AN ANALYSIS OF THE CURRENT GOAT INDUSTRY WITH A FOCUS ON ALBERTA

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TABLE OF CONTENTS

Page

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1.0 INTRODUCTION

This report is designed to provide an overview of the Alberta goat industry. The focus of this investigation is to determine the current state of the industry including:

1. Market Issues
2. Economic Issues
3. Producer Capacity
4. Looking Forward

The material in this report includes secondary information found in Internet articles, government documents and other published research combined with primary data collected from individuals participating in the Alberta goat industry. While this report attempts to combine this information in a meaningful manner it is important to recognize that information regarding the Alberta goat industry is limited. The information provided in this report is considered representative of the industry in Alberta at this time. However this information should not be used as the sole basis for any decision to enter or exit the industry or to expand or reduce production of a goat product.

This report has been developed in conjunction with the Market Research Report which provides detailed information on the supply chain linking producers and consumers in Alberta.

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2.0 GOAT PRODUCTS

Goats are widely known as multi-purpose animals that provide meat, milk, milk products and fibre as well as industrial uses such as weed control. The largest segment of the industry is goat meat with all types of goats including dairy goats and fibre goats contributing to the supply of slaughter goats.

Goat meat, frequently marketed as "Chevon," is a widely consumed lean red meat with little fat cover and marbling as well as the attribute of low cholesterol.[1] Goat meat is the primary source of animal protein for many North African and Middle Eastern nations. As well, it is an important food item in the Caribbean, in Southeast Asia, China and developing tropical countries. In both Canada and the United States goat meat is considered a minor food item however consumption levels have been increasing over the past 10 years.

The four main weight ranges (live weight) for market goats are 30 pounds, 60 pounds, 90 pounds and 150 pounds.[2] Kid goats are generally under one year of age and weigh from 25 to 50 pounds although they can weigh as much as 80 pounds live weight. They are often slaughtered when 3 to 5 months of age. Since kid goats do not store much body fat until they are about a year of age, many market goats are older than a year and heavier when slaughtered. The meat of older goats is darker and less tender, but more juicy and flavourful than kid. The meat from male goats is lighter in color and lower in fat. The meat from female goats is more tender and may be more desirable for steaks and chops.

Currently, the greatest portion of goat meat consumption in Canada and the United States is by immigrant populations from regions in which it is the meat of choice. Accordingly, the demand for goat meat is shaped by changes in these populations as well as the cultural and religious considerations of the different ethnic markets including their festive and religious holidays. Each ethnic group has specific slaughter and handling requirements and there are numerous resources available providing detailed information on the various ethnic holidays and the related goat meat specifications.[3]

For Muslims, Halal requirements are an important consideration in goat meat specifications. However, Halal meat preferences can vary greatly among ethnic groups. As a result each local market might have unique consumption patterns derived from the local make up of the immigrant population.[4]

The milk from dairy goats is similar in both taste and nutrition to milk from cows. Goat milk has 13% less lactose than cow milk and contains smaller milk-fat particles, making it easier to digest and in some cases more acceptable to individuals with allergies or an

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[1] Capretto is the Italian name for goat meat from milk fed kids.
[2] Commercial Meat Goat Industry, Alberta Agriculture and Rural Development ; Revised April 2006
[3] See www.canadianmeatgoat.com; Commercial Meat Goat Industry, Alberta Agriculture and Rural Development ; Revised April 2006; Ethnic Holiday Demand for Lamb and Goat Meat; Mamoon Rashid, Sheep & Goat Specialist, Manitoba Agriculture.
[4] For more information on Halal see Canadian Halal Meat Market Study, Alberta Agriculture Food and Rural Development; January 2005.

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intolerance to cow milk. Goat milk is also widely used in the production of specialty cheeses, yogurt and ice cream as well as in some health and beauty products. Goat cheese has twice the protein, one third fewer calories and half the fat and cholesterol of regular cream cheese.[5] Goat milk also has natural emollients that make goat milk soaps and lotions effective in relieving dryness and leaving skin feeling silky soft[6].

Certain breeds of goats are raised to produce Mohair and Cashmere fibre. Mohair is a long lustrous fibre produced by Angora goats. Mohair has a distinct high lustre and slippery smooth surface that makes it distinct from wool. It is used in the production of products where this lustre is desired including men and women's apparel, upholstery fabrics, carpets and draperies. Cashmere comes from the fine under hair produced by Cashmere goats[7]. Cashmere is a luxury fibre due to its softness, lustre and scarcity. Accordingly it is used in the production of fabrics and yarns as well as luxury items such as sweaters, coats, shawls.

Goats also provide industrial uses such as weed control due to their selective grazing. This may be done as a source of revenue or as a means of obtaining low cost grazing. There is also documentation of genetically modified goats being used in the production of biotechnological products[8].

3.0 GLOBAL TRENDS

Goats continue to be the most popular domestic livestock in the world due to their ability to convert poor quality feed including marginal pasture lands into meat, milk and fibre. Global goat populations are continuing to increase as illustrated in Table 1.

Table 1: Global Goat Populations (Number of Goats)

2000	2002	2004	2005	2006	2007
722,022,800	751,824,000	780,100,000	807,600,000	849,983,842	850,219,925

Source: FAOSTAT

Canada	1981	1986	1991	1996	2001	2006
Number of Goats	89,839	75,788	88,116	125,819	182,851	177,698

Source: Statistics Canada 2008. Alternative Livestock on Canadian Farms

Goat production is widely distributed throughout the world. China, India and Pakistan have the largest goat populations as well as the greatest production of goat meat.

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5 Goats As A Business Or Hobby; A Canadian National Goat Federation Brochure.
6 Commercial Meat Goat Industry, Alberta Agriculture and Rural Development ; Revised April 2006
7 Cashmere is fibre with specific attributes that comes from a type of goat rather than a specific breed.
8 The Goat Industry: Structure, Concentration, Demand and Growth; USDA Animal and Plant Health Inspection Services

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Table 2: Top Countries in Goat Populations (2005)

	Goat Numbers	% of Total
World	807,600,000	100%
China	195,758,954	24.2%
India	120,000,000	15%
Pakistan	56,700,000	7%

Source: FAOSTAT

Table 3: Top Global Producers of Goat Meat (2005)

	Goat Meat (MT)	% of Total
World	4,562,054	100%
China	1,926,914	42.2%
India	475,000	10.4%
Pakistan	370,000	8.1%

Source: FAOSTAT

The top exporter of goat meat is Australia followed by China and France.

Table 4: Top Global Exporters of Goat Meat (2005)

	Goat Meat (MT)	% of Total
World	33,087	100%
Australia	16,431	50.0%
China	3,999	12.1%
France	2,628	8.0%

Source: FAOSTAT

The top importers of goat meat are the United States and China.

Table 5: Top Global Importers of Goat Meat (2005)

	Goat Meat (MT)	% of Total
World	52,477	100%
United States	9,551	18.2%
China	5,709	10.9%
Italy	1,451	2.8%
Canada	1,374	2.6%
France	1,151	2.2%

Source: FAOSTAT

Global forces in goat production affect the Canadian and Alberta goat industries. Imported Australian goat products are a factor in Canadian markets. As well the growing immigrant populations from regions where goat meat is a preferred source of protein are creating market opportunities for Canadian (and Albertan) meat goat products.

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3.1 Australia

Australia is considered to be the world's largest exporter of goat meat even though it accounts for less that 0.10 % of world production. Australia's goat production was historically derived from feral goats. The introduction of Boer goat genetics has enabled the industry to develop animals better adapted to Australian conditions combined with more desirable meat characteristics.

