected plants than other provinces or regions did. In fact, Ontario's share was in excess of 80 percent of the total national provincially inspected slaughter. The Ontario slaughter is highest in March and December, similar to the federal slaughter; but Ontario's slaughter volumes show less seasonality throughout June to November, compared to the federal slaughter figures.

Two factors account for the high proportion of Ontario's lamb slaughter occurring in provincial plants. Firstly, because the vast majority of the lamb products processed in Ontario are consumed in Ontario, slaughter in a federally inspected plant (allowing export of the meat to other provinces) does not add value to the product. Secondly, and because of the first reason, a number of plants that had previously been federally inspected chose to switch to provincial inspection during the mid 1990s. This would not be feasible for any of the provinces that depend on sales of their products into other provinces (i.e. only Quebec, and possibly BC, could institute this same practice because they consume virtually all their lamb in their own provinces – other provinces all rely on exports to other provinces or countries).

1999 Monthly and 1995 to 1999 Annual Canadian Slaughter of Sheep and Lambs in Provincially Inspected Plants

	West	Ontario	Quebec	Atlantic	Canada
January	986	8,658	345	404	10,393
February	897	7,853	472	308	9,530
March	1,708	22,327	3,506	385	27,926
April	1,065	14,180	1,268	504	17,017
May	1,049	12,285	1,127	342	14,803
June	1,615	13,645	1,657	423	17,340
July	2,129	14,149	1,092	542	17,912
August	1,875	14,754	1,231	493	18,353
September	2,870	13,929	1,379	540	18,718
October	2,434	14,548	1,245	625	18,852
November	2,395	15,433	1,309	491	19,628
December	2,034	22,350	2,609	619	27,612
Total 1999	**21,057**	**174,111**	**17,240**	**5,676**	**218,084**
Total 1998	15,946	146,995	12,107	5,581	180,629
Total 1997	14,878	145,507	9,586	4,968	174,939
Total 1996	13,993	131,581	8,786	5,385	159,745
Total 1995	16,627	137,610	8,586	5,504	168,327

Source: Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1999, Table 37, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html)

Canadian Imports and Exports

There are no tariffs applied to imports of live sheep and lambs or lamb meat into Canada from the USA, New Zealand, Australia, the Caribbean, lesser-developed countries, Mexico and Chile[25].

Since 1996, the Canadian imports of slaughter and feeder sheep and lambs from the US have been declining, as is shown in the following table. Exports of live sheep and lambs to the US increased year-over-year from 1995 to 1999 except for 1998 when there was a decline. From 1995 to 1999 the exports increased by 33 percent.

[25] Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, Table 1, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html)

Canadian Imports and Exports of Sheep and Lambs from the United States 1995 to 1999 (Number of Head)

	1999			1998			1997	1996	1995
Through Ports of Entry (1)	**Ont.**	**Que.**	**Totals**	**Ont.**	**Que.**	**Totals**	**Totals**	**Totals**	**Totals**
Slaughter	2,055	389	2,444	6,775	611	7,386	8,058	21,693	18,046
Feeder	0	0	0	0	0	0	0	212	531
Subtotals	2,055	389	2,444	6,775	611	7,386	8,058	21,905	18,577
Other Imports (2)			6,823			6,987	2,149	5,312	6,332
Totals Imports			9,267			14,373	10,207	27,217	24,909
Exports (3)			51,938			42,401	46,183	44,471	38,979

Sources: (1) Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1999, Table 3, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html); and

(2) Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1999, Table 5, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html).

(3) Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1997, Table 4 and 5, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html);

Imports of Dressed Meat

New Zealand continues to supply the majority (74.7%) of Canada's dressed lamb imports. Lamb imports increased by 8.6% in 1998 to 9,610 tonnes compared to the 1997 total of 8,850 tonnes. Lamb cuts with the bone in accounted for the largest portion of the imports and increased by 17% over 1997. Dressed lamb imports during the first six months of 1999 increased by 7.8% over the same period in 1998

Australia remains the major source of mutton imports into Canada, which are a small portion of total imports. During 1998, Canada imported 1,218 tonnes of mutton from Australia out of total mutton imports of 1,804 tonnes. Bone-in mutton cuts continue to account for the majority of mutton imports at 1,170 tonnes, unchanged from 1997. Imports of mutton carcasses decreased 23% to 365 tonnes while imports of boneless mutton increase 63% to 269 tonnes. In the first six months of 1999, mutton imports increased 25.6% over the same period in 1998 to 1,130 tonnes.

The following table shows the Canadian imports of lamb meat, mutton and offal from the US, Australia, New Zealand and other countries. The majority of the lamb meat (over 60% of total lamb and mutton meat imports) came from New Zealand. Most of the mutton imports (11% of total imports) came from Australia. There was significant growth in boneless lamb cuts (42% more) and bone-in mutton cuts (23% more) that were imported in 1999. Total imports increased by 6% from 1998 to 1999.

Canadian Dressed Meat Imports 1998 and 1999 (tonnes)

Year:	1999					1998					Change
Source:	US	AU	NZ	Other	Total	US	AU	NZ	Other	Total	%
Lamb Carcasses	0	117	406	0	523	1	112	424	0	537	-3%
Lamb Cuts Bone-In	82	1,636	5,874	0	7,592	168	1,536	5,833	12	7,549	1%
Lamb Cuts Boneless	3	543	1,228	0	1,774	4	359	886	0	1,249	42%
Mutton Carcasses	0	141	142	0	283	0	206	159	0	365	-22%
Mutton Cuts Bone-In	0	1,007	434	0	1,441	0	870	300	0	1,170	23%
Mutton Boneless	0	215	38	0	253	0	144	125	0	269	-6%
Offal	168	55	14	0	237	244	0	31	0	275	-14%
Other Lamb and Mutton	0	44	15	0	59	0	33	29	0	62	-5%
Totals	250	3,758	8,151	0	12,162	417	3,260	7,787	12	11,476	6%

Source: Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1998, Table 10, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html)

Canadian Dressed Meat Imports 1996 and 1997 (tonnes)

Year:	1997					1996					Change
Source:	US	AU	NZ	Other	Total	US	AU	NZ	Other	Total	%
Lamb Carcasses	0	161	310	0	471	3	184	264	0	451	5%
Lamb Cuts Bone-In	95	1,324	5,024	0	6,443	143	1,355	3,579	0	5,077	27%
Lamb Cuts Boneless	12	512	1,044	0	1,568	5	323	1,291	0	1,619	-3%
Mutton Carcasses	0	282	190	0	472	0	0	0	0	0	N/a
Mutton Cuts Bone-In	6	781	378	0	1,165	0	1,147	355	0	1,502	-22
Mutton Boneless	0	84	81	0	165	0	115	239	0	354	N/a
Offal	166	3	199	0	368	212	10	113	0	335	10%
Other Lamb and Mutton	0	0	7	0	7	0	0	0	0	0	N/a
Totals	279	3,147	7,233	0	10,659	363	3,134	5,841	0	9,338	14 %

Source: Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1997, Table 10, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html)

Exports

The following table shows the 1999 exports of sheep and lambs by type from BC, Alberta, Saskatchewan, Manitoba and the Atlantic Provinces to Washington, Idaho, Montana, North Dakota and Maine.

The most significant 1999 exports were slaughter lambs from Alberta to Montana and from Manitoba to North Dakota. In fact, the movement of slaughter lambs from those two provinces to those two states accounted for 85% of total sheep and lamb exports. Exports of slaughter ewes from Manitoba to North Dakota and feeders from Alberta to Montana made up the majority of the other exports.

