AGRICULTURAL SECTOR PROFILE 2019

Town of Mayerthorpe

Mayerthorpe

AGRICULTURAL

SECTOR PROFILE

For the Town of Mayerthorpe

Mayerthorpe

March 2019
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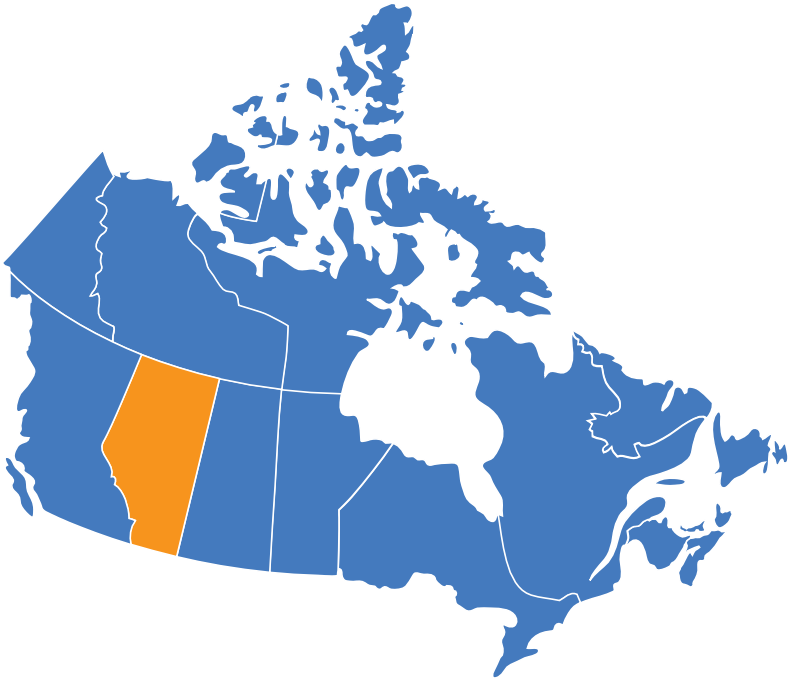
Trends in Alberta



Similar to much of Canada, the total number of farms in Alberta, as well as employees and operator numbers are declining, while the average farm size is increasing.

Nevertheless, Alberta agriculture had a strong year in 2016. It was the second largest agriculture producing province in Canada ($13.5 billion, or 21.6% of total of farm cash receipts in Canada, including direct program payments). Alberta led livestock market receipts ($6.1 billion) in Canada, despite falling 9.6 per cent between 2015-16. In 2016, livestock receipts were 13 per cent above the 2011-2015 average of $5.4 billion. Alberta crop market receipts reached a new industry record at $6.7 billion, which places Alberta second to Saskatchewan in crop market receipts across the nation.

Total food and beverage manufacturing sales also reached a new industry high in Alberta and was ranked as Alberta's largest manufacturing industry compared to other sectors. The most important sub-sector was meat product manufacturing (including poultry), which accounted for 53.9 per cent (or $7.3 billion) of total food manufacturing sales. Meat product manufacturing is primarily driven by animal slaughtering ($6.4 billion) (except poultry). Nationally, Alberta ($13.6 billion) ranked third in total Canadian ($101.1 billion) food manufacturing sales, behind Ontario ($40.6 billion) and Quebec ($23.1 billion).

It would appear that the value of agriculture continues to increase in Alberta as well. Farm operating expenses, and farm cash receipts alike, have demonstrated an increasing tendency over the last 35 years. In 2015-16, farm operating expenses saw the first year-over-year decline since 2009. Alberta's net cash income (cash receipts minus total operating expenses) was a record $3.5 billion in 2016, and 8.0 per cent higher than the previous record of $3.2 billion in 2015.

Alberta's total farm capital was also a record high in 2016 valued at $149.1 billion. The rise was driven mainly by a substantial increase in the value of land and buildings (9.2% growth), and machinery and equipment (4.5% growth). Table 1 indicates employment in agri-food industries in Alberta.

Table 1: Changes in Agri-food Employment, Alberta, 2015-2016

Employment Trends (% Change 2015 - 2016) Agri-Food Industries	
Total employment in agri-food industries	-17.9%
Primary Agriculture	-19.1%
Food and beverage manufacturing industries	-15.2%

Source: Alberta Agriculture Statistics Yearbook, 2016

Agriculture in the Lac Ste. Anne Census Consolidated Subdivision

This report presents a profile of the agriculture sector in the Lac Ste. Anne Census Consolidated Subdivision, which includes all incorporated and unincorporated municipalities within the boundary, including Lac Ste. Anne County, the Town of Mayerthorpe and the Town of Onoway (from here forth referred to as Lac Ste. Anne CCS [or LSACCS in tables] unless otherwise noted). This area will be compared and contrasted with statistics from Census Division No. 13, and Alberta. Census Division No. 13 encapsulates the following consolidated census subdivisions:

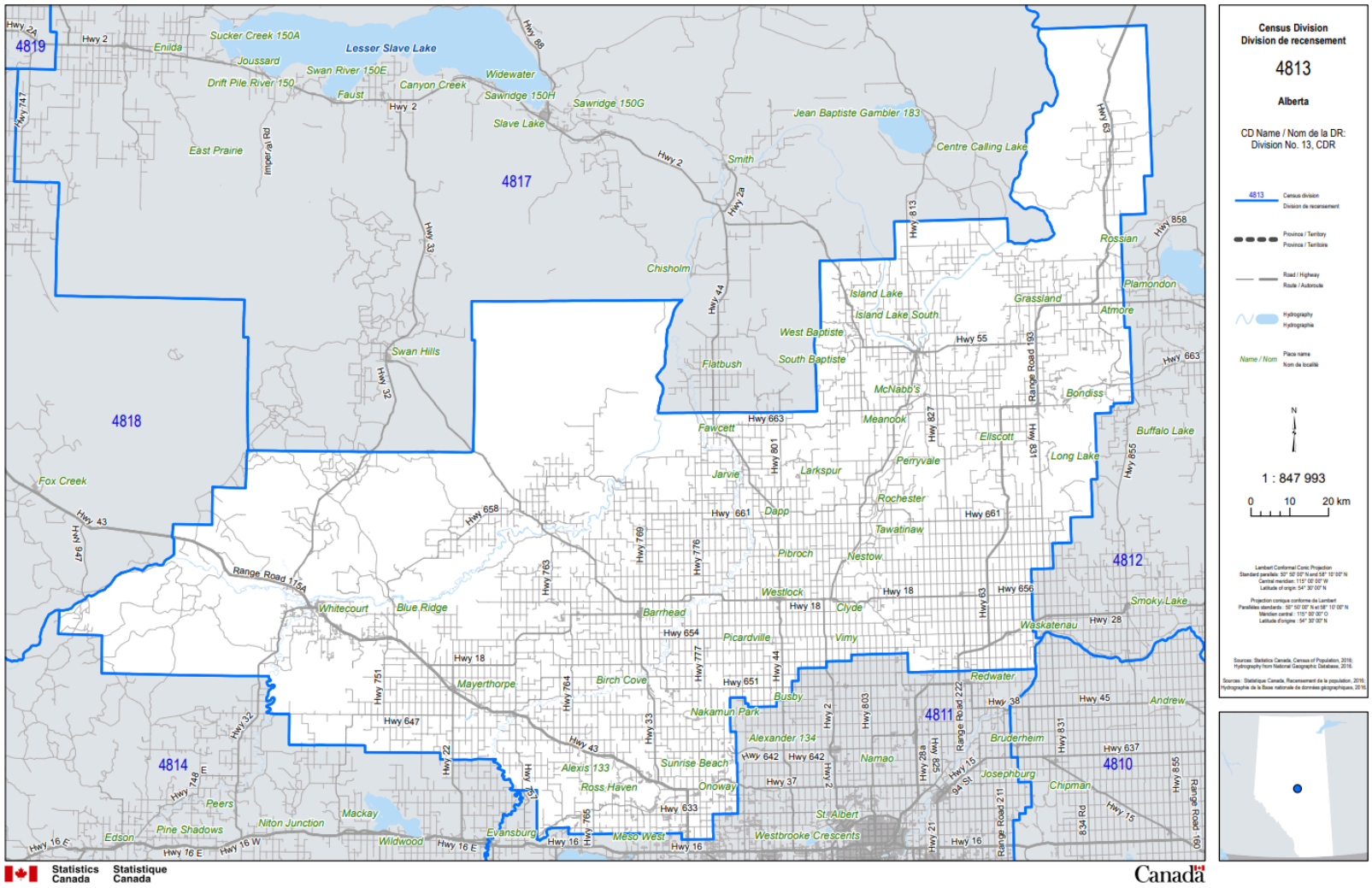
- Lac Ste. Anne County, Alberta [CCS486013001]
- Barrhead County No. 11, Alberta [CCS486013018]
- Westlock County, Alberta [CCS486013028]
- Woodlands County, Alberta [CCS486013029]
- Thorhild County, Alberta [CCS486013036]
- Athabasca County, Alberta [CCS486013044]

Based on the 2016 Census, there are 794 farms in Lac Ste. Anne CCS with 493,384 acres of farmland, 44% of which is land in crop production, 44% in pasture, and only 8% is wet lands and woodlands.

With respect to agriculture, Lac Ste. Anne CCS has experienced patterns similar to Alberta - a decrease in the number of farms, farm land and farm operators, and growth in farm receipts and total farm capital over the past 5 years. The following detailed statistical analysis of the Census of Agriculture data will depict a clearer picture of the recent agricultural trends in agriculture in the region.

Figure 1, on the following page depicts boundaries and location of Division No. 13, which encompasses Lac St. Anne County.

Figure 1: Reference Map for Census Division No. 13, Alberta



Source: Statistics Canada

2 Farm Characteristics

The number of farms in Alberta, Lac Ste. Anne CCS as well as in Division No. 13 have decreased over past few census periods. This is a common trend, as the number of farms across Canada have steadily decreased since the 1940s—from over 700,000 farms in 1941 to 193,492 in 2016, a loss of 72% of farms in Canada.

Table 2: Total Farms and Farm Land (Acres), 2011-2016

	Number of Farms			Total Farm Land (acres)		
Region	**2011**	**2016**	**% Change 2011-2016**	**2011**	**2016**	**% Change 2011-2016**
Alberta	43,234	40,638	-6%	50,498,834	50,250,183	0.5%
Division No. 13	3,833	3,477	-9%	2,836,077	2,730,850	-4%
Lac Ste. Anne CCS	936	794	**-15%**	596,437	493,384	**-17%**

Source: Statistics Canada Census of Agriculture 2011-2016

According to the 2016 Census of Agriculture, total farm land in Lac Ste. Anne CCS is approximately 493,384 acres, down by 17% between 2011 and 2016. The total number of farms in Lac Ste. Anne CCS decreased during the same period by 15%. Lac Ste. Anne CCS has seen a greater percentage decline in farm land relative to Division No. 13 and Alberta.