There continues to be large numbers of feral goats in Australia. Accordingly reliable statistics on goat numbers are difficult to obtain. As well, there will be some variability in supply related to climate conditions. The Food and Agriculture Organization of the United Nations (FAO) has published the following data for Australia.

Table 6: Australian Goat Population

1999	2000	2001	2002	2003	2004	2005	2006	2007
220,000	260,000	295,000	400,000	420,000	420,000	461,491	455,000	452,000

Source: FAO

Despite the limitations in data, Table 7 indicates increasing exports levels of goat meat and live goats from Australia. Australian exports are expected to continue growing in the future particularly in the form of goat products going to the United States.

Table 7: Australian Exports of Goat Products and Live Goats

Australian Exports of Goat Meat, Fresh, Chilled or Frozen						
Country	**Quantity (MT)**					
	2002	**2003**	**2004**	**2005**	**2006**	**2007**
United States	4971	5546	8254	10305	11647	9622
Taiwan	4670	4602	5385	6110	5289	3332
Canada	979	967	954	936	1141	1032
Trinidad and Tobago	564	701	784	731	803	940
Total Goat Meat Exports	13773	13505	16393	20198	21907	15989
Australian Exports of Live Goats						
Country	**Quantity (Number)**					
	2002	**2003**	**2004**	**2005**	**2006**	**2007**
Malaysia	52755	38675	33397	26418	42838	69515
Singapore	2421	2965	8377	10898	11103	3116
Brunei Darussalam	2899	3419	3240	1410	1336	1855
Mauritius	2200	0	3000			620
Kuwait	779	665	537			
United States	19	14	7	28	34	53
Total Live Goat Exports	136125	70913	50486	41732	57606	89932

Source: Australia Livestock and Products Emerging Goat Meat Industry, USDA Foreign Agriculture Service GAIN Report; updated with Australian Government Data.

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Australia is a significant supplier of goat meat to the Canadian market contributing 68% to 72% of total Canadian goat meat imports.

3.2 United States

The goat industry in the United States and the meat goat segment are considered to be developing industries. The United States industry has achieved a steady 10% annual increase in goat population numbers from 1985 to 2006.[9] Much of this increase is due to demand for goat meat from growing populations of individuals from regions where goat consumption is the preferred source of animal protein. As a result, the population of meat type goats, goat slaughter, imported goat products and goat consumption are all showing steady annual increases.

Table 8: United States Goat Populations

Year	Type	Total Head	Breeding Head	Market Head	Kid Crop
2005	Angora	290,000	230,000	60,000	148,100
	Milk	320,000	270,000	50,000	199,500
	Meat	2,740,000	2,000,000	740,000	1,488,100
	Total	3,350,000	2,500,000	850,000	1,835,700
2006	Angora	285,000	225,000	60,000	130,000
	Milk	320,000	270,000	50,000	215,000
	Meat	2,860,000	2,080,000	780,000	1,573,000
	Total	3,465,000	2,575,000	890,000	1,918,000
2007	Angora	260,000	205,000	55,000	120,000
	Milk	335,000	285,000	50,000	230,000
	Meat	3,000,000	2,200,000	800,000	1,680,000
	Total	3,595,000	2,690,000	905,000	2,030,000

Source: USDA National Agricultural Statistical Service (NAAS) Sheep and Goats

Published data for goat slaughter in the United States is limited. 2006 was the first year that goat slaughter in state inspected plants was reported. As well, on-farm slaughter or slaughter connected to on-farm sales is generally not reported. One document suggests that for every reported goat slaughter there could be as many as four that are unreported.[10] The following goat slaughter data does however show increases that reflect the growing demand for goat meat from ethnic consumers.

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[9] Solaiman, Sandra G. Assessment of the Meat Goat Industry and Future Outlook for U.S. Small Farms, Tuskegee University 2007.

[10] Solaiman, Sandra G. Assessment of the Meat Goat Industry and Future Outlook for U.S. Small Farms, Tuskegee University 2007.

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Table 9: Goat Slaughter (Numbers) at Inspected Plants in the United States

	1990	2006
US Federally Inspected Slaughter	229,600	581,743
Total Inspected Slaughter		749,300

Source: Assessment of the Meat Goat Industry and Future Outlook for U.S. Small Farms Solaiman, Sandra G., Tuskegee University 2007

Historically the United States was an exporter of goat meat. However in the past 10 years, meat goat production and slaughter in the United States has been exceeded by increasing domestic demand from growing ethnic populations including Muslim, Hispanic, Caribbean and Chinese consumers. This increased demand for goat meat combined with limited increases in production has resulted in increased imports of goat meat to the United States.

Table 10: United States Imports of Goat Meat

	1999	2003	2006
Goat Meat (MT)	3,360	8,462	11,070
Dollar Value ($1000)	7,850	21,484	41,816

Source: Assessment of the Meat Goat Industry and Future Outlook for U.S. Small Farms, Solaiman, Sandra G., Tuskegee University 2007

The United States market has become heavily dependent on imported meat to meet the increasing demand from growing ethnic populations. The majority of the imported goat meat comes from Australia with estimates ranging from 65% (2003) to 97% (2006).

There is no data available to quantify goat consumption in the United States. However, estimates have been made by combining total imported goat meat with slaughter data.

The estimates presented in Table 11 suggest a strong trend of increasing goat meat consumption based on increases in both domestic production and imported goat meat.

Table 11: Estimates of Total Goat Meat Consumed in the United States (MT)

	1999	2000	2001	2002	2003	2004	2005	2006
US Goat Production	10,705	12,701	12,928	14,107	15,377	n/a	12,338	10,876
Imported Goat Meat	3,357	5,625	5,715	6,986	8,462	9,500	9,591	11,000
Total Goat Meat Consumed	14,063	18,326	18,689	21,093	23,089	n/a	21,929	21,876

Source: US Meat Goat Industry Past, Present, Future; Marvin Shurley and Dr. Frank Craddock; Gathering of Goat Producers IV.

The potential size of the United States market for goat and the number of goat meats needed to meet this demand have been developed based on US Census Bureau data of foreign born populations in the United States from goat consuming regions.

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Table 12: Estimated Goat Meat Market Potential for the United States

Factors	Estimates for the US
Total Ethnic Population from Regions where Consumption of Goat Meat is Popular	62.4 Million
Number of Households based on three persons	20.8 Million
Households that consume Goat (10% of Total)	2.08 Million
Annual Household Consumption of Goat Meat including Holidays	72 Pounds
Total Pounds of Potential Goat Meat Consumption per Year	149.76 Million Pounds
Total Estimated MT of Potential Goat Meat Consumption per Year	68,073 MT
Average Goat Carcass weight	32 Pounds
Total Goats to Meet Demand	4.08 Million

Source: Assessment of the Meat Goat Industry and Future Outlook for U.S. Small Farms Solaiman, Sandra G., Tuskegee University 2007.

As indicated, the relatively large United States market for goat meat is dependent on imported product. There may be opportunities for Canadian producers to export to this market however there are obstacles to shipping live goats to processors in the US markets. Currently live goats less than 12 months of age can be shipped to the United States providing they are imported for immediate slaughter and feeding prior to slaughter[11].

The goat industry in the United States has also produced considerable information, education and research related to the goat industry. In particular various extension organizations in the United States have been very responsive to assessing potential markets for goat meat[12].

4.0 THE CANADIAN GOAT INDUSTRY

The Canadian goat population has grown over the period 1981 to 2001 however there has been a decline in animal numbers (3%) between 2001 and 2006. In addition, there has been a decline in the number of farms with goats (18.5% from 1996 to 2006) together with a corresponding increase in the average number of goats per farm.