Canadian Exports of Sheep and Lambs to the United States 1999 (Number of Head)

Province of Origin (1)	**BC**	**AB**			**SK 10%**	**MB 90%**	**Total**	**Atlantic**	**Canada**
US Point of Entry	**Wash**	**Idaho**	**Montana**	**Total**	**North Dakota**			**Maine**	
Slaughter Lambs	375	0	10,387	10,387	3,752	33,764	37,516	0	48,278
Slaughter Ewes	0	0	0	0	168	1,517	1,685	0	1,685
Feeders	0	0	1,944	1,944	0	0	0	32	1,976
Totals	375	0	12,331	12,331	3,920	35,281	39,201	32	51,938

(1) Province of origin as estimated by Agriculture and Agri-Food Canada

Source: Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1999, Table 4, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html)

The following table shows how 1998 export volumes differed from 1999 volumes. 1998 exports were about 18 percent less than 1999 exports. However, the makeup of the export volume was quite different. The majority of exports (62% of the total) were feeders exported from Manitoba to North Dakota. Other exports consisted of slaughter lambs (8%) and feeders (3%) from Alberta to Montana and slaughter lambs (20%) from Manitoba to North Dakota.

Canadian Exports of Sheep and Lambs to the United States 1998 (Number of Head)

Province of Origin (1)	**BC**	**AB**			**SK 10%**	**MB 90%**	**Total**	**Ontario**			**QC**	**Canada**
US Point of Entry	**Wash**	**Idaho**	**Montana**	**Total**	**North Dakota**			**Mich.**	**NY**	**Total**	**VT**	
Slaughter Lambs	0	20	3,473	3,493	835	7,517	8,352	96	33	129	22	11,996
Slaughter Ewes	0	0	0	0	0	0	0	0	0	0	0	0
Feeders	0	0	1,130	1,130	2,928	26,347	29,275	0	0	0	0	30,405
Totals	0	20	4,603	4,623	3,763	33,864	37,627	96	33	129	22	42,401

Source: Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1998, Table 4, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html)

The following table shows the variability of export volumes during the 1996 to 1999 period. As described above, the 1999 Canadian exports were mainly slaughter lambs, while the majority of exports in 1998, and to a lesser extent in 1997, were feeders. 1996 exports were totally made up of slaughter lambs.

Canadian Exports of Sheep and Lambs to the United States 1996 to 1999

Type of Animal	1999	1998	1997	1996
Through Ports of Entry (1)				
Slaughter Lambs	48,278	11,996	18,006	43,317
Slaughter Ewes	1,685	0	0	0
Feeders	1,976	30,405	27,488	0
Subtotals	51,939	42,401	45,494	43,317
Other Exports (2)	21	3,660	???	1,154
Totals	51,960	46,061	40,183	44,471

Sources: (1) Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1999, Table 3, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html); and

(2) Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1999, Table 6, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html).

Exports of Dressed Meat

Canada exports very little dressed lamb and mutton relative to the volumes that are imported. The following table shows the Canadian exports of lamb meat and mutton to the US, Japan, Mexico and other countries. Exports declined in all categories except for mutton cuts bone-in. Total exports declined by 23% from 1998 to 1999. However, exports in 1998 had increased from 1997, continuing their upward trend from their 1996 lows. In 1998, all exports consisted of dressed lamb (427 tonnes). This represents a 52% increase over the 1997 volumes. 69.6% of the exports went to the United States and 19.9% went to Mexico. Most (77.5%) of the Canadian exports are cuts with the bone in.

Exports, on a volume basis, in 1998 and 1999 were about 3% of import volumes. In other words, the amount that was imported was about 31 times the amount that was exported in 1998 and 1999.

The figures that are summarized here reinforce the message that the Canadian sheep industry is primarily a producer and processor of lamb for our domestic market (given that the industry fills less than half of the domestic market that is available to it). It does not aggressively pursue export markets for processed product. Individual producers, especially feedlot operators, including Roy Leitch Livestock Company Limited of Brandon sell finished lambs to US plants if the price is more attractive there than in alternate markets (Ontario, Quebec or Alberta). This means that most of the increases in value (value-added) and related jobs occur in those locations where the processing occurs – not in Manitoba.

Canadian Dressed Meat Exports 1998 and 1999 (tonnes)

Year:	1999					1998					Change
Destination:	US	Japan	Mex.	Other	Total	US	Japan	Mex.	Other	Total	%
Lamb Carcasses	9	0	0	3	12	26	0	0	3	29	-59%
Lamb Cuts Bone-In	207	1	1	36	245	205	0	85	41	331	-26%
Lamb Cuts Boneless	30	0	0	3	33	66	0	0	1	67	-51%
Mutton Cuts Bone-In	2	0	34	0	36	0	0	0	0	0	N/a
Offal	0	0	0	0	0	0	0	0	0	0	0%
Other Lamb and Mutton	1	0	0	0	1	0	0	0	0	0	N/a
Totals	249	1	35	42	327	297	0	85	45	427	-23%

Source: Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1998, Table 11, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html)

Canadian Dressed Meat Exports 1996 and 1997 (tonnes)

Year:	1997					1996					Change
Destination:	US	Japan	Mex.	Other	Total	US	Japan	Mex.	Other	Total	%
Lamb Carcasses	3	0	0	4	7	1	0	0	5	6	17%
Lamb Cuts Bone-In	119	70	0	22	211	102	0	0	21	123	72%
Lamb Cuts Boneless	56	0	0	0	56	11	0	0	1	12	367%
Mutton Cuts Bone-In	0	0	0	0	0	0	0	0	0	0	N/a
Offal	6	0	0	0	6	5	0	0	30	35	-83%
Other Lamb and Mutton	1	0	0	0	1	0	0	0	0	0	N/a
Totals	185	70	0	26	281	119	0	0	57	176	60%

Source: Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1998, Table 11, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html)

4.6 Ontario

Ontario's flock has shown steady increases during the 1996 to 2000 period. The 2000 breeding flock is 15.3 percent larger than 1996. During the same period the number of market lambs increased by more than 45 percent. In 2000, Ontario accounted for 26.5 percent of the national breeding flock; Alberta at 23.5% and Quebec narrowing the gap at 20.8%.

Ontario Population of Sheep and Lambs at July 1 Each Year 1996 through 2000

	Rams	Ewes	Total Sheep	Replacement Lambs	Market Lambs	Total Lambs	Total Sheep & Lambs
1996	6,800	124,200	131,000	25,600	63,300	88,900	219,900
1997	6,800	122,000	128,800	25,500	72,100	97,600	226,400
1998	7,000	124,000	131,000	28,000	73,000	101,000	232,000
1999	7,500	131,800	139,300	32,000	82,000	114,000	253,300
2000	8,500	142,500	151,000	37,000	92,000	129,000	280,000

Ontario's sheep industry is characterized by small intensive sheep and lamb feeding operations. Lamb production is spread throughout most areas of the province, while feeding is generally concentrated nearer to the large ethnic markets in Toronto and Ottawa. Ontario has a large feeding and slaughtering industry – numerous small provincially inspected abattoirs and slaughter plants exist throughout the areas where lambs are raised and fattened.

The Ontario Sheep Marketing Agency is a producer run organization that represents all aspects of the sheep, lamb and wool industry in the province. It was formed in 1985 under the Ontario Farm Products Marketing Council to enhance producers' returns and to provide consumers with safe, premium quality lamb and related products. It encourages producers to provide a year round supply of quality product through ongoing marketing, promotion, advocacy and education.