The following two tables indicate employment by occupation and total export sales by industry in Lac Ste. Anne CCS and Town of Mayerthorpe combined.

Table 3: Exports[1] Table by Industry Classification, Lac Ste. Anne CCS & Mayerthorpe

NAICS	Industry	Exports
1110	Farms	$52,386,475
2111	Oil and gas extraction	$47,707,237
4842	Specialized freight trucking	$39,452,569
3116	Meat product manufacturing	$17,576,234
6111	Elementary and secondary schools	$11,426,737
6212	Offices of dentists	$10,178,923
5619	Other support services	$9,556,285
9130	Local, municipal and regional public administration	$8,727,714
9112	Other federal services (9112-9119)	$7,692,314
6221	General medical and surgical hospitals	$6,511,664

Source: EMSI Analyst 2018 database (based on 2013 Input-output tables from Statistics Canada)

[1] Exports sales are measured by the amount of money that is spent by industries located outside the region in exchange for goods or services produced by an industry located in the region.

Exports can be either foreign or domestic. An example of foreign exports would be a firm in Toronto providing consulting services to a company in New York. An example of a domestic export sale would be a LSAC beef producer selling cattle to a High River processing facility. Both the consulting and beef examples are considered exports, because a good or service is being purchased outside of the region in which it was produced, and dollars are entering the region in exchange.

Table 4: Top Occupations by Number of Jobs, Lac Ste. Anne CCS and Mayerthorpe

Description	2013 Jobs	2018 Jobs	2013 - 2018 Change	2013 - 2018 % Change
Managers in agriculture	366	293	-73	-20%
Transport truck drivers	277	267	-10	-4%
Public works maintenance equipment operators	100	122	22	22%
Accounting technicians and bookkeepers	117	112	-5	-4%
General farm workers	52	99	47	90%
Retail and wholesale trade managers	113	92	-21	-19%
Other sales related occupations	42	92	50	119%
Food counter attendants, kitchen helpers	66	92	26	39%
Cashiers	71	92	21	30%
Supervisors, motor transport and other ground transit operators	72	83	11	15%
Light duty cleaners	38	75	37	97%
Cooks	45	69	24	53%
Nurse aides, orderlies and patient service associates	61	68	7	11%
Industrial butchers and meat cutters, poultry preparers	26	62	36	138%

Source: EMSI Analyst 2018 database

The largest percentage of farms today are operated under sole proprietorship (61%), and the fastest growing operating arrangement is the Corporation type (Table 5). In fact, Corporation operating arrangements is the only form of operating arrangement that has increased in numbers over the last 5 years.

Table 5: Number of Farms by Operating Arrangements, 2016

Lac Ste. Anne CCS	2011	2016	% of Total 2016	% Change 2011-2016
Sole proprietorship	577	486	61%	-16%
Partnership	274	200	25%	-27%
Without a written agreement	251	186	23%	-26%
With a written agreement	23	14	2%	-39%
Corporation	84	108	14%	29%
Family corporation	77	88	11%	14%
Non-family corporation	7	20	3%	186%
Other	1	0	0%	-100%
Total farms	**936**	**794**	**100%**	**-15%**

Source: Statistics Canada Census of Agriculture 2011-2016

Similarly, the largest percentage of farm tenure is "owned" area (65%), with all types of tenure falling over the past 5 years, as the total number of acres and farms decreased overall (Table 6).

The following table provides information on the land tenure of farms in Lac Ste. Anne CCS.

Table 6: Tenure of Farm Land, 2016

Lac Ste. Anne CCS	# Farms	Acres	% Dist.	% Change 2011-2016
Area owned	780	322,576	65%	-13%
Area leased from governments	101	50,534	10%	-36%
Area rented or leased from others	270	128,933	26%	-13%
Area crop-shared from others	62	10,614	2%	-28%
Land area used through other arrangements	36	5,499	1%	-50%
Total area of land used by others	112	24,772	5%	-1%
Total	**794**	**493,384**	**100%**	**-17%**

Source: Statistics Canada Agriculture Census 2011-2016

The most common farm size in Lac Ste. Anne CCS in 2016 was between 130 to 179 acres. The same is true for Alberta and Division No. 13, however, Alberta has a higher percentage of very large farms (3,520 + acres). This trend has not yet occurred in Lac Ste. Anne CCS.

Figure 3: Total Number of Farms by Area Size (Acres), 2011 -2016

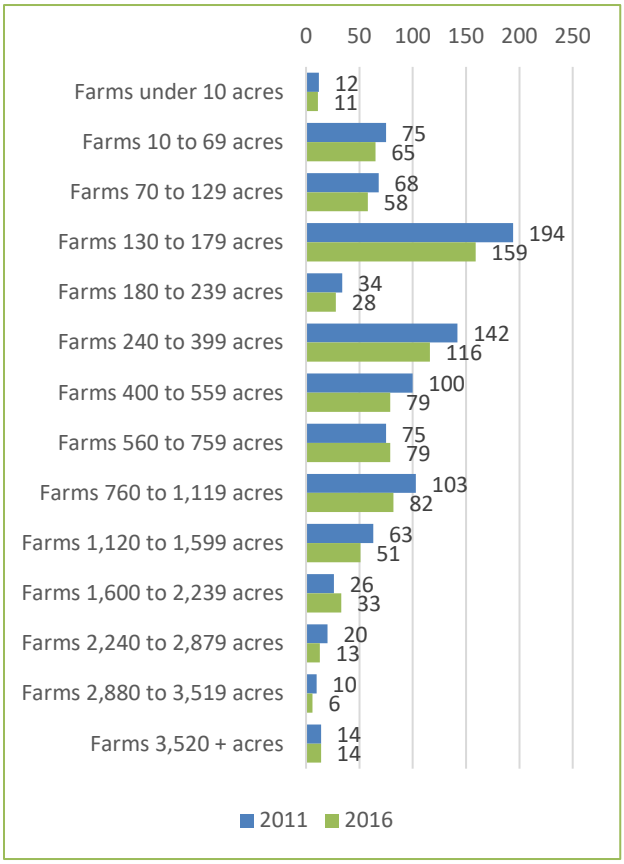
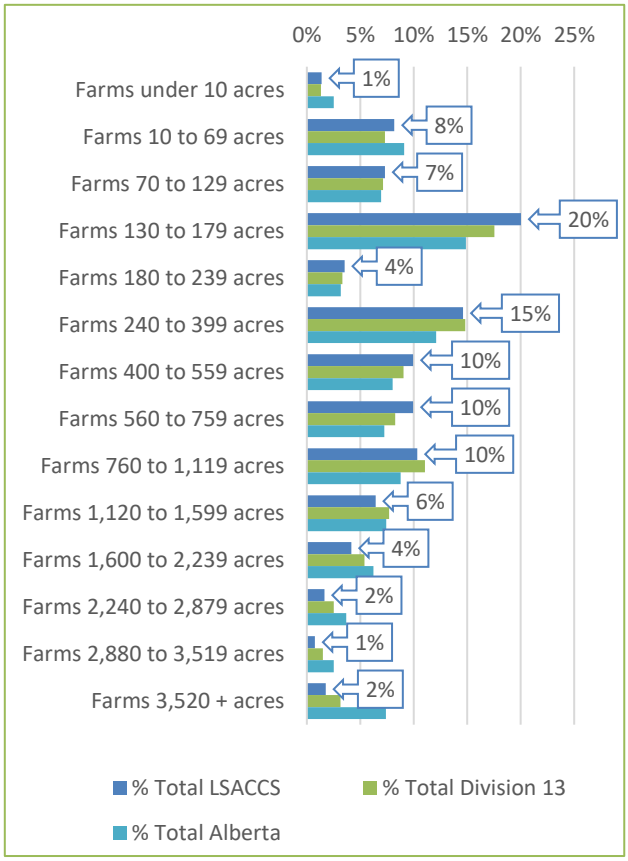


Figure 2: Percentage of Farms by Total Size vs Alberta and Division No. 13



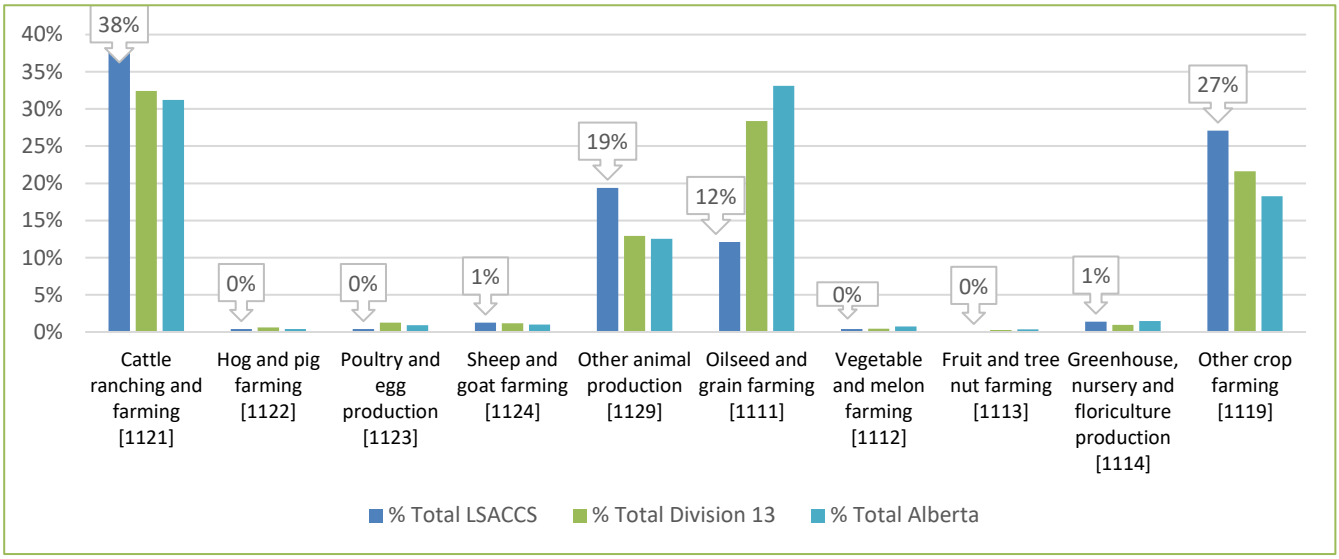
Source: Statistics Canada Census of Agriculture 2011-2016

The most prominent farm types (by size) were also the farms that saw the largest decline over the last two census periods in Lac Ste. Anne CCS.

Farm Classifications & Land Use

In Lac Ste. Anne CCS, the majority of farms are cattle ranching and farming (299 farms), other animal production (154 farms), oilseed and grain farming (96 farms), and other crop farming (215 farms), as indicated in Figure 4.