Table 13: The Canadian Goat Population

Canada	1981	1986	1991	1996	2001	2006
Number of Goats	89,839	75,788	88,116	125,819	182,851	177,698
Number of Farms	10,127	8,936	7,735	8,252	7,706	6,725
Average Number of Goats per Farm	8.9	8.5	11.4	15.2	23.7	26.4

Source: Statistics Canada 2008. Alternative Livestock on Canadian Farms

[11] Exporting Sheep and Goats to the United States, Canadian Food Inspection Agency, www.inspection.gc.ca;
[12] Assessing the Market Potential For Goat Meat Among Recent Immigrants to Siouxland, Leopold Center for Sustainable Agriculture, Iowa State University, 2005;

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The structure of the Canadian goat industry appears to be changing over time in response to market forces. The goat population numbers indicate changes in the provincial location of goats and goat farms. The relative growth of the goat population in Quebec and Ontario could be attributed to the increase in immigrant populations in the major population centres in those provinces as well as the growth in the goat dairy sector which is centred in these two provinces.

Table 14: Provincial Location of the Canadian Goat Herd

Percentage of the Canadian Goat Herd	1996	2001	2006
Canada	100%	100%	100%
Quebec	12.28%	14.95%	17.37%
Ontario	35.97%	34.08%	42.83%
Manitoba	5.73%	6.91%	7.41%
Saskatchewan	6.33%	8.64%	6.64%
Alberta	26.20%	23.12%	16.38%

Source: Statistics Canada 2008. Alternative Livestock on Canadian Farms

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Table 15: Changes in Provincial Goat Populations

Percentage Change in Goat Numbers	1996 to 2006	2001 to 2006
Canada	41.23%	-2.82%
Quebec	99.87%	12.92%
Ontario	68.18%	22.15%
Manitoba	82.43%	4.13%
Saskatchewan	48.00%	-37.26%
Alberta	-11.67%	-31.13%

Source: Statistics Canada 2008. Alternative Livestock on Canadian Farms

Table 16: Changes in Number of Goat Farms

Percentage Change in Number of Goat Farms	1996 to 2006	2001 to 2006
Canada	-18.50%	-12.73%
Quebec	14.93%	9.74%
Ontario	-13.96%	-7.39%
Manitoba	-8.74%	-7.30%
Saskatchewan	-36.34%	-30.43%
Alberta	-34.51%	-27.16%

Source: Statistics Canada 2008. Alternative Livestock on Canadian Farms

The changing structure of the Canadian goat industry is also reflected in the registration numbers of the different breeds or types of goats.

Table 17: Canadian Breed Registration Numbers

Dairy Type Goats	2000	2001	2002	2003	2004	2005	2006
Alpine	1273	1651	1521	1001	942	1336	1476
Saanen	797	886	1011	690	635	672	725
Toggenburg	359	332	266	226	163	221	262

Meat Type Goats	2000	2001	2002	2003	2004	2005	2006
Boer	2558	2398	1932	1572			

Dual Purpose (Dairy and Meat) Goats	2000	2001	2002	2003	2004	2005	2006
Nubian	862	1043	1021	728	565	548	605
LaMancha	336	368	299	271	269	276	396

Fibre Type Goats	2000	2001	2002	2003	2004	2005	2006
Angora	253	235	305	203	192	173	242

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Pet Type Goats	2000	2001	2002	2003	2004	2005	2006
Pygmy	35	30	30	41	28	40	23

Generally the dairy type goats are showing increased registrations through the period 2004 to 2006. As well dual purpose type goats are also showing a similar increase in registrations through the same period. These trends could suggest increased goat numbers and increased production led by the dairy goat industry.

There is limited data for the Boer goat registrations however going back to the period 2000 to 2003 there was a noticeable trend of declining registrations.

4.1 Canadian Goat Meat Market

The Canadian market for goat meat has shown both increased slaughter numbers and import levels over the past four years. More recently there has been a decline in both slaughter numbers and imports for 2007.

Table 18: Goat Slaughter (Numbers) at Inspected Plants in Canada

	2004	2005	2006	2007
Federally Inspected Slaughter	5382	4054	2880	3244
Provincially Inspected Slaughter	47,409	53,087	48,561	45,380
Total Inspected Slaughter	52,791	57,141	51,441	48,624

Source: Canadian Food Inspection Agency and Provincial Governments

Table 19: Canadian Imports of Goat Meat (MT)

	1991	1993	2004	2005	2006	2007
Goat Meat (MT)	735	1000	1374	1302	1662	1480
Dollar Value ($1,000)			$4421	$3839	$4774	$4623
Price ($/Kg)			$3.22	$2.95	$2.87	$3.12

Source: Statistics Canada

Estimates of goat meat consumption have been developed by combining goat slaughter numbers plus goat meat imports. The numbers presented in Table 20 are estimates of Canadian goat meat consumption for the past four years. Included in these estimates is an allowance for unreported goat slaughter. There is no accurate data on unreported slaughter however it is generally accepted as a factor in total goat meat consumption in Canada. Table 20 includes a very modest allowance of 20% of reported slaughter as an estimate of unreported slaughter to be added to the estimates of total got meat consumed. In other words for every five goats slaughtered in inspected plants there is one unreported goat slaughtered.

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Table 20: Estimates of Canadian Goat Meat Consumption (MT)

	2004	2005	2006	2007
CDN Goat Slaughter (Number)	52,791	57,141	51,441	48,624
Estimated Average Carcass Weight (Kg)	15	15	15	15
Estimated Slaughter (MT)	792	857	772	729
Estimate of Unreported Goat Slaughter at 20% (MT)	158	171	154	146
Imported Goat Meat (MT)	1374	1302	1662	1480
Estimated Total Goat Meat Consumed (MT)	2324	2330	2588	2355

Source: Statistics Canada and Tradex International

The estimates of goat meat consumption show variable consumption with the greatest variation coming from imports levels. Not surprisingly, the decline in both slaughter numbers and imports also reflects a recent decline in goat meat consumption. A key unknown for the Canadian goat industry will be whether the recent suggestions of declining goat meat consumption reflect a change from the previous trend of increasing consumption.

Population changes and increased numbers of immigrants are considered to be key factors in the Canadian market for goat meat. As in the United States, the demand for goat meat has been largely derived from growth in the populations of those ethnic groups and cultures that have a preference for goat meat. Key goat consuming regions in the world include the Mediterranean, southern Europe, the Middle East, Africa, south eastern Asia, South America, Central America and the West Indies.

Table 21: Immigrant Populations for Key Goat Meat Consuming Regions

	2001	2006	% Change
Total Immigrant Population in Canada	5,448,480	6,186,950	13.55%
Central and South America	304,650	381,165	25.12%
Caribbean and Bermuda	294,050	317,765	8.06%
Southern Europe	715,370	698,080	-2.42%
Africa	282,600	374,565	32.54%
West Central Asia and the Middle East	285,585	370,515	29.74%
South East Asia	469,105	560,995	19.59%
Total Immigrant Population from Goat Consuming Regions	2,351,360	2,703,085	14.96%

Source: Statistics Canada 2001 and 2006 Census of Population

Table 21 indicates that between the years 2001 and 2006, the Canadian population of individuals from those regions with a known preference for goat meat has increased approximately 15%. The total number of increased individuals from the key goat consuming regions as shown in Table 22 is 351,725. The largest increases in the specific populations came from Africa, West central Asia and the Middle East as well as South East Asia.