In 1996, lamb produced in Ontario supplied approximately 50 percent of the Ontario market. Of the estimated 250,000 slaughter lambs, approximately half were sold to an ethnic market as new crop/light/milk-fed at 30-kilogram liveweight. New crop lambs are typically born in January and marketed before 70 days of age, at about Easter. Consequently, Statistics Canada generally does not count these lambs because they are born after January 1 and slaughtered before July 1 of the year. The remaining 50 percent of Ontario lambs are marketed at a liveweight of approximately 45 kilograms. Less than 1 percent of Ontario lamb was sold at the farm gat or eaten on the farm. A large percentage of Ontario slaughter lambs passed through livestock exchanges including Cookstown, OLEX, Embrun, Brussels, Lancaster, Lindsay and Kady. Approximately 2,500 lambs from Embrun were transported to Quebec. Another 2,00 lambs were gathered from the livestock exchanges and from western Ontario and shipped live to the US via Manitoba for slaughter. By far the largest proportion (97%) of Ontario lambs were slaughtered at the 181 provincially inspected plants (about 190,000 lambs) spread throughout Ontario and the 6 federally inspected plants near Toronto (about 60,000 lambs). [26]

The following table shows that 1999 Ontario lamb marketings were concentrated during March to June (40% of annual marketings), September (9%) and December (12%). The majority of new crop lambs (65% of the annual total) are marketed during the months of March, April and December.

[26] Op. Cit., Canadian Lamb Marketing, p. 18.

Lamb pricing was highest in March, with the next highest months being either December or January, depending on the type of lamb. Sheep prices were highest in January.

1999 Ontario Sales and Weighted Average Prices of Sheep and Lambs ($ per 100 lbs.)

	Ontario								
	# sold					Average price ($ per 100 lbs.)			
Month	A & B Lambs < 79 lb.	A & B Lambs 80 – 94 lb.	New Crop Lambs	Sheep	Totals	A & B Lambs < 79 lb.	A & B Lambs 80 – 94 lb.	New Crop Lambs	Sheep
January	2,722	1,415	163	1,493	5,793	178.02	142.31	188.76	72.23
February	2,964	1,004	252	1,482	5,702	138.14	138.14	171.04	65.89
March	8,917	1,253	2,878	2,990	16,038	202.34	165.09	214.21	66.13
April	6,410	640	1,575	2,525	11,150	171.83	161.50	174.98	57.01
May	5,569	1,248	979	2,468	10,264	141.29	139.98	139.81	51.53
June	6,332	2,607	378	1,614	10,931	131.58	126.84	139.02	53.42
July	3,925	1,852	359	1,380	7,516	118.78	107.29	125.37	59.34
August	4,516	2,329	430	1,906	9,181	126.16	112.21	127.10	57.40
September	5,727	3,118	312	2,098	11,255	121.05	107.82	126.15	60.58
October	3,838	2,597	253	1,759	8,447	142.89	116.89	146.60	61.82
November	4,743	2,159	214	1,256	8,372	149.90	120.13	143.66	62.18
December	8,593	2,366	1,649	2,024	14,632	171.87	122.15	209.38	67.17
1999	64,256	22,588	9,442	22,995	119,281	153.84	124.13	180.84	60.96

Source: Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1998, Table 20, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html)

4.7 Quebec

Quebec-produced lamb is thought to supply approximately 20% of the Quebec market. Approximately 60 percent of Quebec's estimated 108,000 lambs are marketed milk-fed lamb at about 16-18 kilograms liveweight to an ethnic market, 5 percent are sold as light lambs 20 to 35 kilograms liveweight), with the remaining 35 percent sold as heavy lambs (35 kilograms and over). The majority of the milk-fed lambs pass through the St. Hyacinth auction and more than half were slaughtered without inspection.

The nine lamb marketing groups in Quebec that are linked to the provincial sheep breeders' syndicates marketed approximately 70 percent of the heavy lambs. There are approximately 200 to 250 producers who sell all or part of their lamb crop through the lamb marketing groups. Some marketing groups are privately owned (e.g. Agneaux Max in the Saguenay-Lac-Saint Jean area) while others are cooperatives (e.g. Cooperative du KRT in the Quebec City area or non-profit organizations (e. g. Le Regroupment des Bergers du Temiscamingue). Regardless of their structures, they all share the same objective – to get the best prices for their members. The marketing groups are formed on a regional basis and led by producers who believe that a collective marketing strategy is better than the highly variable prices that result from marketing at auctions or through livestock dealers. The marketing groups have established contracts with supermarkets, wholesalers/distributors who generally take whole carcasses on a weekly basis. Several of the groups have been targeting a high quality labelled niche under their own labels including "Agneau Premier du Quebec" and Agneau Kamouraska." Members of the groups receive payment based on the carcass weight and grade as assigned by the marketing agent hired

by each group. In Quebec many abattoirs serve as custom-killing plants for the marketing groups.

Quebec producers and their marketing groups benefit from significant government support programs including performance testing; artificial insemination and embryo transfer programs; sheep research programs; and extension programs to assist and encourage Quebec producers to adopt the most modern technologies. In past years they have had tripartite-like programs to stabilize sheep producers' income levels.

According to the most recent annual data that was available, approximately 9,000 lambs were imported from Nova Scotia and New Brunswick for slaughtering in Quebec. An estimated 20,000 lambs were imported from western Canada for slaughter in Quebec. It is estimated that the Quebec lamb market was supplied with 20% Quebec lambs (plus 6% milk-fed lambs), 18% from western Canada, 3% from eastern Canada and 53% from New Zealand and Australia.

The following table shows that Quebec lamb marketings follow the same distribution pattern as Ontario's. However, Quebec differs from Ontario in that most of Quebec's lamb slaughter takes place in federally inspected plants, whereas in Ontario, most is done by provincially inspected plants.

Quebec prices tended to be somewhat lower than Ontario's for new crop lambs, except during May through November of 1999.

1999 Quebec Sales and Weighted Average Prices of Sheep and Lambs ($ per 100 lbs.)

	Quebec								
	# sold					**Average price ($ per 100 lbs.)**			
Month	A & B Lambs < 79 lb.	A & B Lambs 80 – 94 lb.	New Crop Lambs	Sheep	Totals	A & B Lambs < 79 lb.	A & B Lambs 80 – 94 lb.	New Crop Lambs	Sheep
January	304	92	927	368	1,691	163.85	134.01	188.62	74.14
February	467	238	960	613	2,278	165.02	136.94	183.12	60.80
March	1,335	562	4,984	1,068	7,949	177.47	155.77	200.95	59.56
April	429	171	2,759	808	4,167	149.05	151.19	166.19	61.88
May	766	127	1,641	897	3,431	138.87	140.06	141.83	54.56
June	1,559	466	1,457	1,006	4,488	128.99	123.52	144.54	49.16
July	1,100	390	1,175	498	3,163	121.31	114.74	139.56	55.82
August	790	362	908	311	2,371	127.25	111.04	149.56	67.96
September	1,487	591	1,092	428	3,598	117.69	104.29	148.63	65.16
October	1,026	482	720	476	2,704	128.26	108.97	173.50	65.80
November	594	300	1,207	548	2,649	127.39	110.48	173.00	58.35
December	1,309	311	3,641	844	6,105	136.24	115.26	203.14	54.43
1999	11,166	4,092	21,471	7,865	44,594	137.00	122.62	176.39	58.82

Source: Agriculture and Agri-Food Canada Red Meat Section's Home Page, Red Meat Markets Information, 1998, Table 20, (http://www.agr.ca/misb/aisd/redmeat/redmsece.html)

4.8 Alberta

Federally inspected slaughter in 1996 accounted for 44,000 lambs (all at Canada West Foods Corporation, Innisfail). An additional 11,000 lambs were slaughtered in provincial inspected plants, mainly on a custom-kill basis for sale by producers into the home-freezer trade. Approximately 13,000 lambs were purchased by an Alberta-based order buyer and shipped live

for slaughter in a US plant. An estimated 55,000 lambs (including 5,000 from B.C. and Saskatchewan) were shipped live out of Alberta, mainly to Manitoba based order buyers. Approximately 90% of Alberta's federally inspected slaughter is exported to other provinces, mainly to Ontario, Quebec and British Columbia. [27]

Alberta has over 50 abattoirs and packing plants spread throughout the province. All are provincially inspected with the exception of Canada West Foods Corporation of Innisfail, which is the only federally inspected lamb slaughter plant on the Prairies. Three auction markets hold regular sheep and lamb auctions in Edmonton, Camrose and Lloydminster and six order buyers purchase lambs and sheep in the North Central Region. In addition occasional auctions of sheep and goats take place at Barrhead, Drayton Valley and Rimbey.

