

Bi-weekly Bulletin

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ALBERTA



Due to the large livestock sector in Alberta, the province enjoys one of the most balanced economies in Canada. Alberta is the leading Canadian producer of beef cattle, but is well suited to both livestock and grain production. This issue of the *Bi-weekly Bulletin* examines the supply and disposition of grains, oilseeds and special crops in Alberta, and provides an overview of the livestock sector. As the northerly Peace River region spans both Alberta and British Columbia, an overview of agriculture in the Peace River region has also been included.

Geography

Alberta is situated on the eastern slopes of the Rocky Mountains and the western edge of the Canadian Prairies. Alberta is located between British Columbia and Saskatchewan, and occupies about 652,330 square kilometres (km²) of land and water. The supply of freshwater is limited, occupying only 2.5% of the total area, or 16,800 km². In 1999, about 9.7% of the Canadian population, or 2.97 million people lived in Alberta. Since 1984, the population has increased by 2% in Alberta, compared to only 0.8% for Canada. More than 900,000 people reside in each of Alberta's largest cities, the capital city of Edmonton, and Calgary. In 1999, the population of Calgary surpassed that of Edmonton.

About 30% of Alberta's total land area is used in crop and livestock production. The 20.6 million hectares (Mha) used for agricultural production consists of approximately 10.9 Mha of crops and summerfallow, 8.5 Mha of pasture and 1.2 Mha for other agricultural production. While improved farm land comprises only 20% of the province's total land area, livestock owners extensively devote unimproved land to their cattle operations.

Soil Zones

Alberta is divided into five major soil zones: Brown, Dark Brown, Black, Dark Gray and Gray. The Black soil zone lies

in a narrow, north-south belt from Edmonton to Calgary and along the foothills to the Montana border. Because of favourable moisture conditions and high organic matter, this zone is used extensively for crop production. South and east of this band lie the Dark Brown and Brown soil zones. Moisture is a major limiting factor to crop growth in both zones. The Dark Gray soils lie north and west of the Black soil zone and are also present in the Peace River region. A cooler climate results in a shorter growing season for annual crops. Gray wooded soils are present throughout most of northern Alberta, and due to climatic conditions, typically do not support agricultural production.

Climate

Alberta's climate is characterized by hot, dry summers and variable winter temperatures, due to the phenomena of chinook winds. During the cold winter months in central and southern Alberta, the severity of winter is moderated by frequent warm winds called *chinooks*, which can warm daytime temperatures to as high as 20 degrees Celsius (°C). According to the *National Ecological Framework for Canada*, the average January temperature for the Prairie agricultural area of Alberta is -17°C, while the average July temperature rises to 19°C. On average, farmers in Alberta receive more precipitation than their neighbours in Saskatchewan, but less

than farmers in Manitoba, with average annual precipitation of 510 millimeters (mm), including 121 mm of snow and 389 mm of rain.

The Peace River region, which is located farther north, and outside of the Prairie region, is located in the Boreal Plains ecozone and is characterized by a unique climate, marked by warmer temperatures than the surrounding areas. The mean



summer temperature is 13°C, and the mean winter temperature is -14°C. The mean annual precipitation is about 430 mm. Due to its northerly position, the Peace River region enjoys very long summer days, and fairly short winter days.

Irrigation

Alberta holds a leading role in Canada in terms of irrigated area and in the production of irrigated crops. In 1999, it was estimated that Alberta had 66% of the irrigated area in Canada. Irrigation is continuing to expand beyond the 500,000 ha currently serviced by the 13 irrigation districts in southern Alberta, and the 100,000 ha under private irrigation. In 1999, crops produced under

ALBERTA: POPULATION				
	1981	1986	1991	1996
Total Population	2,237,724	2,365,830	2,545,555	2,696,825
Farm Population	195,284	183,835	176,935	188,510
Farm Population (%)	8.73%	7.77%	6.95%	6.99%
Number of Census Farms	58,056	57,777	57,245	59,007
Average Size of Census Farms (ha)	329	357	363	357

Source: Statistics Canada

irrigation accounted for about 12% of Alberta's agricultural production, even though irrigated land only constituted 5% of the total cultivated area. Irrigation enables producers to grow crops such as potatoes, sugar beets and soft white spring wheat which require more moisture than is

naturally available in southern Alberta. Irrigation also greatly increases yields over what could be expected without the additional moisture.