Figure 4: Percentage of Farms Classified by Type [NAICS[2] Code], 2016



Source: Statistics Canada Census of Agriculture 2011-2016

The total amount of farm land in Lac Ste. Anne CCS decreased by 17% between 2011 and 2016. Table 7 indicates that all types of farmland decreased in acreage, however, land used for pasture had the greatest percentage decrease in acreage, with pasture and cropland each utilizing 44% of the total acreage in 2016.

Table 7: Farms by Area in Crops and Summerfallow (excluding Christmas trees), 2016

Lac Ste. Anne CCS	Number of farms reporting	Acres	% Acres	% Acres Change 2011-2016
Land in crops	623	216,678	44%	-13%
Summerfallow land	54	3,696	1%	-17%
Tame or seeded pasture	412	96,617	20%	-32%
Natural land for pasture	507	120,247	24%	-13%
Woodlands and wetlands	375	39,109	8%	-15%
All other land	580	17,037	3%	-2%
Total	**794**	**493384**	**100%**	**-17%**

Source: McSweeney & Associates and 2016 Statistics Canada Agriculture Census

[2] North American Industrial Classification System

Direct to Consumer Sales, Organic Production

6% of Lac Ste. Anne CCS's 794 farms reported selling agricultural products directly to consumers in 2016. Table 15 provides further details on how the products were sold to consumers. Almost all of these farms (98%) reported selling unprocessed agricultural products, and many (83%) reported using farm gate sales, stands, kiosks, or u-pick to sell directly to consumers.

Table 8: Farms Reporting Selling Agricultural Products Directly to Consumers, 2016

Geography		2016	% of total
Alberta	Farms reporting direct sales to consumers	2,062	100%
	Farms reporting unprocessed agricultural products sold	1,986	96%
	Farms reporting value-added products sold	197	10%
	Farms reporting using farm gate sales, stands, kiosks, U-pick	1,761	85%
	Farms reporting using farmers' markets	425	21%
	Farms reporting using Community Supported Agriculture (CSA)	119	6%
	Farms reporting using other methods	94	5%
Division No. 13	Farms reporting direct sales to consumers	174	100%
	Farms reporting unprocessed agricultural products sold	170	98%
	Farms reporting value-added products sold	15	9%
	Farms reporting using farm gate sales, stands, kiosks, U-pick	154	89%
	Farms reporting using farmers' markets	26	15%
	Farms reporting using Community Supported Agriculture (CSA)	7	4%
	Farms reporting using other methods	9	5%
Lac Ste. Anne CCS	Farms reporting direct sales to consumers	48	100%
	Farms reporting unprocessed agricultural products sold	47	98%
	Farms reporting value-added products sold	2	4%
	Farms reporting using farm gate sales, stands, kiosks, U-pick	40	83%
	Farms reporting using farmers' markets	5	10%
	Farms reporting using Community Supported Agriculture (CSA)	1	2%
	Farms reporting using other methods	5	10%

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture

The number of farms producing organic products for sale has increased steadily in Alberta and Division No. 13, between 2011 and 2016.

Table 9: Number of Farms with Organic Products for Sale, 2016

		2011	2016	% change
Alberta	Organic products for sale	326	424	30%
	Certified organic products for sale	290	354	22%
	Transitional organic products for sale	42	97	131%
Division No. 13	Organic products for sale	39	45	15%
	Certified organic products for sale	38	36	-5%
	Transitional organic products for sale	1	13	1200%
Lac Ste. Anne CCS	Organic products for sale	7	6	-14%
	Certified organic products for sale	7	5	-29%
	Transitional organic products for sale	0	2	200%

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture

3 Inputs for Farm Production

This section describes changes and current use in various input factors: labour, technology, capital, and other.

Human Capital Inputs

The agricultural industry is shifting away from manual labour, and towards machine intensive production. Seasonal/temporary jobs are declining faster than year-round jobs are being created.

Table 10: Total Paid Agricultural Work, 2016

Region		# Farms	# Employees	% of Total Labour	% Change in employees 2011-2016
Alberta	Total Paid Labour	9,565	33,498	100%	-12%
	Year Round	6,728	16,661	50%	7%
	On a seasonal or temporary basis	6,093	16,837	50%	-24%
Division No. 13	Total Paid Labour	622	1,789	100%	-17%
	Year Round	353	699	39%	3%
	On a seasonal or temporary basis	419	1,090	61%	-26%
Lac Ste. Anne CCS	Total Paid Labour	104	240	100%	-35%
	Year Round	69	104	43%	1%
	On a seasonal or temporary basis	59	136	57%	-48%

Source: Statistics Canada 2016 Census of Agriculture

Lac Ste. Anne CCS had approximately 1,160 farm operators in 2016; 16% less than in 2011. The average age of a farm operator in Lac Ste. Anne CCS in 2016 was 57, comparable to the average age of Alberta operators, which was 56.

Table 11: Farm Operators, 2016

Region		2011	2016	% Change 2011-2016
Alberta	# Farms	43,234	40,638	-6%
	# Operators	62,050	57,605	-7%
	Average Age	54.5	55.7	2%
Division No. 13	# Farms	3,833	3,477	-9%
	# Operators	5,660	5,070	-10%
	Average Age	54.7	56.1	3%
Lac Ste. Anne CCS	# Farms	936	794	-15%
	# Operators	1,385	1,160	-16%
	Average Age	55.1	56.5	3%

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture. Note that up to three operators can be reported per farm. This is a count of distinct operators; hence, operators of two or more separate farms are included only once in the total.

Chemical Inputs

Apart from land and people, farmers use various chemical and mineral products to maximize productivity. The table below indicates that herbicides and commercial fertilizers are commonly used in Alberta, Division No. 13 and Lac Ste. Anne CCS. Notably, Lac Ste. Anne CCS saw a large increase in the use of insecticides (641% rise) and fungicides (178% rise) in the last five years.

Table 12: Land Inputs in the Year Prior, 2016

Region		2011 Acres	2016 Acres	% 2016 Acres	% Change Acres 2011-2016
Alberta	Herbicides	17,658,829	19,666,602	39%	11%
	Insecticides	1,860,344	2,681,962	5%	44%
	Fungicides	2,619,924	4,359,208	9%	66%
	Commercial fertilizer	17,571,243	19,389,984	39%	10%
	Lime	25,757	54,217	0%	110%
	Trace minerals & nutrients	x	1,962,676	4%	N/A
Division No. 13	Insecticides	63,536	120,338	4%	89%
	Fungicides	136,085	205,453	8%	51%
	Commercial fertilizer	862,090	978,905	36%	14%
	Lime	2,073	5,166	0%	149%
	Trace minerals & nutrients	x	244,037	9%	N/A
Lac Ste. Anne CCS	Herbicides	76,540	80,788	16%	6%
	Insecticides	2,059	15,257	3%	641%
	Fungicides	5,650	15,702	3%	178%
	Commercial fertilizer	86,083	89,699	18%	4%
	Lime	598	x	N/A	N/A
	Trace minerals & nutrients	N/A	12,198	2%	N/A

Source: McSweeney & Associates and 2016 Statistics Canada Agriculture Census. Note that x means the data has been suppressed to meet the confidentiality requirements of the Statistics Act, and "N/A" means not available for a specific reference period.

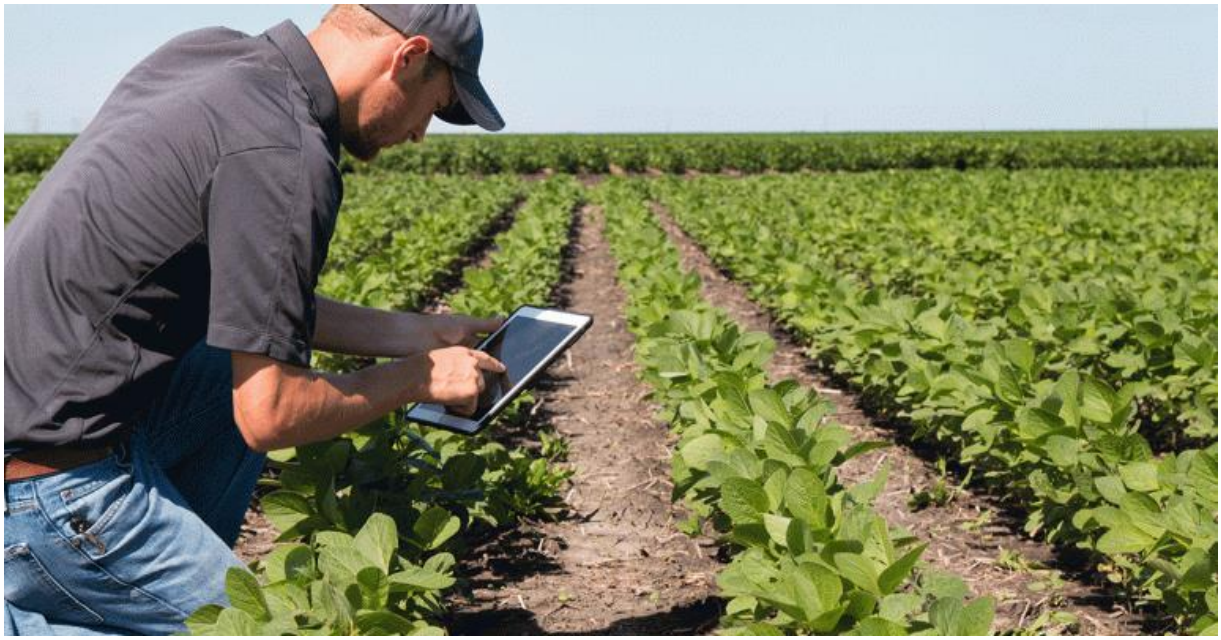
Technology Inputs

The use of technology inputs has become part of modern agricultural practice. The percentage of Lac Ste. Anne CCS farms utilizing computers, internet, high-speed internet and smart phones/tablets lags equivalent usage for all Alberta farms as indicated in the next two tables.