Numerous sheep producer groups are active in Alberta including:

- Alberta Sheep Breeders' Association, c/o Amy Jackson, Secretary, Box 6, Site 12, RR 1, Didsbury, AB, T0M 0W0, Phone: 403-335-4348, Fax: 403-335-2389;
- Camrose Sheep Producers Club, c/o Sharilee Grahn, President, RR 1, Bittern Lake, AB, T0C 0L0, Phone: 780-672-6569; and
- Alberta Sheep and Wool Commission, Mr. Tony Stolz (resigned in September 2001 – a replacement was expected to be named shortly), General Manager, aswc@therockies.com – funded by a compulsory producer check-off and has been a strong and effective lobby on several issues.

Profile of Alberta's Sheep Industry

	1994	1995	1996	1997
Sheep on Farms July 1				
Ewes	116,000	124,700	115,300	114,500
Rams	6,300	5,700	6,000	6,000
Lambs for Breeding	29,600	31,400	30,700	29,700
Lambs for Market	98,100	102,200	92,500	81,500
Total Sheep	250,000	264,000	244,500	231,700
% of Canada	30.3%	30.8%	28.9%	28.0%

4.9 Saskatchewan

Saskatchewan sheep numbers have increased steadily since 1986 to become the fourth largest in Canada. Recent changes in grain transportation policies are causing farmers to investigate alternatives to growing grain for shipment to export markets. Growing lower-cost forage crops and adding value through the production of livestock such as sheep appears to have potential to become more important in the future. Sheep production is spread throughout the province and is made up of farm flocks, range flocks and finishing operations. The Saskatchewan industry includes farm flocks of 60 to 250 ewes and range flocks of 200 to 500 ewes. The farm flocks generally sell lambs as feeders for export to Alberta or East (Manitoba, Ontario) for finishing or finish them to about 110 pounds. The range flocks are mainly located in the short-grass prairie area of southwest Saskatchewan. Two provincially operated community pastures located near

[27] Op. Cit., Canadian Lamb Marketing, p. 15.

Tompkins and Mortlach offer opportunities to graze sheep on crown lands. A few lamb feedlots have been established in the province to utilize relatively low-priced feed grains to finish lambs to slaughter weights. Lambs are marketed via public auctions such as the large sale held annually in Tompkins, through order buyers or through the Saskatchewan Sheep Development Board's assembly service.

The Saskatchewan Sheep Development Board (SSDB) is an organization that is funded by producer checkoff and is mandated to be the voice of the industry. Its board is made up of five directors from each region of Saskatchewan and it operates an office in Saskatoon (2213C Hanselman Court, Saskatoon, SK, S7K 4E3, Phone: 306-933-5200, Fax: 306-933-7286). It offers marketing services, market development and promotion including producer seminars and extension activities to Saskatchewan producers. The SSDB also liaises with government departments and prioritizes needs for research (e.g. leafy spurge grazing projects) and public relations activities. In 1996, 12,000 lambs were marketed through the SSDB including approximately 6,000 that were transported into Ontario for slaughter and 2,400 that were transported to Alberta for slaughter or into feedlots. The remaining 3,600 lambs were sold to Manitoba order buyers. [28]

The SSDB can arrange sales of breeding stock, feeder or slaughter sheep and lambs for any sheep producer requesting the service. Producers are responsible for the costs of shipping the animals to the assembly yard and for paying handling charges, yardage checkoff, insurance and GST. Recently these charges, excluding shipping, totalled $4.78 per head (of which $1.00 was a checkoff to support the association). [29]

Other producer associations are also active including the Southern Saskatchewan Wool Growers Association (SSWGA) and the Saskatchewan Sheep Breeders Association (SSBA). The SSWGA was originally mandated to promote wool and lamb production. It has undertaken extension activities including the production of a provincial sheep manual and several sheep seminars. Individual members are also involved in wool promotion. The SSBA represent purebred sheep producers and operate a ram test station at Govan, Saskatchewan. The association also operates a few purebred sales annually. Saskatchewan producers are affiliated with national associations including the Canadian Sheep Federation, Canadian Cooperative Wool Growers and the Canadian Sheep Breeders Association.

In 1996, provincially inspected and non-inspected slaughter accounted for 11,750 Saskatchewan lambs, with another 8,250 lambs exported to Alberta for federally inspected slaughter. An estimated 5,000 lambs were sold to a Saskatchewan feedlot and later marketed into Ontario for provincially/federally-inspected slaughter.

4.10 Manitoba

As shown in Section 4.5 of this document, Manitoba is the province that has shown the largest year-over-year increase in ewe numbers from January 2000 to January 2001.

Manitoba is home to Canada's largest lamb order buyer and feedlot operator, Roy Leitch Livestock Company Limited. This operation is located near Brandon. It is estimated that nearly

[28] Op. Cit., Canadian Lamb Marketing, p. 16.

[29] Saskatchewan Sheep Development Board website: http://www3.sk.simpatico.ca/sksheep

100,000 lambs are fed annually in this province; significantly more lambs than are born in Manitoba.

Manitoba has a proven track record of being able to produce consistently good quality forage because of our long days and ample rainfall during the growing season. Manitoba produced alfalfa hay is regularly purchased by U.S. dairy farmers because of its high value versus its cost. Manitoba producers are able to produce this high quality forage inexpensively because of low-cost land. Manitoba land is low-cost because returns from grain production are low in Manitoba because of the high costs of moving grain to export terminals and low international grain prices Manitoba cropland is approximately one-third of the cost of comparable Alberta land and one sixth of the cost of Southern Ontario cropland (though more productive, the Ontario land is not six times more productive than Manitoba cropland). Ontario and Alberta land values are strongly influenced by high population densities and having higher numbers of non-farmers who are willing to pay much higher values than farmers can justify paying based on agricultural productive values. This magnitude of difference in land costs creates a significant difference in the cost of production of forages and other crops. The cost of non-irrigated cropland in Montana is similar in Canadian dollars to Manitoba cropland. However, there would be a significant difference between land productivity between Montana and Manitoba that would make the Montana land relatively more expensive when considering productivity (perhaps one-third more). This higher productivity per $ of cost in Manitoba offsets some of the disadvantage of Manitoba' shorter grazing season and distance from markets. It is estimated that the cost of production for hay in Montana, in Canadian dollars, would be similar to, or perhaps higher than Alberta.

Research prepared by the consulting team estimating the cost of production for hay for Manitoba, Ontario and Alberta is shown in the following table. The table shows that the estimated cost of production of alfalfa hay is approximately 33% higher in Alberta and 17% higher in Ontario per ton than in Manitoba. Additional information regarding the calculation of costs of production for forages is included in Appendix 1 of this report.