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Table 22: Changes in Populations from Key Goat Consuming Regions (Number)

	2001	2006	Absolute Change
Total Immigrant Population in Canada	5,448,480	6,186,950	738,470
Central and South America	304,650	381,165	76,515
Caribbean and Bermuda	294,050	317,765	23,715
Southern Europe	715,370	698,080	-17290
Africa	282,600	374,565	91,965
West Central Asia and the Middle East	285,585	370,515	84,930
South East Asia	469,105	560,995	91,890
Total Immigrant Population from Goat Consuming Regions	2,351,360	2,703,085	351,725

Source: Statistics Canada 2001 and 2006 Census of Population

The population data can also be used to generate estimates of the potential market size for goat meat in Canada. These estimates are produced in Table 21.[13]

Table 23: The Potential Market Size for Goat Meat in Canada

Factors	Estimates for Canada
Total Ethnic Population from Regions where Consumption of Goat Meat is Popular	2,703,085
Number of households based on three persons	901,028
Households that consume Goat (10% of Total)	90,103
Annual household consumption of Goat Meat including holidays	30 Kgs
Total Pounds of Goat Meat Consumer per Year	2703 MT
Average Goat Carcass weight	15 Kgs
Total Goats to Meet Demand	180,206

Source: Statistics Canada and Tradex International 2008

Based on the key assumption that 10% of ethnic households will have sustained goat meat consumption of 30 kg per year these estimates suggest a market potential of 2703 tonnes per year. This could be interpreted as the market for goat meat having the potential to increase from 348 MT to 115 MT per year higher than the current estimates of goat meat consumption presented in Table 20. However there is risk in the assumptions behind this estimate. In particular is the issue of whether the Canadian market for goat meat is experiencing increased demand at the same rate of growth as these populations grow.

[13] These estimates are made using a methodology similar to that used in Assessment of the Meat Goat Industry and Future Outlook for U.S. Small Farms Solaiman, Sandra G., Tuskegee University 2007

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Lamb is a possible substitute for goat meat. Estimates of Canadian lamb consumption are developed from slaughter numbers, imports data and export data in Table 24.

Table 24: Estimates of Canadian Lamb Consumption (MT)

	2004	2005	2006	2007
Federally Inspected Slaughter (Number)	172,986	160,284	149,302	162,751
Provincially Inspected Slaughter (Number)	388,546	421,801	398,956	377,895
Total Canadian Slaughter (Number)	561,532	582,085	548,258	540646
Average Carcass Weight (Kg)	23.18	22.23	22.8	22.95
Total Canadian Slaughter (MT)	13,016	12,940	12,500	12,408
Imported Lamb (MT)	14,368	19,300	14,368	10,798
Exports of Lamb (MT)		300	530	548
Estimated Total Lamb Consumed (MT)	27,384	31,940	26,338	22,658

Source Statistics Canada, Lamb: Slaughter, Imports and Exports

The data in Table 24 indicates that lamb consumption is variable however there is a noticeable decline in consumption over the period 2004 to 2007. The decline in lamb consumption may add further evidence to the general uncertainty surrounding future consumption levels of goat meat. Much of this uncertainty comes from the general lack of reliable data and market information on the Canadian goat meat industry. The implication is that industry participants will have difficulty in developing strategic marketing and production plans.

Key areas of limited knowledge are the effects that income and prices changes (of goat meat) might have on consumer demand for goat meat. This market knowledge would assist decision makers in determining whether the demand for domestic goat meat will continue in the face of increased prices as well as how changes in the general economy and changes in income levels will impact goat meat purchases.

A further unknown is the phenomenon of acculturation in which the younger generation of immigrants adopt the eating habits of the general population over time. As a result, the ethnic demand for goat meat could be both a strength of the industry (supporting current markets) as well as a limitation in that this demand may not be sustained over time. Furthermore, a reliance on consumer demand from immigrant populations may be limiting the focus and investment required to develop other markets including high end restaurants and consumers seeking meat with specific health attributes.

4.2 Canadian Goat Dairy Products Market

The demand for goat milk in Canada has been driven by the growing demand for goat cheese. Generally goat cheeses are unique in that they have lower levels of lactose than cow's milk and may be more acceptable to individuals with allergies to cow's milk. Also of note is that a large portion of goat cheeses are sold in large retail outlets which improves consumer access to this product.

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Overall cheese consumption in Canada as well as specialty cheese consumption has grown. Canadian consumption of specialty cheeses has doubled from 8 lbs in 1980, to 16 lbs in 2006.[14] Table 25 provides supply and disposition data on specialty cheeses that illustrates the growth in specialty cheese consumption and production.

Table 25: Canadian Supply and Disposition of Specialty Cheeses ('000 tonnes)

Year	Production	Imports	Total Supply	Exports	Consumption
1990	142.03	17.63	168.97	2.22	156.17
1995	172.14	16.43	198.21	7.32	179.75
2000	201.20	24.00	283.13	7.24	219.54
2004	202.95	21.24	235.54	9.64	234.87
2005	211.59	18.06	242.87	9.32	232.62
2006	209.23	17.84	241.83	3.83	235.19
2007	228.69	19.81	264.68	3.16	242.72

Source Statistics Canada, Table 003-0007

Goat milk production has grown to meet the increasing demand for goat cheeses. Canadian production of goat's milk has increased by approximately 20% from 2001 to 2004.[15] In 2001 45% of all goat milk produced in Canada was used to produce cheese. In 2004 goat milk production was estimated at over 21 million litres with an estimated 65% used to produce cheese.[16] This growth has taken place primarily in Ontario and Quebec. The geographical distribution is presented as follows in Table 26.

Table 26: Canadian Goat Milk Production 2004 (Millions of litres)

Total For Canada	Ontario	Quebec	Western Provinces	Maritimes
21	12	6.1	3.2	.147

The growing consumer demand for goat cheeses has been attributed to a number of factors including the lower fat, cholesterol and calorie content of goat cheeses, increased acceptance by individuals with allergies or an intolerance to cow milk as well as consumers seeking more adventurous tastes. In addition the majority of goat cheeses are sold through large retail outlets, which makes them more accessible than through specialty retail shops.

Despite the strong growth shown by the dairy goat industry over the past 10 years, it is still considered a developing industry. Of note is that the rate of growth in the industry (imports, production and consumption) has slowed in the more recent years. A further note is that the dairy goat industry is not subject to supply management regulations. As a result individual producers make their own decisions concerning production levels, market access and sales levels.

[14] Goat Industry Markets and Marketability, Presented by Michael Domingues, 2007; Canadian Dairy Council, 2007
[15] Goat Industry Markets and Marketability, Presented by Michael Domingues, 2007; Canadian Dairy Council, 2007
[16] Goat Industry Markets and Marketability, Presented by Michael Domingues, 2007; Ontario Goat Milk Producers Association, 2004

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Once again there is limited data and market information available to got dairy industry participants. Key challenges include matching seasonal supply and demand as well as high producer and processor turn over rates[17]. Key areas of market knowledge that would benefit the industry include knowledge of changing consumer preferences, the potential impact of investments in education and promotion as well as the affects of changing prices and income levels on consumer demand for goat cheeses. There is information from Australia that suggests the price elasticity of demand for goat milk products and the price elasticity of supply are both relatively low. The implication is that prices can be very volatile and the industry will have a high level of uncertainty[18].

4.3 The Goat Fibre Industry

The goat fibre industry in Canada is small and diverse. Producers focus on the production and sale of fibre, the production and sale of breeding stock as well as the sale of consumer products made from goat fibre. Most producers sell their fibre through informal net works, the Internet or farm gate sales. Fibre producers who sell yarn or woven products either do their own processing or hire a commercial facility to process the fibre.

Generally prices for mohair and cashmere are determined in the world markets. The United States is a primary source of mohair in the world market as is South Africa and Turkey. China is the leader in world in cashmere production.