Table 13: Computers used for Farm Business, 2016

Region		2016	% of Farms
Alberta	Farms using **computers** for the farm business	26,673	66%
	Farms using **internet** for the farm business	24,928	61%
	Farms having **high-speed** internet access	20,097	49%
Division No. 13	Farms using **computers** for the farm business	2,120	61%
	Farms using **internet** for the farm business	1,991	57%
	Farms having **high-speed** internet access	1,522	44%
Lac Ste. Anne CCS	Farms using **computers** for the farm business	494	62%
	Farms using **internet** for the farm business	458	58%
	Farms having **high-speed** internet access	324	41%

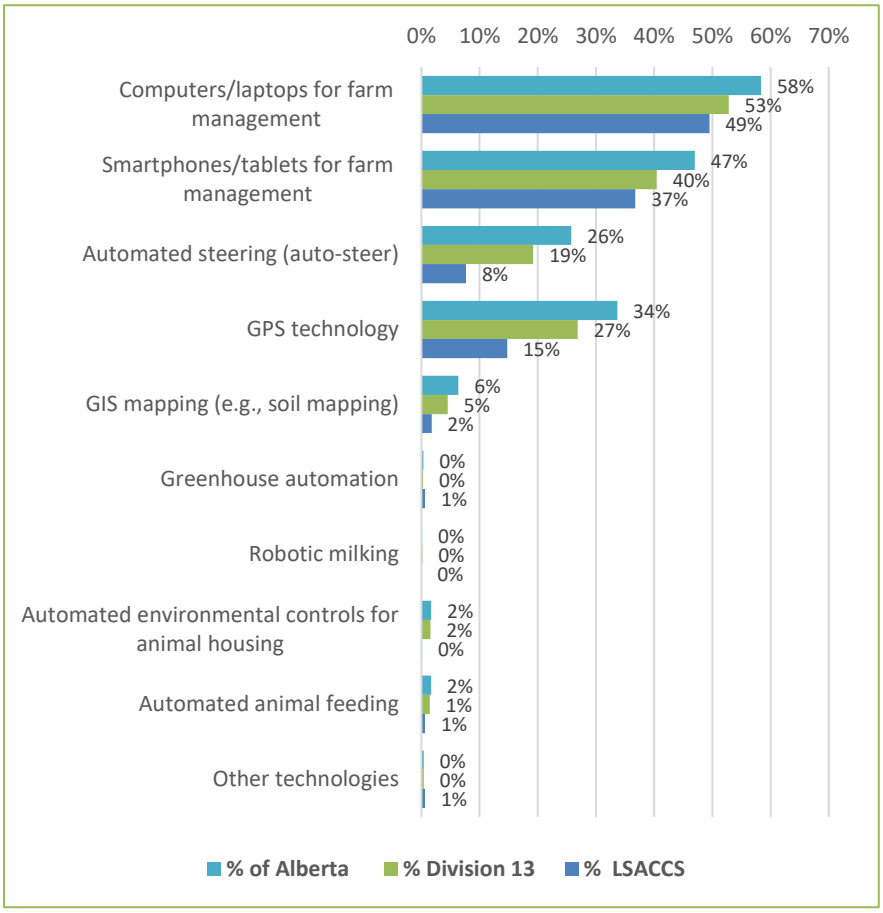
Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture.



In terms of adoption of technologies for use in agricultural operations, 15% of Lac Ste. Anne CCS farms use GPS technology compared to 34% and 27% of farms in Alberta and Division No. 13, respectively.

Similarly, the adoption rate of automated steering is less than in Alberta and in Division No. 13.

Figure 5: Farms Reporting Technologies Used in the Operation, 2016



Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture

Capital Inputs

The following table indicates the capital invested in farm machinery and equipment in 2011 and 2016.

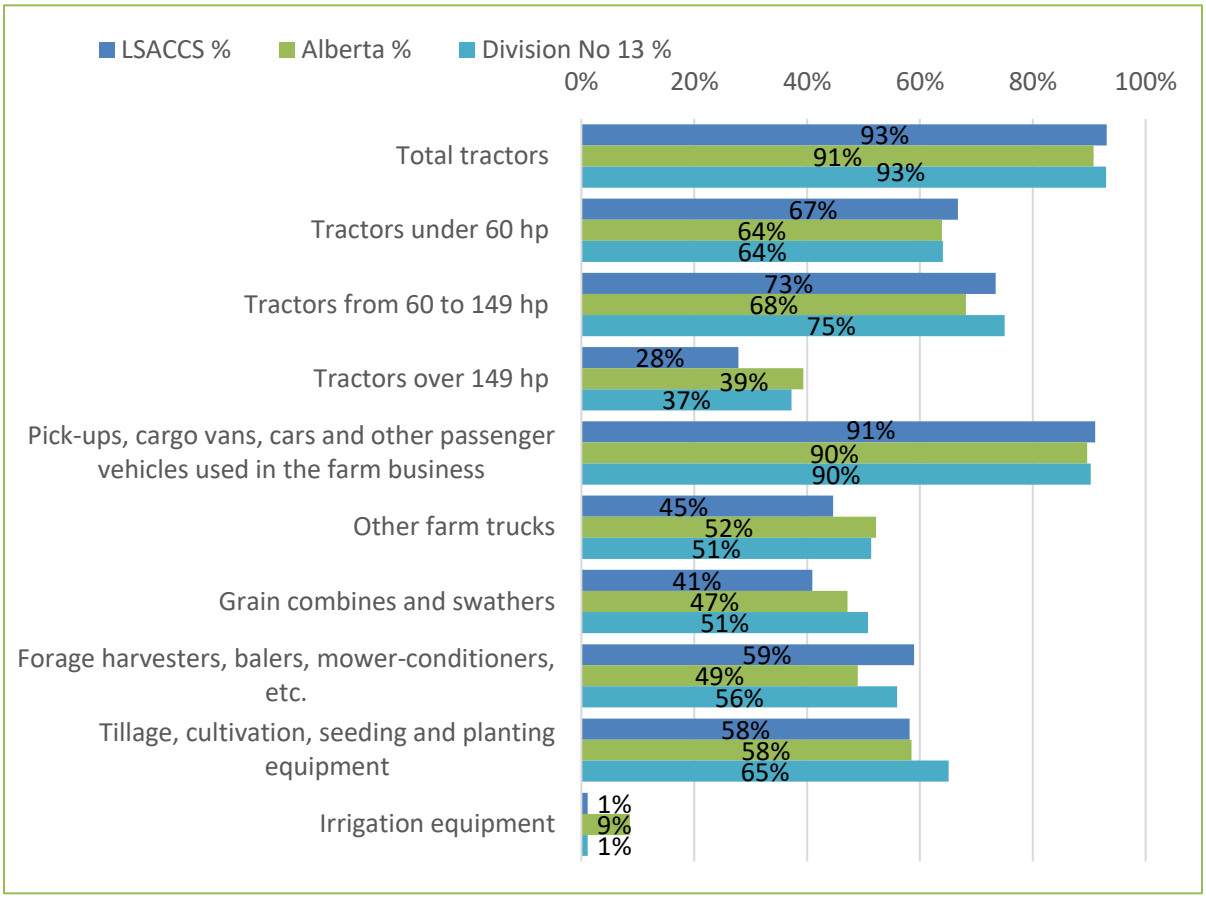
Table 14: Farm Capital (Farm Machinery and Equipment), 2011-2016

Lac Ste. Anne CCS	2011		2016	
	# Farms	# Owned and leased	# Farms	# Owned and leased
Total tractors	877	3,272	739	2,808
Tractors under 60 hp	620	1,464	530	1,255
Tractors from 60 to 149 hp	N/A	N/A	583	1,219
Tractors over 149 hp	205	293	221	334
Pick-ups, cargo vans, cars and other passenger vehicles	N/A	N/A	723	1,644
Other farm trucks	500	847	354	629
Grain combines and swathers	N/A	N/A	325	678
Forage harvesters, balers, mower-conditioners, etc.	N/A	N/A	468	1,131
Tillage, cultivation, seeding and planting equipment	586	N/A	462	N/A
Irrigation equipment	6	N/A	9	N/A
All other farm machinery and equipment	703	N/A	472	N/A

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture. Note "N/A" means not available for a specific reference period.

Figure 6 indicates Lac Ste. Anne CCS and Division No. 13 usage of various types of farm machinery and equipment in comparison to Alberta.

Figure 6: Percentage of Farms Using Various Types of Farm Machinery and Equipment, 2016



Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture

4 Farm Key Financial Indicators

This section of the report profiles the gross receipts, net farm income, and value of farm capital and livestock. Lac Ste. Anne CCS's 794 farms represent 8.6% of the number of Division No. 13 farms, and 2% of all Alberta farms. The following provides a snapshot of the average key financial indicators per reporting farm.

2016 Financial Overview	Alberta	Division No. 13	LSACCS
Number of Farms	40,638	3,477	794
Average per Reporting Farm			
Net Farm Income ($)	67,942	45,260	26,890
Farm Capital ($)	3,541,699	2,371,328	1,653,412
Farm Operating Expenses ($)	368,349	216,409	104,371
Gross Farm Receipts ($)	436,290	261,669	131,261

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture

Gross farm receipts in Lac Ste. Anne CCS totalled $104,221,353, which represents 0.6% of Alberta's total and 11.5% of Division No. 13's total.

Lac Ste. Anne CCS total gross farm receipts increased by 48% between 2011-2016.

Figure 7: Percentage of Farms by Total Gross Receipts, 2016

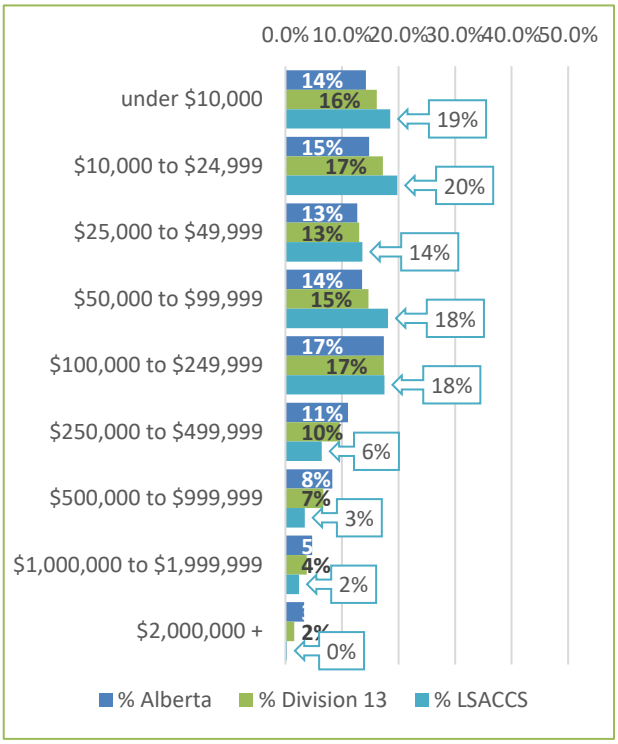
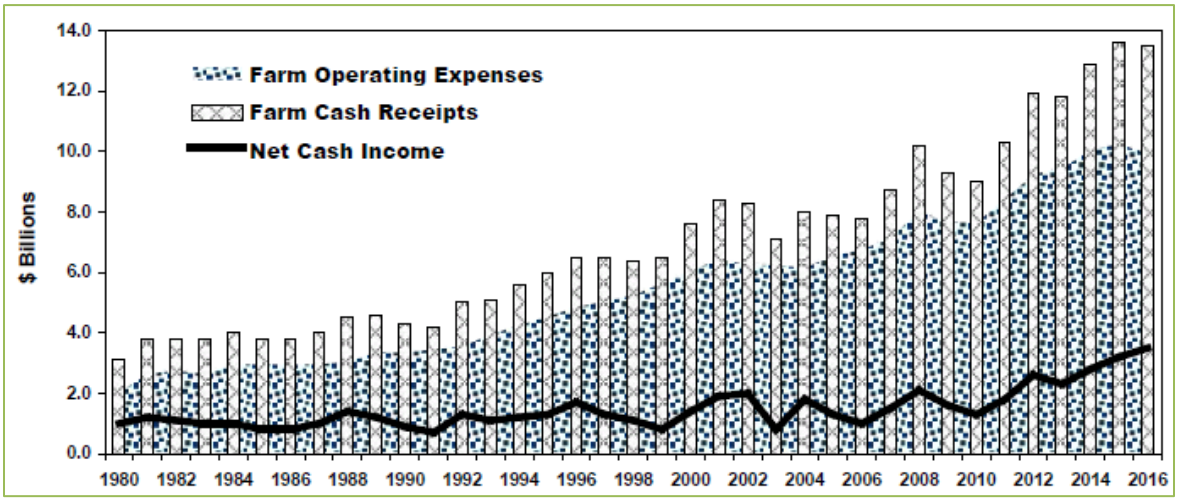


Figure 8: Number of Farms Classified by Total Gross Farm Receipts, 2016

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture

As can be seen in Figure 9 below, operating expenses and farm receipts have been on an upward trajectory since the 1980's. In addition, net farm income in Alberta has increased almost constantly since 2010.