Comparison of Estimated Cost of Production for Alfalfa Hay for Manitoba, Ontario and Alberta

Province	Estimated Average Cost per Acre	Estimated Yield per Acre (Tons)	Estimated Average Cost per Ton
Manitoba	$114.90	2.5	$45.95
Alberta	$134.85	2.2	$61.30
Ontario	$236.00	4.4	$53.64

A 2000 report from Kansas[30] estimates the cost of producing brome hay at $69.07 US per ton or more than $100 Cdn. Per ton ($172.68 US per acre to achieve 2.5 tons per acre). Average selling prices for hay in the US during the period 1988 to 1995 were estimated to range between $52.00 to $69.00 US per ton. [31]

[30] Kansas State University – Brome Hay Cost-Return Budget for Central and Eastern Kansas, October 2000.

[31] Morgan's Hay Articles and Commentary, June 28, 1995.

Similar comparisons were prepared for pasture between Manitoba and Saskatchewan. It is estimated that, because of Manitoba's higher productivity, the cost per ewe per season would be approximately $19.04 in Manitoba compared to $20.32 in Saskatchewan.

Comparison of Estimated Cost of Production for Pasture for Manitoba and Saskatchewan

Province	Estimated Average Cost per Acre	Estimated # of Ewes per Acre per Season	Estimated Average Cost per Ewe per Season
Manitoba	$43.79	2.3	$19.04
Saskatchewan	$20.32	1.0	$20.32

These comparisons of forage and pasture costs illustrate a fundamentally important factor related to Manitoba' comparative advantage – forage accounts for 56% of total costs in a typical sheep operation. Low cost forage and pasture creates a fundamental advantage for Manitoba versus its competitors. Competitors cannot easily change this type of comparative advantage. Many of the other advantages can be improved upon, but this one must be the building block on which a strong industry can be built.

Sheep thrive in the Manitoba climate, with few of the foot problems that are prevalent in wetter climates. New fencing technologies and improved grazing management can provide new opportunities to improve the income generated from Manitoba's pastures. Sheep are well suited to companion/rotational grazing with cattle, horses, etc. because they more extensively graze weeds (e.g. leafy spurge) and shrubs. Sheep fit well into grain or grain/livestock operations because the peak labour requirements in a sheep enterprise are often at different times of year than for the other enterprises. Ewes can graze on low quality forages in the fall including headlands, uncultivated areas and stubble of harvested crops.

Predators have traditionally discouraged sheep production. However, the increasing use of guard dogs and guardian animals such as donkeys and llamas has proven effective at limiting losses.

In 1996, Manitoba sheep farmers produced an estimated 23,000 slaughter lambs. An estimated 5,000 lambs were sold at the farm gate and slaughtered without inspection, while an additional 1,500 head were custom-killed at provincially inspected abattoirs for sale into the home freezer trade. Another estimated 500 lambs were slaughtered in provincially inspected plants for sale through the retail trade (about 12 tonnes of dressed lamb – about 2% of Manitoba's provincial consumption, with the remainder being supplied by imports from New Zealand and Australian lamb). An estimated 13,000 Manitoba lambs (60% of Manitoba born lambs) plus 80,000 lambs mainly from Alberta, Saskatchewan and lesser numbers from B.C. and western Ontario were either finished in Manitoba or assembled in Manitoba for direct shipment into the US, Ontario or Quebec for slaughter. [32]

[32] Op. Cit., Canadian Lamb Marketing, p.17.

Growth in the Manitoba Sheep Industry Between 1996 and 2001

	1996	2001	% Increase
Number of Sheep Farms	526	600	14.1%
Sheep on Farms at July 1			
Ewes	18,900	33,800	78.8%
Rams	900	1,500	66.7%
Lambs for Breeding	5,000	12,400	148.0%
Lambs for Market	12,700	31,100	144.9%
Total Breeding Flock	24,800	47,700	92.3%
Total Sheep	37,500	78,800	110.1%
% of Canada	4.4%	7.6%	72.7% (1)
Lamb Production	28,000	52,000	85.7%
Imports	**1996**	**2000 (2)**	**% Increase**
Lambs/Sheep from Western Canada & U.S.	70,000	61,000	(12.9%)
Dressed Lamb/Mutton (tonnes)	594	1,000	68.4%
Lamb/Sheep Exports			
To the U.S.	28,100	27,240	(3.1%)
To Eastern Canada	50,000	56,000	12.0%

Source: *Manitoba Livestock Industry Profiles*, Market Analysis and Statistics Section, Program and Policy Analysis Branch, Manitoba Agriculture and Food.

Notes:

(1) This shows that Manitoba's share of the total Canadian sheep population increased by 72.7 percent – i.e. the Manitoba industry grew much more rapidly than the whole Canadian industry.

(2) The most recent available data.

If the Manitoba breeding flock continues to increase over the next ten years at 13 percent per year (the rate that it did from 1996 to 2001 - current numbers show that it is, in fact, increasing at an even higher rate) the number of breeding ewes may double in six years.

Profile of Manitoba's Sheep Industry

	1996	1997	1998	1999
# of Sheep Farms	526	555	565	555
Sheep on Farms July 1				
Ewes	18,900	21,200	23,000	25,000
Rams	900	1,000	1,000	1,000
Lambs for Breeding	5,000	4,600	6,000	6,500
Lambs for Market	12,700	15,300	19,000	22,500
Total Sheep	37,500	42,100	49,000	55,000
% of Canada	4.4%	5.1%	5.9%	6.2%
Lamb Production	28,000	32,000	34,500	37,500
Exports of Sheep and Lambs				
To the US	28,100	34,600	37,700	37,700
To Eastern Canada	50,000	44,000	42,300	46,000
To Western Canada	5,000	4,000	4,500	4,000
Imports				
Sheep and Lambs from W. Canada & US	70,000	70,000	67,000	68,000
Dressed Lamb & Mutton (tonnes)	594	600	700	690

It is estimated that Manitoba producers had farm gate sales (uninspected slaughter) of approximately 6,000 lambs and freezer lamb trade (inspected slaughter) of about 1,000 head in 1999. In 2000, the inspected slaughter increased to about 2,400 head. These farm gate and freezer lamb sales created a significant value-added niche market for some producers and accounted for over 7 percent of total sheep and lamb production in Manitoba in 1999 and 2000.

Development of a steady supply of consistent quality lamb for processors is required to effectively compete with imported lamb. Canada's production is not consistent because there is a diversity of genetics among Canadian flocks. By contrast, most of Australia's sheep are Merino while most of New Zealand's have traditionally been Romney (58% of the NZ flock in 1996). The Merino produces good quality wool but a poor quality lamb carcass. With decreased returns from wool because of low wool prices, Australian producers are increasingly breeding their Merino ewes to terminal sires that will produce better quality lambs. Therefore, the lamb available from New Zealand and increasingly from Australia is a consistent quality product.

Manitoba's sheep producers, feedlot operators and marketers make up the base on which much of the expansion of the sheep industry is expected to build. They have a strong experience and expertise base in production, marketing, etc., which are critical resources that will be needed if the industry is to grow significantly in size in the future.

Existing and potential new processors are expected to be important to the development of a larger Manitoba industry because transportation of small lots of lambs long distances to slaughter/processing plants has proven to be uneconomical and unreliable. It may be possible to overcome some of the logistical challenges by having an association or broker co-ordinate movement of full truckload lots to slaughter/processing facilities. Establishment of federally inspected processing facilities and adoption of grading standards and incentive/penalties based on lamb carcass quality are expected to be required for the long-term development of the industry.

The Manitoba Sheep Association Inc. (MSA) has approximately 150 members and currently provides several services to producers. The MSA co-ordinates movement of wool to the Canadian Co-operative Wool Producers and holds an annual sheep seminar. It also organizes an annual shows and sales of purebred and commercial sheep in August of each year. The MSA, MSII and Manitoba Agriculture and Food are currently co-operating on grazing management trials and demonstrations under the "Covering New Ground" initiative. The use of permanent forage in conjunction with rotational grazing for sheep production provides a highly sustainable production system, especially on marginally productive land. This provides an opportunity to rehabilitate fragile soils and create additional wildlife habitat. Other projects are underway to promote new techniques such as the Ovissey flock management system and to compile cost of production information.