OVERVIEW OF THE PEACE RIVER REGION

The Peace River region occupies over 3 Mha in northern Alberta and British Columbia. The entire Peace River region lies farther north than any agricultural land in Saskatchewan or Manitoba. On the Alberta side, approximately 1.66 Mha are cropped, while about 716,000 ha are in pasture. In British Columbia, approximately 283,000 ha are cropped, while 380,000 ha are in pasture. Wheat, canola, and tame hay are the main crops produced in this region.

Agronomics

The Peace River region is characterized by flat prairies lying amongst numerous hills and rivers. The soil is primarily clay-based, providing considerable moisture retention. With about 100 to 110 frost free days, the Peace River region's growing season is comparable to central Alberta. One difference is that due to its northerly position, the Peace River region enjoys very long summer days. In June and July, the day is about 19 hours long. Precipitation can be a concern, as the average precipitation is only 430 mm per year, compared to the Alberta average of 510 mm.

Cropping Practices

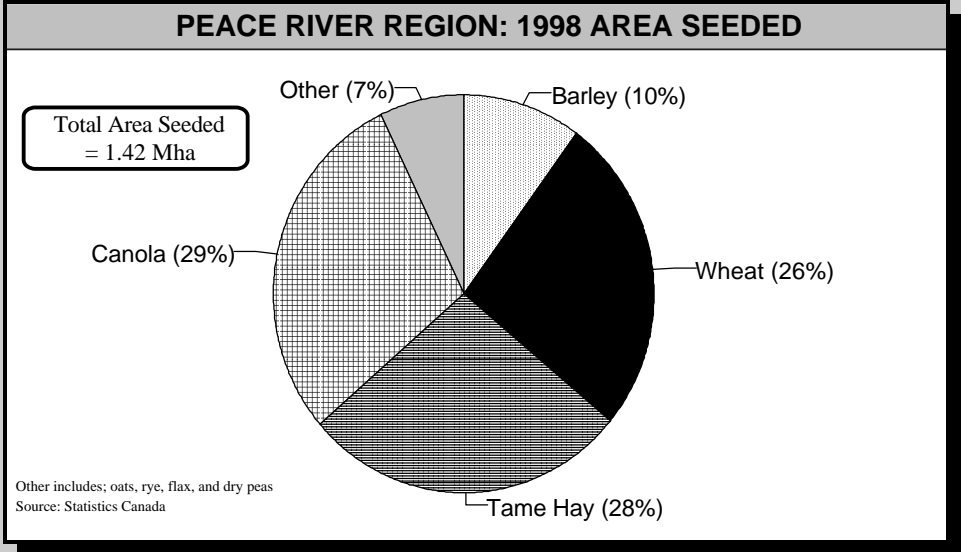
Wheat and **canola** are the two main crops produced in the Peace River region, and **dry peas** and **forages** are also produced in abundance. Less emphasis is placed on growing feedgrains, such as **oats** and **barley**, as the livestock industry is less developed in the Peace River region, than in other areas of Alberta.

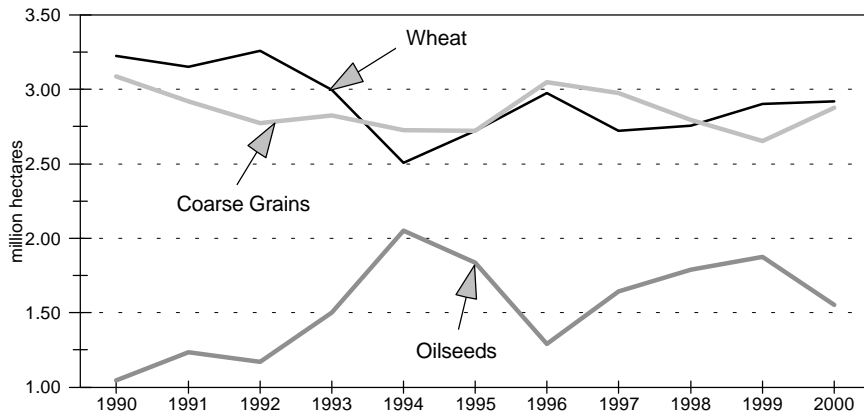
Forages

The Peace River region is a dominant world producer of forage seeds. Approximately 50,000 ha of creeping red fescue are harvested annually. Other forage seed crops that are grown include tall fescue, smooth and meadow brome, timothy, and red clover. There is a well developed infrastructure for the forage seed industry in the Peace River region, with about a dozen forage seed companies operating in the area.