There is limited data on the size and breadth of the Canadian industry. However it is generally considered to be immature with small scale producers and no dominant processor or wholesaler.

[17] Canadian Dairy Goat Industry Profile, Agriculture and Agri-Food Canada, February 2007.
[18] Adding Value to New Animal Product Supply Chains; Australian Government Rural Industries Research and Development Corporation: February 2008.

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5.0 THE ALBERTA GOAT INDUSTRY

The Alberta goat population has declined during the period 2001 to 2006 however it remains Canada's third largest producer of goats, behind Ontario and Quebec, with approximately 30,000 goats on about 1200 farms.[19]

Table 27: The Alberta Goat Population

	1981	1986	1991	1996	2001	2006
Number of Goats	10,567	12,470	15,656	32,960	42,270	29,113
% of Canadian Population	11.76%	16.5%	17.8%	26.2%	23.1%	16.4%
Number of Farms	1,542	1,713	1,584	1,863	1,675	1,220
Average Number of Goats per Farm	6.9	7.3	9.9	17.7	25.2	23.9

Source: Statistics Canada 2008. Alternative Livestock on Canadian Farms

The Alberta industry is primarily made up of small scale meat goat producers with a few larger producers who are able to achieve economies of scale. As well there are dairy goat producers and small scale goat fibre producers. Many meat goat and goat fibre operations are supplemental enterprises combined with other farm enterprises or supported with other off-farm incomes. Dairy enterprises tend to be more intensive and/or larger scale operations.

Goats are generally bred in fall and kid in spring with most births occurring in the spring time. Many Alberta producers prefer to kid in April and May, raise kids on a combination of pasture, hay and possibly grain so they can be marketed at 70 to 100 pounds live weight at 7 to 9 months of age[20]. Age at first breeding is between 9 and14 months. Gestation period is about 150 days.

The Alberta market for goats is largely derived from ethnic consumers for which goat meat is a preference as well as part of religious observation. Seasonal breeding and forage conditions of affect Alberta goat production making it difficult to adjust birth, weaning, and growth cycles to match periods of high consumer demand which tends to be higher from December through to Easter. The highest price spikes coincide with religious and ethnic holiday dates and the lowest prices tend to be in the late summer and early fall when demand is least and supply is greatest.

Generally increases or decreases in goat populations, goat production and the number of goat farms are due to factors such as expected profitability, access to resources suited for goat production including the availability of family labour, capacities in direct marketing, access to a particular market and the potential to achieve increased scale of operations.

[19] During the period 2001 to 2006 the Ontario population increased by 13,804 goats and the Quebec population increased by 3533 head.
[20] Analysis of Meat Goat Industry in Western Canada: Caprine Breeders Association, Tradex international Consulting 1994.

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Demographic factors such as age of the operator may also be an important factor affecting the number of goat farms and the level of goat production[21].

Alberta producers face a number of challenges. These include limited acceptance of goat meat in mainstream retail outlets, a limited number of pharmaceuticals available for use in goats, the need for great acceptance of the goat industry as commercial rather than novelty enterprises. There are a number of production factors that have been identified as constraints to increased production and growth in the industry.

1. Seasonality of breeding leading to an inconsistent year round supply of goat meat.
2. Weaning Percentage
3. Predation
4. Parasites

5.1 Marketing Issues Shaping the Alberta Goat Industry

Marketing include all the activities required to support the movement of goats and goat products from the site of production to the end user. The producers of meat goats sell their animals directly to consumers, through auction markets, directly to processors and directly to dealers who arrange slaughter in Alberta or export live goats to Eastern Canada. Dairy goat producers generally sell their milk in local markets or to processors under some contract arrangement. These processors then sell goat milk and goat milk products to retailers and wholesalers. Goat fibre producers often use their fibre to produce consumer products that are marketed in local markets. As well, fibre producers sell their fibre to other crafters through informal networks.

Generally, the Alberta industry tends to consist of small scale producers with limited coordination among the stakeholders in the supply chain. Sales of meat goats directly to consumers includes selling live animals at the farm (farm gate sales) or through selling carcasses that have been processed into the desired cuts (freezer trade). This marketing strategy requires a greater investment of time and energy however it gives the producer the greatest control (over price) when selling their animals as well as the benefit of greater market knowledge through direct interaction with consumers. Not all producers are prepared to make the investment of time and energy required to effectively direct market their production. Many producers prefer to focus on production and leave the marketing of their production to dealers or auction markets.

Sales to processors and to dealers who arrange custom processing are more likely to be individual (unstructured) events rather than the result of longer term marketing relationships in which producers produce for a target market. Generally, the producer is a price taker. Accordingly, producers with goats to sell will search for both price and delivery opportunities from known buyers. In many case the goats (being marketed) are

[21] There are situations where family based operations are leaving the industry as the families grow up and leave home.

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treated as a commodity and the producer gains very little information regarding the specific needs of different consumer groups.

It is expected that a large number of goats in Alberta are sold through auctions relative to other approaches. Beaver Hill Auction Services Ltd. in Tofield, Alberta sells all classes of goats. Sales are held twice monthly in the early part of the year and more frequently in the later part of the year as more goats come to market. Market prices established as a function of the buyers present and the goats being offered. As well prices are both transparent and publicly available on the Internet[22].

Auction prices from Beaver Hill Auction Services Ltd. are reported as a range for each type of animal with no volume weighting attached to the prices[23]. Appendix B presents the mid point of the reported price ranges for each month of 2007 and 2008. As well, a seasonality index has been calculated for each month based using the mid point data for 2007 and 2008. This price information and the calculated index reflect increases or decreases in supply relative to the local demand.[24]

Both Edmonton and Calgary have rapidly growing immigrant populations[25]. Many of these groups are from regions where goat meat is consumed. Accordingly, they are potential consumers of Alberta produced goat meat and could represent a potential for increased consumption and demand for goat meat as these populations continue to grow. The challenge for the Alberta industry will be to expand production as well as enhancing capacity to market the right type of goat at the right weight, at the right time and the right price range.

As stated, goats are generally bred in the spring with the greatest number of market-ready goats coming to the market in October and November. The greatest demand for goat meat tends to be around religious holidays. The seasonality indices presented in Appendix B confirm the higher prices in the spring and late summer with lower prices in the late fall.

Despite the potential for increased goat meat consumption, there is considerable uncertainty in the Alberta market for goats and goat products that comes from the general lack of reliable data and market information. In particular there is no reliable data that quantifies the demand for goat meat in Canada or in Alberta. The unknown is whether supply is limiting consumption or a lack of demand is limiting consumption. The implication is that industry participants face difficulty in developing strategic marketing and production plans which will be a constraint to increased achieving increased production levels.

[22] www.bidbuytrade.com
[23] The number (volume) of animals sold at a particular price per cwt. is not reported only the range of prices.
[24] There is anecdotal information that the Northern Alberta market can consume 200 goats (for slaughter) per week. Accordingly market prices often reflect increases or decreases in supply relative to this demand.
[25] Immigration in Canada: A Portrait of Foreign-born Population, 2006 census; Statistics Canada.

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Consumers also lack information on goat products and goat meat in particular. Mainstream consumers are generally not aware of the health attributes of goat meat. As well goat meat is not generally available in larger retail outlets, which limits its availability to mainstream consumers. Furthermore there has not been any market development strategies implemented to educate non ethnic consumers and assist in increasing market demand for goat meat.

5.2 Economic Issues Shaping the Alberta Goat Industry

Economic performance (of goat enterprises) will be a key determinant of in attracting new entrants to the industry, retaining existing producers and encouraging producers to expand production. Key production variables impacting the economic performance of meat goat enterprises are weaning percentage and weaning weights. In dairy goat enterprises the key production factor is milk production.