Figure 9: Alberta Farm Cash Receipts, Operating Expenses and Net Cash Income, 1980-2016



Source: Alberta Agriculture Statistics Yearbook, 2016. Based on data from Statistics Canada, CANSIM Database Table Numbers 002-0001 and 002-0009; and Alberta Agriculture and Forestry, Statistics and Data Development Section

Table 15 indicates the change in total net farm income between 2011 and 2016. Lac Ste. Anne CCS saw a significantly larger percentage growth in net farm income during that period relative to Alberta and Division No. 13.

Table 15: Total Net Farm Income in LSACCS, 2011-2016

Region	2011	2016	% Change
Alberta ($)	1,725,500,163	2,761,016,291	60%
Division No. 13 ($)	84,263,334	157,370,179	87%
Lac Ste. Anne CCS ($)	6,517,830	21,350,726	228%

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture. Note that net farm income has been calculated as total gross farm receipts minus farm business operating expenses.

The value of farm capital and livestock in Lac Ste. Anne CCS was $1,312,809,049 in 2016, representing an increase of 23% between 2011 and 2016. The following table provides a further detailed breakdown on the value of farm capital and livestock.

Table 16: Value of Farm Capital and Livestock in LSACCS, 2011-2016

	2011	2016	% Change	% of LSACCS
Total value of land and buildings	885,906,471	1,020,119,735	15%	78%
Owned	680,830,758	768,151,413	13%	59%
Rented or leased from others	205,075,713	251,968,322	23%	19%
Value of all farm machinery and equipment	127,500,398	148,322,855	16%	11%
Total tractors	47,801,857	57,999,396	21%	4%
Pick-ups, cargo vans, cars and other vehicles	N/A	24,950,286	N/A	2%
Grain combines and swathers	N/A	16,955,308	N/A	1%
Forage harvesters, balers, mower-conditioners.	N/A	13,071,457	N/A	2%
Tillage, cultivation, seeding and planting equipment	10,404,008	13,142,775	26%	1%
All other farm machinery and equipment	15,478,426	13,246,600	-14%	1%
Value of livestock and poultry	57,530,185	144,366,459	151%	11%
Total Value of Farm Capital and Livestock	**1,070,937,054**	**1,312,809,049**	**23%**	**100%**

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture. Note that "N/A" means not available for a specific reference period.

5 Livestock

Cow-Calf Production

In 2016, the major livestock type in the Lac Ste. Anne CCS was cattle and calves. With 460 farms reporting 64,912 animals, Lac Ste. Anne CCS's cattle and calf animals represented 22% of stock in Division No. 13, and 1% of Alberta's total stock (Table 17). Although there is a strong specialization in cow-calf operations in Lac Ste. Anne CCS, the total number of cattle and calves decreased by 8 % between 2011 and 2016.

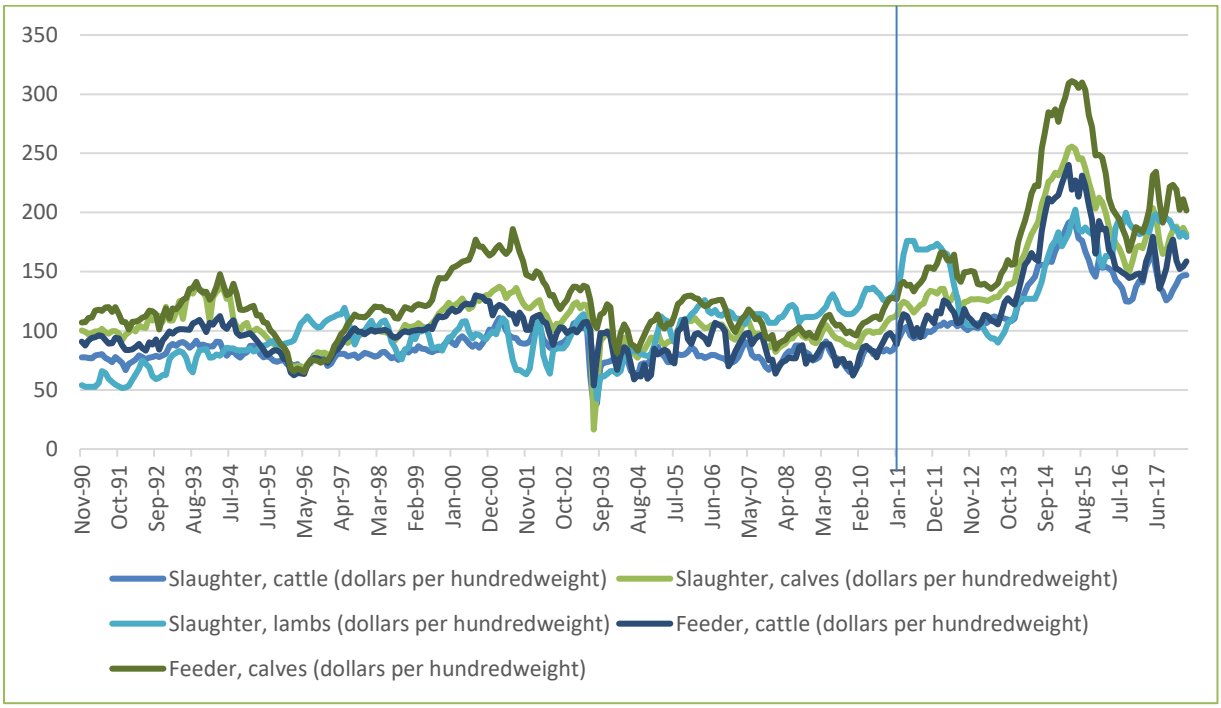
Table 17: Cattle and Calves, 2011- 2016

	# of Farms	# of Animals				Change and Distribution		
	2016	2011 LSACCS	2016 LSACCS	Alberta 2016	Division No. 13 2016	% Change LSACCS	LSACCS % of Alberta	LSACCS % of Division No. 13
Total cattle and calves	**460**	**70,511**	**64,912**	**5,206,999**	**299,173**	**-8%**	**1%**	**22%**
Calves, under 1 year	411	26,922	23,823	1,649,706	103,585	-12%	1%	23%
Steers, 1 year +	150	4,061	2,865	902,839	31,163	-29%	0%	9%
Total heifers 1 year+	309	7,377	9,073	903,173	42,105	23%	1%	22%
For slaughter or feeding	99	2,185	2,646	573,834	19,010	21%	0%	14%
For beef herd replacement	273	4,964	6,342	289,788	20,402	28%	2%	31%
For dairy herd replacement	5	228	85	39,551	2,693	-63%	0%	3%
Total cows	417	30,572	27,541	1,656,368	116,125	-10%	2%	24%
Beef cows	413	30,214	27,357	1,576,354	111,057	-9%	2%	25%
Dairy cows	9	358	184	80,014	5,068	-49%	0%	4%
Bulls, 1 year and over	356	1,579	1,610	94,913	6,195	2%	2%	26%

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture. Note that the number of farms may not add up to 100% due to farms reporting more than one type http://bit.ly/2dbolPA

Figure 10 illustrates some of the historical slaughter prices in Alberta. Between 2013 and 2015 prices increased significantly, although they tapered off after 2015.

Figure 10: Alberta Slaughter Prices, November 1990 to June 2017



Source Statistics Canada, CANSIM table 002-0043 (Farm product prices, crops and livestock).

Other Livestock Types

The following tables (Tables 18-22) show the changes in stock numbers for all animal types in Lac Ste. Anne CCS. The livestock types that had the largest percentage increase over the last five years include: layer and broiler breeders (pullets and hens), bison (buffalo), turkeys, elk, and colonies of honeybees.

Table 18: Total Sheep and Lambs, 2011- 2016

	# of Farms	# of Animals				Change and Distribution		
	2016	2011 LSACCS	2016 LSACCS	Alberta 2016	Division No. 13 2016	% Change LSACCS	LSACCS % of Alberta	LSACCS % of Division No. 13
Total sheep and lambs	**46**	**5,818**	**4,110**	**195,511**	**16,891**	**-29%**	**2%**	**24%**
Rams	34	126	89	4,772	341	-29%	2%	26%
Ewes	43	2,546	2,160	90,281	8,062	-15%	2%	27%
Lambs	38	3,146	1,861	100,458	8,488	-41%	2%	22%

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture. Note that the number of farms may not add up to 100% due to farms reporting more than one type http://bit.ly/2dbolPA