Livestock

Rising land values in southern and central Alberta have shifted some livestock expansion focus northward, and there has been expansion in the **beef** cattle sector in the Peace River region, although numbers still remain small compared to the rest of Alberta. There has also been expansion in the **hog** sector, with farrow, feeder and finishing operations being expanded or established throughout the region. There is a substantial amount of specialty livestock, especially **bison** and **elk** produced in the region.



ALBERTA: AREA SEEDED

Source: Statistics Canada

Agriculture and Economy

Over the past five years, Alberta has had the strongest economy in Canada, averaging an annual 4.8% increase in real growth. Alberta has capitalized on its strengths in agriculture, energy, forestry, and industrial products to develop a dynamic and diverse economy.

Agriculture is the second most important area of economic activity in Alberta, following the oil and natural gas industry.

Due to the large livestock sector in Alberta, the province enjoys one of the most balanced agricultural economies in Canada. Historically, receipts from livestock have equalled receipts from crop production, although in recent years,

livestock receipts have significantly exceeded crop receipts. Within the livestock and crop segments, there is wide diversity. Beef cattle, dairy cattle, hogs, sheep and poultry can be found on farms throughout the province, while wheat, barley, oats, rye, flax, canola, special crops, and numerous varieties of forage seed crops are grown.

The agri-food sector accounts for about 4.8% of the Gross Domestic Product (GDP) in Alberta. While agriculture provides about 5% of the employment directly, it is estimated that agriculture is directly and indirectly responsible for 6.5% of the jobs in the province.

Primary Grain Elevators

The number of licenced grain elevators has decreased from 1,642 in 1962 to only 231 as of June 22, 2000. This 86% reduction shows that consolidation has been more prevalent than in both Manitoba (69%) and Saskatchewan (84%). Of the 222 licenced primary elevators operating in Alberta as of June 22, 2000, 127 were owned by Agricore Cooperative Ltd, and with a combined capacity of 0.93 million tonnes (Mt), Agricore had 46% of the grain storage capacity. Other major grain companies with a presence in Alberta include (capacity follows in brackets): United Grain Growers Limited (0.26 Mt), Cargill (0.24 Mt), and AgPro Grain (0.21 Mt).

ALBERTA: AREA SEEDED

	1998	1999	2000
thousand hectares.....		
Winter Wheat	28.3	24.3	26.3
Durum	424.9	303.5	404.7
Spring Wheat:	2,302.6	2,573.9	2,488.7
<i>CW Red Spring</i>	1,728.8	2,063.9	2,003.2
<i>Prairie Spring</i>	416.0	364.2	263.0
<i>CW Extra Strong</i>	101.2	101.2	141.6
<i>CW Soft White Spring</i>	36.4	22.3	20.2
<i>Other Spring</i>	20.2	22.3	60.7
Total Wheat	2,755.8	2,901.7	2,919.7
Oats	546.3	566.6	526.1
Barley	2,104.4	1,922.3	2,185.3
Rye (all)	58.7	54.6	54.7
Mixed Grains	80.9	101.2	121.4
Corn	2.0	6.1	6.1
Total Coarse Grains	2,792.3	2,650.8	2,893.6
Flax ^{1/}	28.3	32.4	14.2
Canola	1,760.4	1,841.3	1,537.8
Total Oilseeds	1,788.7	1,873.7	1,552.0
TOTAL GRAINS & OILSEEDS	7,336.8	7,426.2	7,365.3
Dry Peas	206.3	190.1	267.1
Coloured Beans	18.2	19.0	18.2
Lentils	8.1	10.1	10.9
Mustard Seed	44.5	40.5	22.3
Sunflower Seed	2.0	2.0	2.8
Canary Seed	8.1	6.1	6.1
Chick Peas	1.5	8.0	20.2
Total Special Crops	288.7	275.8	347.6
TOTAL CROPS	7,625.5	7,702.0	7,712.9
Summerfallow	1,335.5	1,174.0	1,113.0
Tame Hay	1,871.7	2,225.8	n/a
Potatoes	13.4	17.4	20.2
Sugar Beets	18.2	18.2	18.2
TOTAL AREA	10,864.3	11,137.4	8,864.3