The economic performance of a goat enterprise will vary from producer to producer as production performance and costs as well as marketing performance will vary from producer to producer.

Enterprise budgets provide an assessment of the economic returns that can be achieved by a goat enterprise based on certain key assumptions related to capital investment, production performance, operating costs and market prices. An enterprise budget for a small scale meat goat enterprise operating in Alberta is presented in Appendix C[26]. The economic performance suggested by this budget reflects the general conditions in the Alberta industry at this time. Of note is that the capital investment required to enter the industry is not a significant barrier particularly for individuals who already have an investment in land and facilities that is suitable for goat production. In other words entry to the meat goat industry may be relatively easy when compared to their livestock sectors.

The economic performance for this representative enterprise is summarized in Table 28.

[26] Adapted from Commercial Meat Goat Industry, Alberta Agriculture and Rural Development ; Revised April 2006

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Table 28: Summary of Economic Performance for Meat Goat Enterprise

	Year 1	Year 2	Year 3	Year 4	Year 5
Beginning Breeding Does	50	50	50	50	60
Weaning Percentage	150%	150%	150%	185%	185%
Total Revenues	$7,700	$7,980	$7,665	$9,500	$13,980
Total Direct Costs	$5,137	$5,160	$5,145	$5,244	$6,008
Total Fixed Costs	$2,221	$2,221	$2,221	$2,221	$2,221
Total Costs	$7,358	$7,381	$7,366	$7,465	$8,229
Gross Operating Profit	$342	$599	$299	$2,035	$5,751
Opportunity Cost of Investment	$1,949	$1,949	$1,949	$1,949	$1,949
Total Projected Economic Costs	$9,307	$9,330	$9,315	$9,414	$10,179
Estimated Returns to Labour, Management and Risk	-$1,607	-$1,350	-$1,650	$86	$3,801

Total costs include all operating costs plus fixed costs to cover depreciation, land taxes, licences and insurance. Gross operating profit reflects the surplus or shortfall after these costs (including depreciation) have been covered.

Opportunity costs on the capital invested in the enterprise are also included in this assessment on the expectation that this capital should achieve a return of 5%. Accordingly, Total Projected Economic Costs include all costs except for the labour and management invested in the enterprise each year. Accordingly, the return to labour, management and risk is what is left over after all economic costs have been covered.

Once again it is essential that individual operators develop their own budgets in order to understand the economic performance they expect to achieve given their unique circumstances. The summary presented in Table 28 does however point out a few economic realities that shape the Alberta industry. The low returns to labour and management in the goat enterprise cannot compete with off-farm earning particularly when the Alberta economy is growing rapidly. As a result, many of the meat goat enterprises are lifestyle farms and the goat enterprise is supported by off-farm earnings. This chosen approach to the enterprise can limit the investment the individuals are willing to make to improve marketing performance and weaning performance or increase the scale of operations.

Logically economic performance will be very sensitive to market prices. However weaning percentage and scale of operations are also key elements in achieving acceptable economic returns. Table 29 was developed to illustrate the variability in profitability, (Gross Operating Profit) due to variations in weaning percentages and market prices[27].

[27] A range of market prices and weaning percentages were incorporated into the third year of the enterprise budget presented in Appendix D.

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Table 29: Gross Operating Profit in Response to Weaning Percentage and Market Prices

Weaning (%)	Market Price for Meat Goats ($/pound live weight)				
	$1.45	$1.55	$1.65	$1.75	$1.85
130%	-$904	-$498	-$92	$314	$720
140%	-$421	$20	$461	$902	$1,343
150%	$61	$432	$1,013	$1,489	$1,965
160%	$544	$1,055	$1,566	$2,077	$2,588
170%	$1,026	$1,572	$2,118	$2,664	$3,210
180%	$1,509	$2,090	$2,671	$3,252	$3,833

The variation in profitability illustrated in Table 29 indicates the potential for improved economic performance as enterprises become more established and achieve improved weaning percentages combined with stronger marketing performance. However, the capacity of Alberta producers to realize this stronger economic performance may be limited. As suggested there are many lifestyle farms that may not have any interest in further developing the goat enterprise. As well, there is limited market research and no extension support to assist individuals along the path to achieving enhanced marketing performance or production performance.

6.0 STATE OF THE ALBERTA INDUSTRY

The Alberta goat industry has evolved largely in response to market forces. The meat goat sector, the dairy goat sector and the goat fibre sector are producing commodities and products and meeting consumer needs. However, these markets are dynamic and the capacity of the industry to change their production/marketing mix in order to meet changing consumer demands may be limited. There are potential opportunities for growth however, the Alberta goat industry faces a number of constraints and the capacity of the industry to grow and prosper will be influenced by how well it addresses these constraints.

The structure of the industry is one of a relatively large number of small scale producers selling in a wide range of markets. One segment of producers is lifestyle farmers who enter or leave the industry based on lifestyle choices including the availability of family labour. Only a few of these producers have focused on developing marketing relationships and gaining knowledge of the specific requirements of the various markets. Many producers have opted to rely on dealers or auctions sales as the most convenient approach to marketing their production. It is expected that these producers would rather stay small or leave the industry than take steps to enhance their ability to provide the right product at the right time and place or to increase their scale of operations.

There is also a segment of entrepreneurial producers who are seeking to develop viable commercial operations either in dairy production or meat production. Initially these producers tend to focus on production issues then undertake to have a more balanced approach between marketing and production. As they refine their production processes

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they undertake to develop marketing relationships and provide a reliable and consistent supply that meets specific market need.

Both of these segments face constraints that may limit the ability of the industry to further evolve in response to changing markets demands. Strategically there is a lack of knowledge about future possibilities for the industry. As a result of this uncertainty, individuals in the industry are not able to develop longer term strategic plans based on where the industry might be and their role in this (expected) changed industry.

As well there are constraints impacting production, marketing and economic performance. As stated Alberta producers face a number of production challenges including weaning percentages, weaning weights, predators and parasite control. However there are two issues that standout. First, is the affect that seasonal breeding and forage production, have on the capacity of the industry to match supply with periods of high consumer demand. Second is the lack of public sector extension support to assist individual producers in addressing these production issues and achieving stronger p4roduciton performance. Of note is that Manitoba has a full time professional providing production, marketing and economic information as well as decision making tools to the sheep and goat industries. In this sense the Alberta industry may be disadvantaged by not having a similar resource.

Limited marketing information for making effective short term and long term decisions is also a constraint to the Alberta industry. There are a limited number of producers who have invested time and energy in developing marketing relationships with end users of their product and gaining knowledge of specific consumer requirements. Producers who do not invest in these marketing relationships do have the same understanding and insight of consumer needs and are thus could be limited in their ability to meet these needs.

A further constraint to the Alberta industry is the lack of reliable market data that quantifies the demand for goat meat in Alberta. As a result, there is uncertainty whether goat meat consumption is increasing or decreasing. As well there is no knowledge of the rate at which goat meat consumption is changing relative to changes in immigrant populations. As stated the key unknown is whether supply is limiting consumption or a lack of demand is limiting consumption. As a result, industry stakeholders lack knowledge of how consumers will respond to changes in the price of goat meat, changes in the prices of substitutes and changes in disposable income. Once again the implication is that industry participants face difficulty in developing strategic marketing plans.

Another market constraint in the Alberta industry is the lack of market development strategies to encourage increased consumption of goat products particularly by non ethnic consumers. Awareness, information and education aimed at new consumers and emphasising the many benefits of goat meat are limited. Currently, goat meat is not generally available in large retail outlets, which limits its availability to mainstream consumers. By comparison goat cheeses are available in these larger retail outlets.