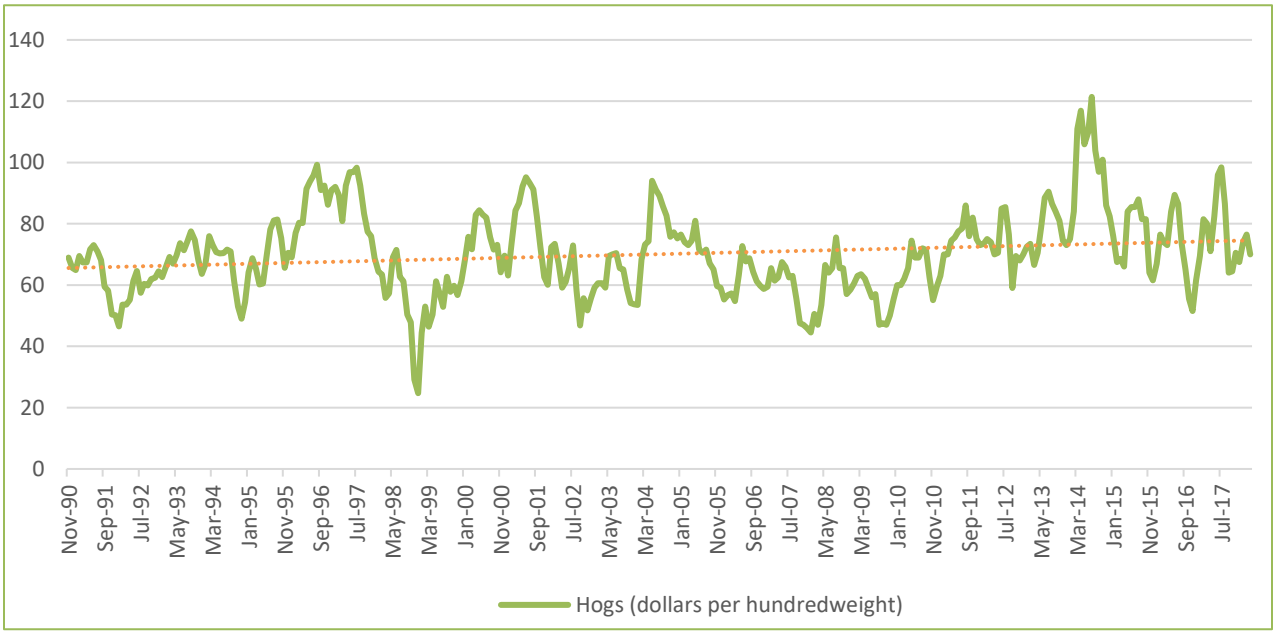
Table 19: Total Pigs, 2011- 2016

	# of Farms	# of Animals				Change and Distribution		
	2016	2011 LSACCS	2016 LSACCS	Alberta 2016	Division No. 13 2016	% Change LSACCS	LSACC S% of Alberta	LSACCS % of Division No. 13
Total pigs	**23**	**x**	**x**	**1,462,247**	**73,710**	**N/A**	**N/A**	**N/A**
Boars	8	36	11	4,941	218	-69%	0%	5%
Sows and gilts for breeding	13	318	x	121,562	5,071	N/A	N/A	N/A
Nursing pigs	3	x	10	211,333	6,937	N/A	0%	0%
Weaner pigs	9	x	436	312,555	15,626	N/A	0%	3%
Grower and finishing pigs	8	x	x	811,856	45,858	N/A	N/A	N/A

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture. Note that the number of farms may not add up to 100% due to farms reporting more than one type. Note that Statistics Canada must preserve anonymity of farmers, thus where small numbers prevail, the data is suppressed and represented by an X. http://bit.ly/2dbolPA

The price of hogs in Alberta has increased very slightly over 27 years, as indicated by the orange dotted trendline.

Figure 11: Hogs (dollars per hundredweight), November 1990 to June 2017



Source Statistics Canada, CANSIM table 002-0043 (Farm product prices, crops and livestock).

Table 20: Total Bee Colonies, 2011- 2016

	# of Farms	Number of Colonies				Change and Distribution		
	2016	2011 LSACCS	2016 LSACCS	Alberta 2016	Division No. 13 2016	% Change LSACCS	LSACCS % of Alberta	LSACCS % of Division No. 13
Colonies of honeybees	18	5,152	5,776	304,846	38,107	12%	2%	15%
Colonies of other pollinating bees	1	1	x	199,848	13	N/A	N/A	N/A

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture. Note that Statistics Canada must preserve anonymity of farmers, thus where small numbers prevail, the data is suppressed and represented by an X

Table 21: Other Livestock, 2011- 2016

	# of Farms	# of Animals				Head Change and Distribution		
	2016	2011 LSACCS	2016 LSACCS	Alberta 2016	Division No. 13 2016	% Change LSACCS	LSACC S% of Alberta	LSACCS % of Division No. 13
Horses and ponies	**308**	**3,698**	**3,010**	**108,702**	**8,213**	**-19%**	**3%**	**37%**
Goats	23	407	203	27,955	2,329	-50%	1%	9%
Llamas and alpacas	35	381	106	5,807	462	-72%	2%	23%
Rabbits	16	139	86	4,917	286	-38%	2%	30%
Bison (buffalo)	**10**	**588**	**1,203**	**54,907**	**3,309**	**105%**	**2%**	**36%**
Elk (wapiti)	7	371	450	11,904	818	21%	4%	55%

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture. Note that the number of farms may not add up to 100% due to farms reporting more than one type. http://bit.ly/2dbolPA

While the horse population in Lac Ste. Anne CCS has declined, the area's bison and elk production has increased more rapidly than in the rest of Alberta.

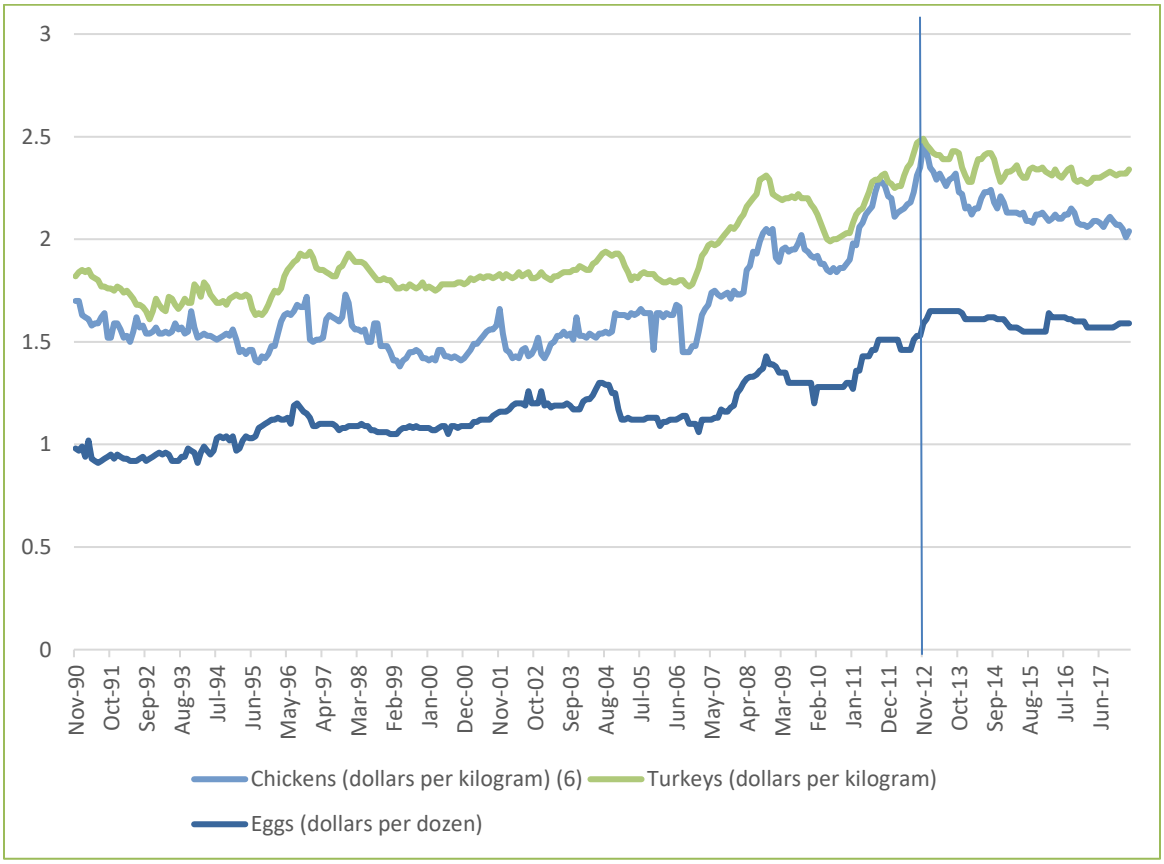
Table 22: Total Poultry, 2011- 2016

	# of Farms	# of Animals				Change and Distribution		
	2016	2011 LSACCS	2016 LSACCS	Alberta 2016	Division No. 13 2016	% Change LSACCS	LSACCS % of Alberta	LSACCS % of Division No. 13
Total hens and chickens	**78**	**15,558**	**3,714**	**14,125,401**	**593,830**	**-76%**	**0.0%**	**1%**
Pullets under 19 weeks, intended for laying table eggs	23	x	534	1,095,046	x	N/A	0.0%	N/A
Laying hens, 19 weeks +, that produce table eggs	64	2,732	1,946	2,211,606	215,452	-29%	0.1%	1%
Layer and broiler breeders	5	0	44	650,582	x	4400%	0.0%	N/A
Broilers, roasters and Cornish	23	x	1,190	10,168,167	170,013	N/A	0.0%	1%
Turkeys	9	46	110	768,529	x	139%	0.0%	N/A
Other poultry	22	400	360	170,757	8,652	-10%	0.2%	4%

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture. Note that the number of farms may not add up to 100% due to farms reporting more than one type. http://bit.ly/2dbolPA Note that Statistics Canada must preserve anonymity of farmers, thus where small numbers prevail, the data is suppressed and represented by an X

In Alberta, prices for chicken, turkey, and eggs increased slightly between 1990 and 2017, however, the prices for chicken and turkey have declined since 2012.[3]

Figure 12: Chicken ($/kg), Turkey ($/kg), Eggs ($/dozen), November 1990 to June 2017



[3] Poultry and eggs are regulated commodities.

6 Crops and Forest Products

The following tables (Tables 23-26) show the changes in planted acreage for all crop types in Lac Ste. Anne CCS.

Table 23: Total Grains, 2011- 2016

	# of Farms	# of Acres				Change and Distribution		
	2016	2011 LSACCS	2016 LSACCS	Alberta	Division No. 13	% Change LSACCS	LSACCS % of Alberta	LSACCS % of Division No. 13
Total wheat	**79**	**13849**	**24953**	**7,008,542**	**315,935**	**80%**	**0%**	**8%**
Spring wheat	75	13265	24648	5,728,527	305,879	86%	0%	8%
Durum wheat	3	320	x	1,101,498	x	N/A	N/A	N/A
Winter wheat	1	264	x	178,517	x	N/A	N/A	N/A
Oats	205	23230	20241	822,185	85,412	-13%	2%	24%
Barley	128	30636	19486	3,413,856	186,157	-36%	1%	10%
Mixed grains	37	5734	5660	242,206	20,255	-1%	2%	28%
Total corn	**14**	**x**	**992**	**241,151**	**x**	**N/A**	**0%**	**N/A**
Corn for grain	0	x	0	40,884	0	N/A	0%	N/A
Corn for silage	14	700	992	200,267	x	42%	0%	N/A
Total rye	**6**	**296**	**219**	**67,215**	**1,983**	**-26%**	**0%**	**11%**
Fall rye	5	296	x	62,089	1,769	N/A	N/A	N/A
Spring rye	1	0	x	5,126	214	N/A	N/A	N/A
Canola (rapeseed)	86	33,114	27,263	6,165,746	404,071	-18%	0%	7%
Soybeans	0	0	0	6,865	x	0%	0%	N/A
Flaxseed	2	x	x	78,619	x	N/A	N/A	N/A
Dry field peas	25	945	4,562	1,909,491	55,462	383%	0%	8%
Chick peas	2	0	x	20,766	x	N/A	N/A	N/A
Lentils	0	x	0	463,500	735	N/A	0%	0%
Dry white beans	0	0	0	10,744	x	0%	0%	N/A
Other dry beans	2	x	x	92,083	3,835	N/A	N/A	N/A