The Manitoba industry is primarily a commercial production industry. According to a survey of 133 Manitoba producers conducted by the Manitoba Sheep Association Inc. and Manitoba Agriculture and Food in January 0f 2000, 72.5% of producers are commercial and 23.6% are both commercial and purebred. Only 3.8% of Manitoba's sheep producers categorize themselves as purebred only.

The Manitoba Sheep Association Inc., while it has very effectively and efficiently operated in recent years, has lacked resources to undertake major extension, marketing and education programs (i.e. was entirely dependent on volunteers). Most other provinces that have significant

sheep industries have producer check-offs (in the case of Alberta it is compulsory) that provide relatively stable and secure funding to support their provincial associations or marketing groups. This type of funding has allowed Saskatchewan, Ontario, Quebec, New Brunswick and Alberta to hire professional staff to implement marketing programs and deliver extension initiatives. Most other provinces have at least one provincial government sheep specialist and academic staff in their universities and/or research stations who specialize in sheep research and extension. Manitoba Agriculture and Food has only recently arranged to hire a sheep specialist for this province. There is no research/extension specialist attached to any Manitoba universities or Agricultural Research Stations that is dedicated to sheep research/extension. This has been a serious impediment to the development of the Manitoba industry

5.0 ANALYSIS AND SUMMARY OF THE MANITOBA SHEEP INDUSTRY'S COMPARATIVE ADVANTAGE SITUATION

The Manitoba sheep industry faces a number of competitive challenges in increasing sales of lamb products, when compared to key competitors. However, the Manitoba sheep industry has an advantage over many of its competitors with respect to low-cost production inputs. Low cost forage and pasture, based on low-cost land resources and a generally favourable climate, create a fundamental advantage for Manitoba versus its competitors. Competitors cannot easily change this type of comparative advantage. Many of the other advantages can be improved upon, but this one must be the building block on which a strong industry can be built. This is a key factor, which if not in place, can make it very difficult, if not impossible, to develop the other comparative advantage factors described in Section 3.2.

The Manitoba sheep industry's key challenges exist in not having well-established marketing channels and in not having a consistent supply of slaughter animals with uniform characteristics.

Manitoba possesses an image to those from elsewhere of being a "green/natural/healthy" area with abundant, fresh, good quality water and; uncontaminated soils and abundant wide-open spaces. This is an image that could be very saleable to consumers if it were attached to a lamb product and could be a significant advantage in the marketing of Manitoba lamb in the future.

Manitoba's labour costs, which are closely tied to cost of living (housing, transportation, electricity, etc.), are generally lower than those of competitive production/processing areas (especially versus Alberta and Ontario). A potential strategic alliance partner, if looking at building a processing operation in Manitoba, would view this as a positive factor. However, many other factors such as property taxes, income tax levels, energy costs, etc. would also be significant factors. In some respects, Manitoba will be at a disadvantage to other provinces/states regarding taxation factors and perhaps fuel costs (especially versus Alberta). If a strategic alliance with a processor is an option that is to be pursued in the future, much more research will be required at a later date to build a strong business case for that option. The entire "package" of costs of building and operating a plant in Manitoba would ultimately be compared against building/operating elsewhere before a potential strategic ally would make a decision.

Manitoba's rating on all or, at least most of the factors shown in the table below will need to be improved if the Manitoba sheep industry's comparative position is to improve versus its competitors (the other suppliers of lamb and, to a lesser extent, suppliers of alternative red and white meat products). Other competitors, including Australia, New Zealand, the new coops in the US (Dakota Lamb Growers Coop and Mountain States Lamb Coop) and Quebec's producer marketing groups offer consistent supplies of uniform animals and lamb products by coordinating the slaughter, processing and delivery of their meat products to consumers through highly efficient and consumer-friendly marketing systems.

The table below uses the comparative advantage factors for commodity lamb markets that were shown in Section 3.2 of this document to rate the Manitoba industry's comparative advantages versus the major competitors.

Comparison of Commodity Based Comparative Advantage Factors for the Manitoba Lamb Production Industry Versus Its Competitors

Factor	New Zealand	Australia	United States	Ontario	Quebec	Alberta	Saskat-chewan	Mani-toba
Production Oriented Factors								
1. Low-Cost Production Inputs	+++++	++++	++	0	0	++	++	+++
2. Production Management & Technology	++++	+++	++	++	++	++	++	++
3. Size of Production Units	++++	+++++	++	+	+	++	++	+
4. Numbers of Sheep	++++	+++++	++	+	+	+	0	0
Processing and Marketing Oriented Factors								
5. Uniform Carcasses, Consistent Quality & Supply	+++++	+++	+ [33]	++	++	++	+	+
6. Logistics Systems	+++++	++++	+++	+++	+++	+++	+	++
7. Efficient Slaughter and Processing	+++++	+++++	+++	+++	+++	+++	0	0
8. Profitable Markets for Trim, Offal, Skins, Blood, etc.	++++	++++	++++ [34]	+++	+++	+++	+	++
9. Effective Product Marketing	+++++	+++	+++	+++	+++	++	++	0
10. Strong Industry Association, Grower Groups, Coops, etc.	+++++	+++	+++	+++	+++	+++	++	0
Overall Score	46	39	25	21	21	23	13	11
Overall Ranking	1	2	3	5	5	4	6	7

Notes Regarding the Rankings:

The following section provides comments and explanation of each of the ratings in the above table.

Production Oriented Factors

1. Low-Cost Production Inputs (Ratings):

New Zealand – rated very high (i.e. have low costs) because of year round grazing and reduced need for shelter;

Australia – high because of year round grazing and reduced need for shelter; not as high as NZ because of periodic droughts;

US, Alberta and Saskatchewan - moderate rating because of longer grazing season and reduced need for shelter (especially in the US), inexpensive forage and grain production, Alberta lower than Manitoba because of more expensive land, Saskatchewan because of periodic drought;

Ontario & Quebec – very low because of high land and cropping costs, concerns about manure, odour, etc.;

[33] The new cooperatives (Dakota Lamb Growers Coop and Mountain States Lamb Coop) are designing mechanisms to mitigate these problems – if they achieve success, they could improve their rating to +++ or ++++.

[34] The profitability from the processing of by-products will vary from plant to plant depending on proximity to other livestock processing and rendering plants (i.e. "critical mass" of by-products is needed to make processing feasible).

Manitoba – high because of inexpensive forage and grain production.

2. Production Management & Technology (Ratings):

New Zealand – very high because of resources focussed on this industry by research and extension programs, including sophisticated rotational and mixed species grazing;

Australia – high because high levels of technology use;

All others – moderate because of generally lower levels of grazing management and technology use.

3. Size of Production Units and Related Impacts on Economies of Scale Including Production Costs and other Competitive Factors (Ratings):

New Zealand and Australia - very high because of large (i.e. large animal numbers) range-based sheep stations; Australia higher because, on average the stations are larger;

US, Alberta and Saskatchewan – moderate because of large range flocks in the western US and some large range flocks (600 to 1,000 ewes) in Alberta and Saskatchewan (Hutterites and forestry grazing);

Ontario, Quebec, and Manitoba – low because of small average flock sizes;

4. Numbers of Sheep and Related Impacts on Infrastructure Available, Efficiencies Throughout the Whole Supply Chain and other Competitive Factors (Ratings):

New Zealand & Australia very high because of the large sizes of their national sheep flocks (Australia more so);

US – moderate because of relatively large national flock by North American standards;

Ontario, Quebec and Alberta – low because of relatively small provincial flocks;

Manitoba and Saskatchewan – very low because of very small provincial flocks.