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The industry may also be constrained by the view that the only markets of importance are ethnic consumers. In other words the current focus on ethnic markets may be limiting the focus and energy required to develop alternative markets. As a result, other non-ethnic markets are not being explored. These potential markets for goat meat include:

1. Health conscious consumers.
2. Restaurants serving ethnic or gourmet foods that might feature goat meat.
3. Organic consumers seeking high quality source of meat protein.

Once again there is a lack of professional extension support in marketing available to Alberta producers. Market data, marketing tools and assistance in developing enhanced marketing practices are not as readily available to producers as they are in other provinces.

Economic forces also impact on the ability of the industry to respond to opportunities. It was noted that (at least for meat goat production) there are no significant barriers or obstacles to entering the industry. However, the modest economic performance of these enterprises often means that many producers choose to stay at small scale or leave the industry rather than take steps to increase scale of operations. The small scale operations that stay in the industry are supplementary enterprises being supported by other sources of income. As a result, modest returns can limit the capacity of the industry to grow and develop.

There are however, entrepreneurial producers who have found the mix of production and marketing that provides an acceptable return. These producers will be the ones that take the industry to the next level. However, they require market information that indicates future possibilities for the industry and on which to develop production and marketing strategies.

6.0 LOOKING FORWARD

Clearly the Alberta goat industry has opportunities to develop and grow through increased consumption of goat products in both specialty and mainstream markets. However, there are constraints that can limit the capacity of the industry to achieve this growth and development. Accordingly, the industry would benefit from a strategic plan built on specific objectives that address both the opportunities and the constraints. The initiative and input to developing this strategic plan has to come from the stakeholders of the industry.

A strategic framework is included in Appendix D in order to put the opportunities and constraints identified and discussed in this report into a forward looking context.[28]

[28] Developing strategies on which the Alberta goat industry might move forward was not a specific deliverable for this report. As stated the purpose of the framework is to put opportunities and constraints into a forward looking context.

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Once again it is up to the industry to develop an industry strategy the recommendation is that the opportunities and constraints identified in this report should be incorporated into the strategy. The strategic framework in Appendix D illustrates the need for a vision for the industry as well as key outcomes and key results that will contribute to that vision.

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Appendix A: Provincial Data on Goat Populations and Goat Farms

Quebec	1981	1986	1991	1996	2001	2006
Number of Goats	13,111	11,853	12,317	15,445	27,337	30,870
Number of Farms	1,252	1,129	889	931	975	1,070
Average Number of Goats per Farm	10.5	10.5	13.9	16.6	28.0	28.9

Ontario	1981	1986	1991	1996	2001	2006
Number of Goats	45,500	32,460	33,405	45,258	62,310	76,114
Number of Farms	4,212	2,999	2,400	2,521	2,342	2,169
Average Number of Goats per Farm	10.8	10.8	13.9	18.0	26.6	35.1

Manitoba	1981	1986	1991	1996	2001	2006
Number of Goats	4,684	3,663	5,895	7,213	12,637	13,159
Number of Farms	581	597	559	515	507	470
Average Number of Goats per Farm	8.1	6.1	10.5	14.0	24.9	28.0

Saskatchewan	1981	1986	1991	1996	2001	2006
Number of Goats	4,317	5,722	8,511	7,968	15,797	11,793
Number of Farms	961	1,221	1,093	941	861	599
Average Number of Goats per Farm	4.5	4.7	7.8	8.5	18.3	19.7

Alberta	1981	1986	1991	1996	2001	2006
Number of Goats	10,567	12,470	15,656	32,960	42,270	29,113
Number of Farms	1,542	1,713	1,584	1,863	1,675	1,220
Average Number of Goats per Farm	6.9	7.3	9.9	17.7	25.2	23.9

British Columbia	1981	1986	1991	1996	2001	2006
Number of Goats	8,795	7,713	9,172	13,121	18,759	13,091
Number of Farms	1,133	927	891	1,135	1,040	904
Average Number of Goats per Farm	7.8	8.3	10.3	11.6	18.0	14.5

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Appendix B: Alberta Auction Market Prices for 2007 and 2008

Mid Point of Reported Price Ranges($/cwt) for 2007

Type	January	February	March	April	May	June	July	August	September	October	November	December
Doelings Kids 0-49 lbs.	$161.75		$176.75	$139.38	$165.50	$160.63	$182.75	$185.50	$146.67	$161.00	$152.67	$164.75
Doelings Kids 50 - 69 lbs.	$168.25	$166.63	$174.75	$171.75	$164.75	$173.75	$161.25	$186.25	$179.50	$166.75	$166.33	$178.00
Doeling Kids 70-90 lbs.	$155.00	$152.50	$170.00	$148.00	$142.50	$167.50	$152.50	$181.88	$178.17	$153.75	$166.25	$170.83
Billy Kids 0-49 lbs.	$158.00	$156.25	$175.25	$157.75	$172.13	$175.00	$168.13	$181.38	$180.17	$170.56	$164.08	$171.75
Billy Kids 50-100 lbs	$165.50	$165.50	$174.88	$169.50	$186.75	$198.00	$179.75	$190.50	$184.50	$177.65	$163.42	$179.67
Whether Kids 0-49 lbs.	$176.00	$164.50	$172.00	$173.00	$165.75	$168.25	$171.25	$182.50	$182.00	$165.75	$161.33	$173.83
Whether Kids 50-100 lbs.	$173.25	$166.75	$177.00	$170.50	$171.75	$185.75	$181.25	$187.75	$185.17	$184.69	$168.17	$176.33

Mid Point of Reported Price Ranges ($/cwt) for 2008

Type	January	February	March	April	May	June	July	August	September	October	November	December
Doelings Kids 0-49 lbs.	$144.50	$173.00	$176.00	$162.75	$174.00	$183.25	$165.50	$174.67	$153.69	$146.17	$122.56	$116.25
Doelings Kids 50 - 69 lbs.	$150.00	$180.00	$173.00	$179.25	$169.50	$181.25	$160.00	$177.92	$166.50	$156.67	$140.25	$143.00
Doeling Kids 70-90 lbs.	$135.00	$151.25	$147.50	$173.38	$172.25	$167.13	$166.50	$170.25	$158.25	$164.00	$143.88	$151.00
Billy Kids 0-49 lbs.	$150.50	$164.00	$172.00	$172.50	$195.00	$178.13	$171.25	$177.00	$171.25	$157.50	$147.69	$116.25
Billy Kids 50-100 lbs	$164.50	$177.00	$176.00	$189.00	$193.25	$193.13	$178.75	$189.58	$180.38	$163.75	$157.88	$147.75
Whether Kids 0-49 lbs.	$174.00	$188.50	$168.25	$174.75	$194.25	$195.88	$173.75	$181.50	$168.56	$151.75	$145.88	$145.25
Whether Kids 50-100 lbs.	$182.00	$176.00	$173.50	$193.00	$191.00	$194.00	$174.50	$186.83	$174.38	$162.17	$152.75	$149.00