	# of Farms	# of Acres				Change and Distribution		
	2016	2011 LSACCS	2016 LSACCS	Alberta	Division No. 13	% Change LSACCS	LSACCS % of Alberta	LSACCS % of Division No. 13
Alfalfa and mixtures	**424**	**107,610**	**85,149**	**3,056,701**	**274,956**	**-21%**	**3%**	**31%**
All other tame hay and fodder crops	176	31,231	26,853	1,161,521	102,707	-14%	2%	26%
Forage seed for seed	5	x	486	164,070	2,806	N/A	0%	17%
Potatoes	3	10	x	53,912	65	N/A	N/A	N/A
Canary seed	1	0	x	891	x	N/A	N/A	N/A
Triticale	2	299	x	50,440	x	N/A	N/A	N/A
Other field crops	2	x	x	31,463	1,229	N/A	N/A	N/A

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture. Note that the number of farms may not add up to 100% due to farms reporting more than one type. http://bit.ly/2dbolPA Note that Statistics Canada must preserve anonymity of farmers, thus where small numbers prevail, the data is suppressed and represented by an X

Table 24: Total area of Fruits, Berries and Nuts (Producing and Non-Producing), 2011- 2016

	# of Farms	# of Acres				Change and Distribution		
	2016	2011 LSACCS	2016 LSACCS	Alberta	Division No. 13	% Change LSACCS	LSACCS % of Alberta	LSACCS % of Division No. 13
Total area of fruits, berries and nuts	**11**	**43**	**30**	**2164**	**179**	**-30%**	**1%**	**17%**
Apples	1	7	x	47	5	N/A	N/A	N/A
Cherries (sweet)	1	x	x	5	2	N/A	N/A	N/A
Cherries (sour)	2	x	x	84	10	N/A	N/A	N/A
Strawberries	1	3	x	205	36	N/A	N/A	N/A
Raspberries	8	9	10	161	26	11%	6%	38%
Cranberries	2	x	x	15	x	N/A	N/A	N/A
Saskatoons	6	22	10	1314	44	-55%	1%	23%
Other fruits, berries and nuts	1	x	x	283	13	N/A	N/A	N/A

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture. Note that the number of farms may not add up to 100% due to farms reporting more than one type. http://bit.ly/2dbolPA Note that Statistics Canada must preserve anonymity of farmers, thus where small numbers prevail, the data is suppressed and represented by an X

Due to the small number of farms and acreage in vegetables, most data from Statistics Canada has been suppressed to protect the privacy of vegetable farmers.

Table 25: Total Product in Greenhouses, 2011- 2016

	# of Farms	# of square feet				Change and Distribution		
	2016	2011 LSACCS	2016 LSACCS	Alberta	Division No. 13	% Change LSACCS	LSACC S% of Alberta	LSACCS % of Division No. 13
Total greenhouse area in use on census day	**14**	**106,923**	**86,237**	**12,647,517**	**220,899**	**-19%**	**1%**	**39%**
Greenhouse flowers	9	96,164	75,449	5,203,806	172,481	-22%	1%	44%
Greenhouse vegetables	6	1,694	4,440	6,816,967	17,650	162%	0%	25%
Other greenhouse products	7	9,065	6,348	626,744	30,768	-30%	1%	21%
Total area under glass, plastic or other protection	14	106,923	87,592	12,676,835	224,934	-18%	1%	39%
Other fruits, berries and nuts	1	x	x	283	13	N/A	N/A	N/A

Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture. Note that Statistics Canada must preserve anonymity of farmers, thus where small numbers prevail, the data is suppressed and represented by an X

Table 26: Total Forest Production, 2011-2016

		2011	2016	% Change
Alberta	# Farms	275	340	24%
	$ Value	2,606,032	3,452,187	32%
Division No. 13	# Farms	29	36	24%
	$ Value	239,873	383,592	60%
Lac Ste. Anne CCS	# Farms	4	5	25%
	$ Value	42,686	18,640	-56%

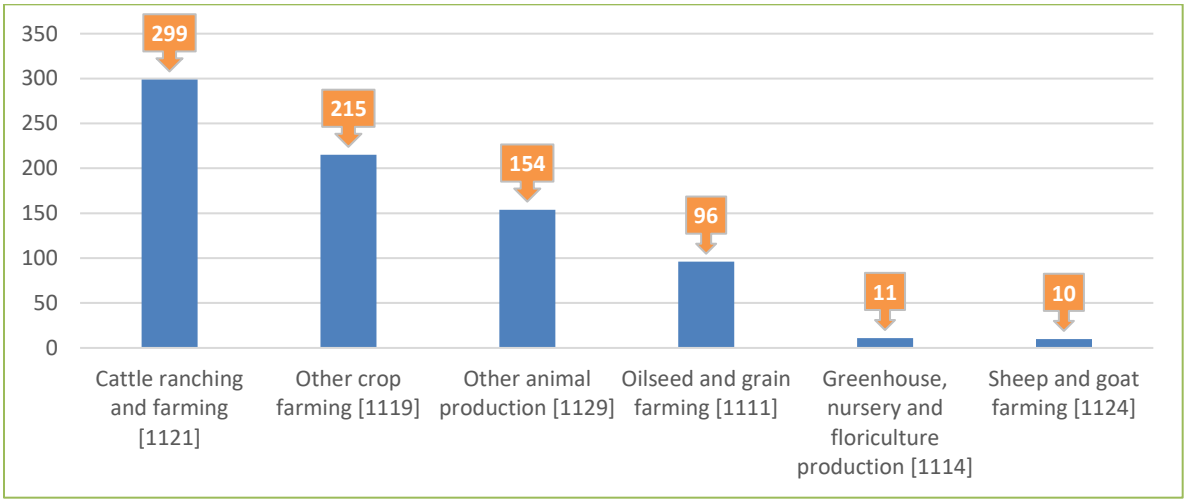
Source: McSweeney & Associates and 2016 Statistics Canada Census of Agriculture.

Based on the previous four tables, we conclude that the crops that have seen the most notable growth (in terms of acreage) include: spring wheat, corn for silage, and dry field peas. Greenhouse vegetables have also had notable growth in terms of green house production measured by planting area (square feet).

7 Economic Base Analysis

Figure 13 shows the top five sub-sectors by farm numbers in the Lac Ste. Anne CCS, classified by 4-digit NAICS codes. As shown in the bar graph, cattle ranching and farming, and other crop farming[4] are by far the most common industry classifications.

Figure 13: Farms Classified by 4-Digit NAICS[5], 2016



Source: McSweeney & Associates and 2016 Statistics Canada Agriculture Census http://bit.ly/2dbolPA

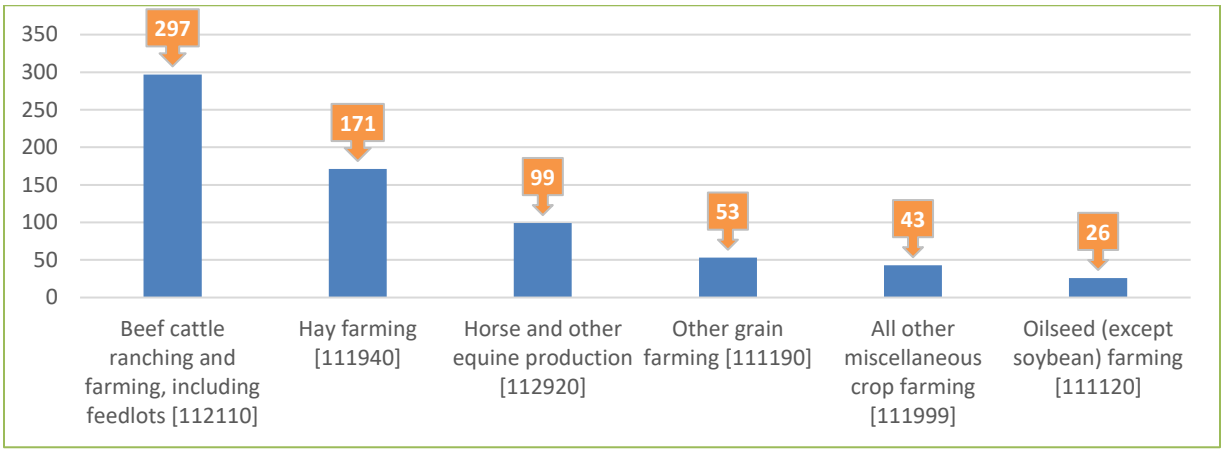
Note: Other animal production includes raising animals, such as bees, horses and other equines, rabbits and other fur-bearing animals, llamas, deer, worms, crickets, laboratory animals and companion animals

[4] This industry group comprises establishments, not classified to any other industry group, primarily engaged in growing crops, such as tobacco, peanuts, sugar beets, cotton, sugar-cane, hay, agave, herbs and spices, mint, hops, and hay and grass seeds. Combination crop farming and the gathering of maple sap are included in this industry group.

[5] North American Industry Classification System (NAICS): http://www23.statcan.gc.ca/imdb/p3VD.pl?Function=getVD&TVD=307532

Figure 14 illustrates the use of land by 6-digit industry classification; beef, hay, horse and other equine production, are the most common uses of farm land in the Lac Ste. Anne CCS as of 2016.

Figure 14: Farms Classified by 6-Digit NAICS, 2016



Note: All other miscellaneous crops include. cash crops - wheat, corn, rice, soybeans, and other grains and oilseeds.

Source: McSweeney & Associates and 2016 Statistics Canada Agriculture Census http://bit.ly/2dbolPA

Location Quotient (LQ) Analysis can be used to gauge the concentration of an industry within a community, compared to a benchmark (i.e. province or region). This helps to identify unique attributes and competitive advantages of a community. Here the level of farm concentration (or specialization) in an agricultural sector in Lac Ste. Anne CCS, is compared to Alberta (and Division No. 13) as a benchmark.

In other words, the LQ is employed to uncover the question:
Does the region have proportionately more or less farms in a specific agricultural specialization (sector) than Alberta?

$$LQ_{sector} = \frac{number\ of\ sector\ farms\ in\ Lac\ Ste\ Anne\ County}{total\ number\ of\ farms\ in\ Lac\ Ste\ Anne\ County} \div \frac{number\ of\ sector\ farms\ in\ Alberta}{total\ number\ of\ farms\ in\ Alberta}$$

On Table 27 on the following page, an LQ between 0.75 and 1.25 signifies a normal industry concentration, higher than 1.25 (shown in green) implies there is a relative specialization. Under-concentrated sectors are highlighted in red.