Processing and Marketing Oriented Factors

5. Uniform Carcasses, Consistent Quality and Supply (Ratings):

New Zealand – very high because it has proven its ability to produce and process to exacting quality standards using consistent genetics and management practices and to supply export markets with extremely consistent supplies of high quality lamb product;

Australia – high because its systems are catching up to the standard that New Zealand has set. Australia's focus has been on wool and mutton production and it is taking some time to change that focus to a higher value lamb product;

Quebec's producer marketing groups provide feedback to members regarding quality issues to improve the quality of the products. Ontario uses a grading system (premiums and discounts based on quality indices) for contract sales. Alberta uses the grading system more extensively than any other province or state in North America;

All others are struggling to develop uniform genetics and management practices to produce consistent high quality products and to process it in a way that will satisfy consumers' preferences.

6. Logistics Systems (Ratings):

New Zealand – very high because of well-located large slaughter plants on tidewater, geared for export shipments, in close proximity to sheep production;

Australia – high because of well-located large slaughter plants near tidewater, geared for export shipments, plants are generally not as close to sheep production areas as in New Zealand;

US and Ontario – moderate because of numerous plants, none very large, serving domestic markets;

Quebec and Alberta - moderate because of numerous plants, improved coordination of supplies through order buyers/feedlots (Alberta) or producer marketing groups (Quebec);

Saskatchewan - very low because of the lack of a large feedlot in the province;

Manitoba – low because of having no federally inspected plant in the province; this is mitigated partially by existence of a large feedlot and the role of order buyers in arranging movement into the feedlot and out of the feedlot for slaughter in the East or US.

7. Efficient Slaughtering and Processing (Ratings):

New Zealand and Australia – very high because of large capacity, modern processing facilities running at high capacity utilization levels;

US, Ontario, Quebec and Alberta – moderate because of numerous small plants (Ontario and Quebec) or somewhat larger plants running at low utilization levels;

Saskatchewan and Manitoba – very low because of the absence of commercial scale lamb slaughtering and processing.

8. Profitable Markets for Trim, Offal, Skins, Blood, etc. (Ratings):

Australia, New Zealand and US - very high because they have had "critical mass" of by-product production and markets for years and the absence of Scrapie in both countries;

Ontario, Quebec and Alberta - high because the plants are located in regions where there is a "critical mass" of processors and volumes of by-product that have led to the establishment of businesses to process these by-products, thus creating markets for these by-products;

Saskatchewan and Manitoba – very low and low respectively because work will need to be done to develop profitable markets for the full range of by-products that would be generated from a killing plant in either of these provinces. The presence of the Maple Leaf Pork plant in Brandon is an advantage for Manitoba in terms of creating "critical mass" of some by-products.

9. Effective Marketing (Ratings):

New Zealand – very high because of their proven marketing record including consumer oriented, attractively packaged, high quality products that meet consumers' preferences;

Australia, US, Ontario, Quebec and Alberta - high because all have a track record of providing products that are moderately well marketed, packaged and moderately able to meet consumers' preferences;

Saskatchewan and Manitoba – low because of the absence of commercial scale lamb processing facilities in these two provinces that would provide local supply to marketers.

10. Strong Industry Associations, Grower Groups, Coops, etc. (Ratings):

New Zealand – very high because the benefits of its strong industry alliances have been proven by its dominance in foreign markets;

Australia, U.S., Ontario, Quebec and Alberta – high because Australia is beginning to see the payoff from its industry alliances resulting in penetration of foreign lamb markets. ASI has been a strong and effective lobby for government support in the U. S. The new cooperatives (Dakota Lamb Growers Coop and Mountain States Lamb Coop) may improve the supply chain coordination for some of the lamb production/processing/marketing in the U.S., at least for their own members. Ontario because of its strong well funded provincial association that is involved in marketing and promotion. Quebec because of its well established producer marketing groups. Alberta because the Alberta Sheep and Wool Commission has been a strong lobby and has been involved in marketing and promotions with Canada West Foods;

Saskatchewan – moderate because of the activities of the Saskatchewan Sheep Development Board; and

Manitoba – low because of the lack of resources that have been available to the Manitoba Sheep Association Inc.

Summary

As noted above, in the table and in the comments, Manitoba is in a relatively weak position in terms of comparative advantage versus its competitors. However, the factors in which Manitoba has some significant advantages compared to some of the competitors (i.e. in the area of low-cost production inputs compared to Ontario, Quebec, Alberta and Saskatchewan), are advantages that are not easily duplicated by competitors. For instance, it is very difficult for competitors to improve their cost of producing forage or grain by using a technology that is uniquely available to that area. The low costs of production in Manitoba are based on factors (distance from export markets, low land costs, freedom from drought, etc.) that are not applicable to competitors and which they cannot duplicate.

Manitoba has significant opportunities to increase lamb sales in Canada by displacing a portion of the imported lamb (from offshore and from Alberta) that is purchased by Manitoba consumers and/or selling into nearby U.S. markets. The decision will tend to be driven by determining which market will net the best return to Manitoba's producers and, hopefully, in the future Manitoba-based processors.

Manitoba has the potential in the future to position its lamb products as premium quality, locally produced products versus the imported products from offshore. This will require supply chain coordination and the involvement of a locally based processor. At some point in the near future, exploratory talks may be warranted with Saskatchewan producers and the Saskatchewan Sheep Development Board to explore the potential to work together to jointly develop a coordinated supply chain and attract a processor to one of the two provinces.

6.0 POTENTIAL OPPORTUNITIES TO IMPROVE MANITOBA'S COMPARATIVE ADVANTAGE SITUATION

Referring to the table in Section 5, several of the comparative advantage factors must be targeted for improvement by the Manitoba sheep industry if this province is to build a large and sustainable sheep/lamb industry in the future.

The comparative advantage factors and the expected ability for the Manitoba industry to improve its rating for each one are shown below.

Comparative Advantage Factor	Expected Potential to Improve Manitoba's Position	Comments
Production Oriented Factors		
1. Low-cost Production Inputs	Some limited potential for improvement	Already relatively strong versus Ontario, Quebec, Saskatchewan and Alberta
2. Production Management & Technology	Good potential	MSA educational and MAF extension activities already underway – addition of MAF sheep specialist will help
3. Size of Production Units	Good potential, but challenging to change mindset	Will need new producers and expansion of existed ones
4. Numbers of Sheep	Good potential	Will require several years of large year-over-year increases – the current trend is very positive [35]
Processing Oriented Factors		
5. Uniform Carcasses, Consistent Quality & Supply	Good potential, but challenging to change mindset	Will require consistent genetics, staggered lambing times, new feeding practices including "storing" of lambs to be finished later
6. Logistics Systems	Good potential, but challenging to change mindset	Will require several years, larger sheep numbers and perhaps involvement of a coordinating group
7. Efficient Slaughter and Processing	Good long-term potential to attract a Manitoba based federally inspected processor	Will require a large increase in sheep numbers in Manitoba and probably also in Saskatchewan
8. Profitable Markets for Trim, Offal, Skins, Blood, etc.	Uncertain potential (challenging for processors)	This will be critical to the feasibility of profitably processing large numbers of animals in Manitoba
9. Effective Product Marketing	Good potential	Will require a coordinated effort involving producers and processors
10. Strong Industry Association, Grower Groups, Coops, etc.	Good potential	MSA has developed a solid base on which to build an expanded role – at some time secure funding (e.g. checkoff) and hired staff may be needed

[35] As shown in Section 4 of this report, if Manitoba and Saskatchewan were to increase their provincial flocks by 13% and 10% respectively (similar to the increases experienced in recent years) over the next several years, within approximately seven years the number of lambs produced in these two provinces could double. This could be a sufficient number to make a new, modern plant feasible to process lambs from both provinces.