Seasonality Indices Derived from Reported Price Ranges ($/cwt) for 2007 and 2008

	January	February	March	April	May	June	July	August	September	October	November	December
Doelings Kids 0-49 lbs.	0.95	1.07	1.10	0.94	1.05	1.07	1.08	1.12	0.93	0.95	0.86	0.87
Doelings Kids 50 - 69 lbs.	0.95	1.03	1.03	1.04	0.99	1.06	0.96	1.08	1.03	0.96	0.91	0.95
Doeling Kids 70-90 lbs.	0.91	0.95	0.99	1.00	0.98	1.05	1.00	1.10	1.05	0.99	0.97	1.01
Billy Kids 0-49 lbs.	0.92	0.96	1.04	0.99	1.10	1.06	1.02	1.07	1.05	0.98	0.93	0.86
Billy Kids 50-100 lbs	0.93	0.97	0.99	1.01	1.07	1.11	1.01	1.07	1.03	0.96	0.91	0.93
Whether Kids 0-49 lbs.	1.02	1.03	0.99	1.01	1.05	1.06	1.01	1.06	1.02	0.93	0.90	0.93
Whether Kids 50-100 lbs.	1.01	0.97	0.99	1.03	1.03	1.08	1.01	1.06	1.02	0.98	0.91	0.92

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Appendix C: Meat Goat Enterprise (50 females) Capital Investment Requirements

LAND	Acres	$/Acre	Share	Total Cost	Useful Life	Depreciation $ per year	Opportunity Cost $/year
Cropland	**10**	$2,500	75%	$18,750			$937.50
	Total Costs			$18,750			$937.50
IMPROVEMENTS AND FACILITIES							
Utilities		$20,000	10%	$2,000	20	$100	$50
Pole Shed (15x30) @ $15.00/sq. ft		$6,750	100%	$6,750	10	$675	$169
Perimeter fencing		$4,000	100%	$4,000	10	$400	$100
Cross fencing		$1,000	100%	$1,000	10	$100	$25
Fence Line Feeders		$300	100%	$300	15	$20	$8
Pens		$500	100%	$500	10	$50	$13
		Total Costs		$14,550		$1,345	$364
Stock							
Breeding Does	50	$200	100%	$10,000			$500
Breeding Bucks	2	$500	100%	$1,000			$50
Predator Control Dog	2	$500	100%	$1,000			$50
		Total Costs		$12,000			$600
EQUIPMENT							
Electric Fencer		$350	100%	$350	5	$70	$9
Hoof Trimmers		$50	100%	$50	5	$10	$1
Small tools		$225	100%	$225	3	$75	$6
Truck		$10,000	10%	$1,000	3	$333	$25
Waterers		$300	100%	$300	8	$38	$8
	Total Costs			$1,925		$526	$48
TOTAL FIXED COSTS				**$47,225**	**$0**	**$1,871**	**$1,949**

Interest costs are the opportunity cost of using capital estimated at 5%

Meat Goat Enterprise Production Marketing Mix

		Year 1	Year 2	Year 3	Year 4	Year 5
Beginning Breeding Does		50	50	50	50	60
Weaning Percentage		150%	160%	175%	185%	185%
Weaned offspring		75	80	88	93	111
Weaned Bucks	Number Marketed	37	40	44	47	56
	Market Weight	70	70	70	70	70
	Market Price	$1.50	$1.50	$1.50	$1.50	$1.50
	Revenues	$3,885.00	$3,990.00	$3,990.00	$4,935.00	$5,880.00
Market Doelings	Number Marketed	33	33	30	8	15
	Market Weight	70	70	70	70	70
	Market Price	$1.50	$1.50	$1.50	$1.50	$1.50
	Revenues	$3,465.00	$3,465.00	$3,150.00	$840.00	$1,575.00
Breeding Doelings	Number Marketed	0	0	0	13	27
	Market price	$175.00	$175.00	$175.00	$200.00	$200.00
	Revenues	$0.00	$0.00	$0.00	$2,600.00	$5,400.00
Cull Does	Number Marketed	5	7	7	15	15
	Market price	$70.00	$75.00	$75.00	$75.00	$75.00
	Revenues	$350.00	$525.00	$525.00	$1,125.00	$1,125.00
	Total Revenues	$7,700.00	$7,980.00	$7,665.00	$9,500.00	$13,980.00
Replacement Does		5	7	5	25	13
Ending Breeding Does		50	50	50	60	58

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Appendix C Continued: Meat Goat Enterprise Projected Revenues and Expenses

		Year 1	Year 2	Year 3	Year 4	Year 5
Number of Breeding Does		50	50	50	50	60
Meat (Weanling) Buck revenues		$3,885	$3,990	$3,990	$4,935	$6,860
Breeding Doelings Revenues		$0	$0	$0	$2,600	$5,400
Meat (Weanling) Does Revenues		$3,465	$3,465	$3,150	$840	$1,575
Cull Does		$350	$525	$525	$1,125	$1,125
	Total Revenues	$7,700	$7,980	$7,665	$9,500	$14,960
Operating Expenses						
Feed Costs	**Cost/Head**					
Hay	$40.00	$2,000	$2,000	$2,000	$2,000	$2,400
Grain	$8.40	$420	$420	$420	$420	$504
Salt & Mineral	$3.74	$187	$187	$187	$187	$224
Total Feed Costs		$2,607	$2,607	$2,607	$2,607	$3,128
Veterinary Expenses						
Parasite Control	$/head					
Breeding Does	$2.00	$100	$100	$100	$100	$120
Breeding Doelings Sold	$2.00	$0	$0	$0	$26	$54
Replacement Does	$2.00	$10	$14	$14	$50	$26
8-way vaccine	$/head					
Breeding Does	$2.00	$100	$100	$100	$100	$120
Breeding Doelings Sold	$2.00	$0	$0	$0	$26	$54
Replacement Does	$2.00	$10	$14	$14	$50	$26
Bedding Costs		$60	$60	$60	$60	$60
Marketing Costs		$375	$390	$375	$350	$430
Fuel & repair Costs		$275	$275	$275	$275	$330
Insurance		$300	$300	$300	$300	$360
Machinery Costs		$400	$400	$400	$400	$400
Facility repairs		$200	$200	$200	$200	$200
Utilities		$100	$100	$100	$100	$100
Office Expense		$100	$100	$100	$100	$100
Manure Removal		$250	$250	$250	$250	$250
Interest on Operating		$250	$250	$250	$250	$250
Total Direct Costs		$5,137	$5,160	$5,145	$5,244	$6,008
Fixed Costs						
Depreciation		$1,871	$1,871	$1,871	$1,871	$1,871
Land Taxes, Licences & Insurance		$350	$350	$350	$350	$350
Total Fixed Costs		$2,221	$2,221	$2,221	$2,221	$2,221
Total Operating + Fixed Costs		**$7,358**	**$7,381**	**$7,366**	**$7,465**	**$8,229**
Gross Operating Profit		**$342**	**$599**	**$299**	**$2,035**	**$5,751**
Cumulative Gross Operating Profit		**$342**	**$941**	**$1,241**	**$3,276**	**$9,026**
Opportunity Cost of Investment		$1,949	$1,949	$1,949	$1,949	$1,949
Total Projected Economic Costs		$9,307	$9,330	$9,315	$9,414	$10,179
Estimated Returns to Labour & Management		**-$1,060**	**-$1,350**	**-$1,650**	**$86**	**$3,801**

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Appendix D: A Strategic Framework for the Alberta Goat Industry

Vision

To Grow the Value of the Alberta Goat Industry From $xx million to $xxx million by 2015 in a Sustainable Manner

Key Outcomes

The Goat Industry is Valued by the Public Sector	**Goat Businesses are Viable and Sustainable**	**The Goat Industry is a Leader in Innovation and Environmental Stewardship**

Key Results to be Achieved by the Industry

Increase Production Support and Marketing Support From the Public Sector	Increased Investment in Goat Enterprises	Increased Consumer Awareness and Consumer Acceptance of Alberta Goat Products	Increased Ability of the Goat Industry to Anticipate and Respond to Risk Events	Improved Productivity in Meat, Dairy and Fibre Production

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