Table 27: Agricultural Sectors by Number of Farms, Location Quotients, 2016

4 Digit NAICS	Alberta	Division No. 13	LSACCS	LQ Compared to Alberta	LQ Compared to Division No. 13
Total number of farms	**40,638**	**3477**	**794**	**/**	**/**
Other animal production [1129]	13%	13%	19%	1.55	1.50
Sheep and goat farming [1124]	1%	1%	1%	0.93	1.42
Cattle ranching and farming [1121]	18%	22%	27%	1.48	1.25
Other crop farming [1119]	31%	32%	38%	1.21	1.16
Oilseed and grain farming [1111]	1%	1%	1%	1.28	1.09
Fruit and tree-nut farming [1113]	1%	0%	0%	0.51	0.82
Vegetable and melon farming [1112]	0%	1%	0%	0.92	0.63
Greenhouse, nursery and floriculture production [1114]	33%	28%	12%	0.37	0.43
Poultry and egg production [1123]	1%	1%	0%	0.41	0.31
Hog and pig farming [1122]	0%	0%	0%	0.00	0.00

Source: McSweeney & Associates and Census of Agriculture 2016.

According to 2016 Census of Agriculture LQ analysis of farms classified by 4-digit NAICS (Table 27), the following sectors have a concentration when compared to the rest of Division No. 13:

- Other animal production [1129]
- Sheep and goat farming [1124]
- Cattle ranching and farming [1121]

Using location quotient calculations, Table 28 highlights sub sectors (at the 6-digit NAICS) with a relative concentration in green; and under-concentrated sub-sectors are highlighted in red.

Table 28: Agricultural Sub Sectors by Number Farms, Location Quotient, 2016

NAICS	Alberta	Division No. 13	Lac Ste. Anne County	LQ Compared to Alberta	LQ Compared to Division No. 13
Total number of farms	**40,638**	**3477**	**794**	/	/
Horse and other equine production [112920]	3,177	260	99	1.59	1.67
Floriculture production [111422]	159	14	5	1.61	1.56
Animal combination farming [112991]	1201	125	40	1.70	1.40
All other miscellaneous crop farming [111999]	1,281	136	43	1.72	1.38
Goat farming [112420]	120	10	3	1.28	1.31
Apiculture [112910]	343	28	8	1.19	1.25
Hay farming [111940]	6,094	609	171	1.44	1.23
Beef cattle ranching and farming, including feedlots [112110]	12,282	1,095	297	1.24	1.19
Nursery and tree production [111421]	389	19	5	0.66	1.15
Sheep farming [112410]	279	30	7	1.28	1.02
Other vegetable (except potato) and melon farming [111219]	174	13	3	0.88	1.01
Dry pea and bean farming [111130]	582	14	3	0.26	0.94
All other miscellaneous animal production [112999]	378	36	7	0.95	0.85
Fruit and vegetable combination farming [111993]	39	7	1	1.31	0.63
Other grain farming [111190]	6,211	462	53	0.44	0.50
Wheat farming [111140]	2,894	141	14	0.25	0.43
Oilseed (except soybean) farming [111120]	3,735	369	26	0.36	0.31

Source: McSweeney & Associates and Census of Agriculture 2016.

The following subsectors may represent an opportunity for further development given that they have a higher concentration relative to Alberta and account for more than 1% of farms in Lac Ste. Anne CCS:

- Horse and other equine production [112920]
- Floriculture production [111422]
- Animal combination farming [112991]
- All other miscellaneous crop farming [111999]
- Goat farming [112420]
- Apiculture [112910]

8 Soil Classifications in Lac Ste. Anne CCS

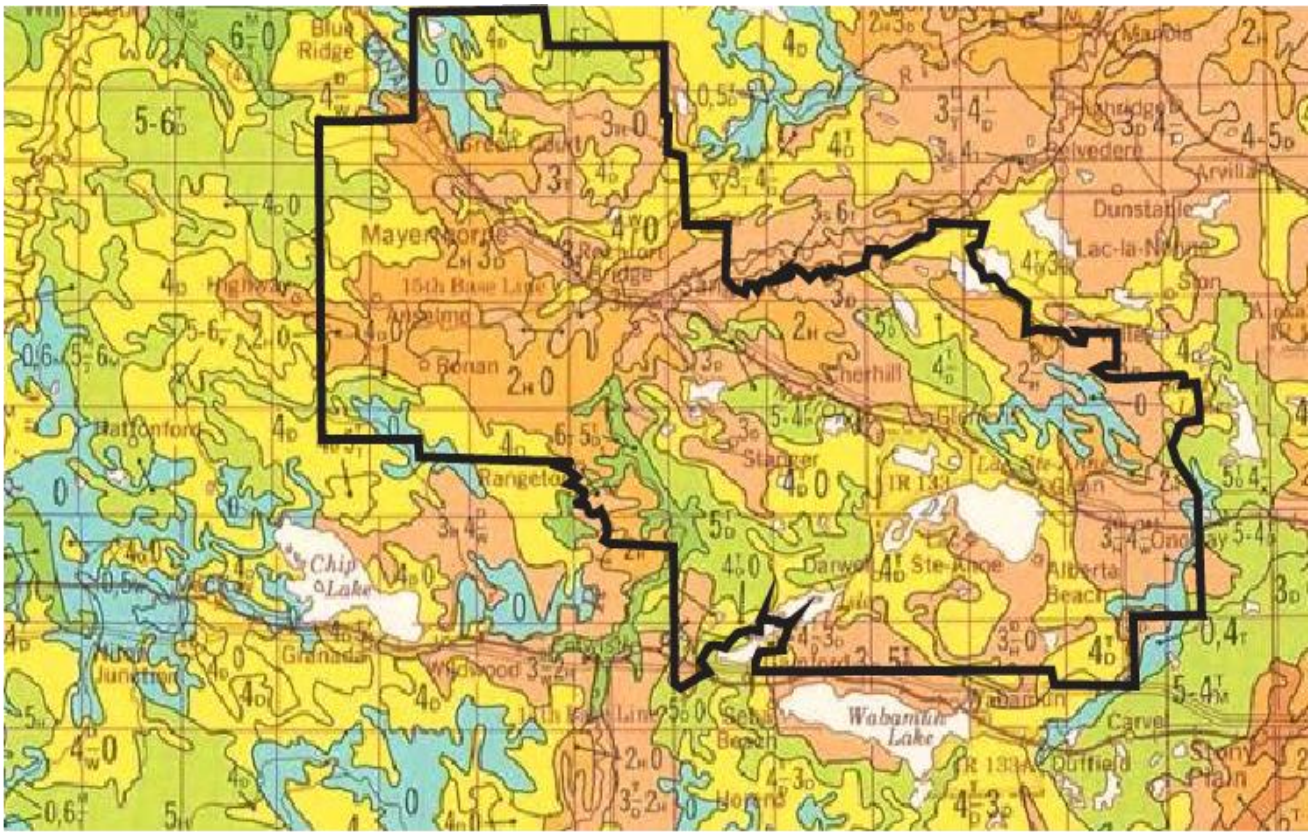
The following map[6] illustrates the soil classifications for land in Lac Ste. Anne CCS. As seen on the map, Lac Ste. Anne CCS is rich in Class 2 and 3 soils, with less organic or lower-class soils, comparatively speaking, to the surrounding area.

The Town of Mayerthorpe is strategically located within the Agriculture Heartland (as described in Lac Ste. Anne CCS MDP), centrally in the most capable soils, at the junction of Highways 22 and 43 and on a CN Rail line with sidings for businesses utilizing rail services.

The next two pages include a soil classification map and partial map legends. For a more complete, and larger version of this map, please visit the link in the footnote.

[6] The Soil Capability for Agriculture map is contained within the 5th Edition (1978 to 1995) of the National Atlas of Canada and shows the distribution of Canada Land Inventory Capability classes for agriculture. Natural Resource Canada. Source locations: http://sis.agr.gc.ca/cansis/publications/maps/cli/250k/agr/cli_250k_agr_83g.jpg

Figure 15: Soil Classifications Map



Legend:

CLASSES	
CLASS 1	SOILS IN THIS CLASS HAVE NO SIGNIFICANT LIMITATIONS TO USE FOR CROPS.
CLASS 2	SOILS IN THIS CLASS HAVE MODERATE LIMITATIONS THAT RESTRICT THE RANGE OF CROPS OR REQUIRE MODERATE CONSERVATION PRACTICES.
CLASS 3	SOILS IN THIS CLASS HAVE MODERATELY SEVERE LIMITATIONS THAT RESTRICT THE RANGE OF CROPS OR REQUIRE SPECIAL CONSERVATION PRACTICES.
CLASS 4	SOILS IN THIS CLASS HAVE SEVERE LIMITATIONS THAT RESTRICT THE RANGE OF CROPS OR REQUIRE SPECIAL CONSERVATION PRACTICES, OR BOTH.
CLASS 5	SOILS IN THIS CLASS HAVE VERY SEVERE LIMITATIONS THAT RESTRICT THEIR CAPABILITY TO PRODUCING PERENNIAL FORAGE CROPS, BUT IMPROVEMENT PRACTICES ARE FEASIBLE.
CLASS 6	SOILS IN THIS CLASS ARE CAPABLE OF PRODUCING PERENNIAL CROPS ONLY, AND IMPROVEMENT PRACTICES ARE NOT FEASIBLE.
CLASS 7	SOILS IN THIS CLASS HAVE NO CAPABILITY FOR CROP USE OR PERMANENT PASTURE.
0	ORGANIC SOILS (not placed in capability classes).

SUBCLASSES

Excepting Class 1, the classes are divided into subclasses on the basis of kinds of limitation. The subclasses are as follows:

SUBCLASS C: adverse climate—The main limitation is low temperature or low or poor distribution of rainfall during the cropping season, or a combination of these.

SUBCLASS D: undesirable soil structure and/or low permeability—The soils are difficult to till, absorb water slowly or the depth of the rooting zone is restricted.

*SUBCLASS E: erosion damage—Past damage from erosion limits agricultural use of the land.

SUBCLASS F: fertility—Low natural fertility due to lack of available nutrients, high acidity or alkalinity, low exchange capacity, high levels of calcium carbonate or presence of toxic compounds.

SUBCLASS I: inundation—Flooding by streams or lakes limits agricultural use.

SUBCLASS M: moisture—A low moisture holding capacity, caused by adverse inherent soil characteristics, limits crop growth. (Not to be confused with climatic drought).

*SUBCLASS N: salinity—The soils are adversely affected by soluble salts.

SUBCLASS P: stoniness—Stones interfere with tillage, planting, and harvesting.

*SUBCLASS R: shallowness to solid bedrock—Solid bedrock is less than three feet from the surface.

SUBCLASS S: soil limitations—A combination of two or more subclasses D, F, M and N.

SUBCLASS T: adverse topography—Either steepness or the pattern of slopes limits agricultural use.

SUBCLASS W: excess water—Excess water other than from flooding limits use for agriculture. The excess water may be due to poor drainage, a high water table, seepage or runoff from surrounding areas.

SUBCLASS X: minor cumulative limitations—Soils having a moderate limitation due to the cumulative effect of two or more adverse characteristics which individually would not affect the class rating. (This subclass is always used alone and only one class below the best possible in a climatic subregion).