Prioritization of the Steps to Improve Comparative Advantage

The short-term priorities on which to take action are the opportunities to improve and increase production. However, the full potential opportunity for increasing production is not possible unless some steps are taken to coordinate the supply chain activities to improve the quality of Manitoba lamb products, in the eyes of the consumers and to reduce the total system costs. These steps will likely be necessary to create the environment in which the Manitoba (and perhaps Saskatchewan) industry(s) can grow and thrive and in which producers can achieve a degree of control over their futures.

Likely the strategic options to improve the opportunities listed in this section as numbers 1, 2, 3 and 4 would proceed hand-in-hand with number 10. The Manitoba Sheep Association Inc. (MSA) would appear to be the logical organization to lead the implementation of the strategic options that are to be developed at the workshop planned for November 2nd and 3rd, 2001. However, in order to achieve its goals the association will need secure long-term funding, likely via a producer funded check-off.

At the same time that the first group of options are pursued, or shortly thereafter, the supply chain coordination opportunities (numbers 5, 6 and 9) would likely be needed to sustain and build on the growth in production in a way that producers will have a significant role in coordinating the marketing/processing/logistics activities.

The last of the opportunities (numbers 7 and 8), and probably the one that will take the most effort, will probably be the attracting or establishment of a large modern plant to process lambs in Manitoba or Saskatchewan for the two provinces.

APPENDIX 1 INFORMATION RELATED TO FORAGE AND PASTURE COST OF PRODUCTION

Land Value Comparisons

Source: www.landmarketer.com/list/listing.cfm

Beef Farm Listings, August 2001

Province	Total Acres Listed for Sale	Total Value of Listings	Average Value per Acre	Estimated Interest Cost per Acre (50% @ 7%)	Index Value (MB = 1.0)
Ontario	1,201	$3,726,600	$3,101	$108.54	5.85
Manitoba	40,634	$21,547,700	$530	$18.55	1.00
Saskatchewan	44,994	$18,043,660	$401	$14.40	0.78
Alberta	13,975	$17,272,500	$1,236	$43.26	2.33

Manitoba 2001 Alfalfa Hay Production Costs

Source: Guidelines for Estimating Alfalfa Grass Hay Cost of Production, April 2001.

	Hay Production Costs Per Acre	Hay Production Costs Per Ton (2.5 tons/yr)
Operating Costs		
Seed	$5.50	$2.20
Fertilizer	$27.53	$11.01
Herbicide	$2.50	$1.00
Machinery Operating	$8.67	$3.47
Crop Insurance	$5.21	$2.08
Overhead (Hydro, Office, etc.)	$7.00	$2.80
Subtotal Operating	$56.41	$22.56
Interest on Operating	$2.40	$0.96
Total Operating	$58.81	$23.52
Fixed Costs		
Machinery Investment and Depreciation	$25.46	$10.18
Storage Investment and Depreciation	$5.63	$2.25
Land Investment	$15.00	$6.00
Total Fixed Costs	$46.09	$18.43
Labour	$10.00	$4.00
Total Production Costs	$114.90	$45.95

Alberta's estimated land investment cost would be 2.33 times as high as Manitoba's, based on the relative prices of beef operations for sale in the two provinces in August 2001 (a proxy for the cost of sheep operations). Thus, Alberta's estimated land investment cost would be $15.00 times 2.33 = $34.95 ($19.95 higher than Manitoba's) and Alberta's cost per acre would be estimated to be $134.85 ($114.90 + $19.95) for land of comparable production capability.

However, Alberta's estimated production/quality would be equivalent to 2.2 tons/ac of Manitoba quality hay (12% less production at a cost of $134.85/2.2 = $61.30/ton).

Ontario Hay Production Cost Estimate, 2001

Sources: www.gov.on.ca/OMAFRA/english/busdev/facts/2001budget/alfalfa01.htm and www.gov.on.ca/OMAFRA/english/crops/field/news/croppest/cp0498_w.htm

	Seeding Costs Per Acre	Alfalfa Hay Production Costs Per Acre	Hay Production Costs Per Ton (4.4 tons/yr)
Operating Costs			
Seed/Inoculant	$53.00	$0.00	$0.00
Fertilizer	$31.00	$27.00	$6.14
Herbicide	$13.00	$0.00	$0.00
Machinery Operating	$11.00	$30.80	$7.00
Crop Insurance	$2.40	$5.00	$1.14
Subtotal Operating	$110.40	$62.80	$14.27
Interest on Operating	$3.20	$3.20	$0.73
Total Operating	$113.60	$66.00	$15.00
Fixed Costs			
Machinery Depreciation	$22.00	$22.00	$5.00
Allocation of Establishment Costs	$0.00	$39.15 (4 years)	$8.90
Interest on Investment excluding land	$13.00	$13.00	$2.95
Interest on land investment (see note below)	$0.00	$87.85	$19.97
Total Fixed Costs	$35.00	162.00	$36.82
Labour & Rent	$8.00	$8.00	$1.82
Total Production Costs	$156.60	$236.00	$53.64

Ontario's estimated land investment cost would be 5.85 times as high as Manitoba's, based on the relative prices of beef operations for sale in the two provinces in August 2001 (a proxy for the cost of sheep operations). Thus, Ontario's estimated land investment cost would be $15.00 times 5.85 = $87.75 ($72.75 higher than Manitoba's).

Manitoba Guideline for Estimating Pasture Cost of Production

Source: www.gov.mb.ca/agriculture/financial/farm/cac48s01.html

	$ Per Acre	$ per Ewe per Season (4.8 ewes/acre)	$ per Ewe per Season (2.3 ewes/acre)
Operating Costs			
Land Development	$3.40	$0.71	$1.48
Fertilizer	$12.31	$2.56	$5.35
Herbicide	$2.40	$0.50	$1.04
Fuel and Repairs	$4.38	$0.91	$1.90
Land Taxes	$4.00	$0.83	$1.74
Miscellaneous	$2.00	$0.42	$0.87
Subtotal Operating	$28.49	$5.94	$12.39
Interest on Operating	$1.21	$0.25	$0.53
Total Operating	$29.70	$6.19	$12.91
Fixed Costs			
Facilities Depreciation	$3.59	$0.75	$1.56
Term Loan Interest	$10.50	$2.19	$4.57
Total Fixed Costs	$14.09	$2.94	$6.13
Labour	$0.00	$0.00	$0.00
Total Production Costs	$43.79	$9.12	$19.04

Saskatchewan Pasture Development Costs – Black Soil Zone, July 2000

Source: www.agr.gov.sk.ca/DOCS/crops/forage_management_production/pasturedev0007.asp

	Establishment Costs Per Acre	Amortized Annual Costs	$ per Ewe per Season (1.0 ewe/acre)
Cash Operating Costs			
Seeding operation	$2.40	$0.24	$0.24
Fertilizer	$4.05	Amortized $0.41 Annual $0.50	$0.92
Herbicide/Custom Application	$17.50	Amortized $1.75	$1.75
Seed (Alfalfa, Meadow Bromegrass	$34.80	$3.48	$3.48
Fence Repairs	$0.31	$0.31	$0.31
Land Taxes	$2.50	$2.50	$2.50
Subtotal Cash Operating Costs	$61.56	$9.19	$9.19
Non-Cash Costs			
Fence and Dugout Depreciation	$5.00	$5.00	$5.00
Term Loan Interest	$6.13	$6.13	$10.50
Total Fixed Costs	$11.13	$11.13	$11.13
Labour	$0.00	$0.00	$0.00
Total Production Costs	$72.69	$20.32	$20.32