^{1/} excludes solin

Source: Statistics Canada

Number of Farms

According to the Statistics Canada Whole Farm Data Base, in 1998, there were 54,440 farms in Alberta with revenues over \$10,000, a 4.3% decrease since 1990. In comparison, the number of farms in Canada with revenues over \$10,000 has decreased by only 0.5% since 1990. In 1998, 23.6% of Canada's farms with revenues over \$10,000 were located in Alberta, and 23.0% of the farms with revenues over \$500,000 were in Alberta.

Farm Income

In 1998, about 44.1% of farming operations with gross revenues over \$10,000 earned more than 50% of their revenues from cattle, while 37.7% of farming operations received the majority of their revenue from grains and oilseeds. Only 1.8% were classified as hog operations, 1.5% as dairy, and less than 1% as poultry and eggs. By comparison, across Canada, 41.5% of farms were classified as grain and oilseed farms, 27.5% as livestock, 8.8% as dairy, 3.1% as hog farms, and 1.8% as poultry and eggs.

For 1999, total farm receipts in Alberta are estimated at \$6.51 billion, with receipts from crop production at \$2.34 billion and livestock at \$3.95 billion. Realized net income for 1999 was \$71 million, about 11% of the 5-year (1994-1998) average. According to Agriculture and Agri-Food Canada forecasts published in July 2000, realized net income for 2000 is expected to increase to \$665 million, primarily due to an increase in government transfers, and an increase in expected livestock receipts.

Farmland Values

For the period of January 1 to July 1, 2000, farmland values in Alberta increased by 2.8%, compared to the national average of only 1.3%. Alberta continues to have the strongest land market of the western provinces, with the recent increase in farmland values marking the seventh consecutive year of rising farmland values. A decrease in land values has not occurred since July 1993. Strong off-farm incomes and an active provincial economy have contributed to higher values near urban areas. Farmland values in southern and central Alberta are increasing due to

ALBERTA: USE OF FARMLAND

	1981	1986	1991	1996
.....square kilometres.....				
Total Area of Farms	19,109	20,656	20,811	21,030
Land in Crops	8,441	9,163	9,292	9,547
Tame Hay and Seeded Pasture	1,581	1,377	1,743	1,915
Summerfallow	2,206	2,127	1,771	1,437
All Other Agricultural Land	6,881	7,989	8,005	8,132

Source: Statistics Canada

various factors. Irrigated lands are in demand and the possibility of irrigation district expansion has increased the value of some dry land in adjoining areas. Strong beef prices have resulted in a high demand for forage and grazing lands. In northern Alberta, farmland values are stable or have slightly decreased due to two years of poor crops as a result of inclement weather.

Area Seeded

Total area seeded to grains, oilseeds and special crops increased marginally from 7.40 Mha in 1990 to 7.71 Mha in 2000, primarily due to a decrease in summerfallow. Summerfallow has dropped 45% since 1990 to 1.1 Mha in 2000, while the area seeded to tame hay increased 24% between 1990 and 1999 to 2.23 Mha. In general, between 1990 and 1994, producers substituted oilseeds (canola and flax), at the expense of wheat area, while the area seeded to coarse grains (barley, oats, rye, corn and mixed grains) fell less sharply. In 1995 and 1996, the reverse was true, with area seeded to oilseeds diminishing, while the area seeded to wheat and coarse grains increased. Until the sharp decrease in area seeded to oilseeds in 2000, seeding patterns remained fairly steady. The area seeded to special crops (dry peas, dry beans, lentils, mustard seed, sunflower seed, canary seed and chick peas) has increased almost fivefold since 1990, but remains low at only 347,600 ha in 2000.

GRAINS, OILSEEDS, AND SPECIAL CROPS PRODUCTION AND PROCESSING

Wheat

In terms of production, wheat is the main crop in Alberta and represents about 25% of Canadian production, versus 55% in Saskatchewan. Alberta has significant seeded area of **hard red spring wheat** and **durum**. **Winter wheat** is also grown successfully, principally in southern Alberta.

In 2000, the seeded area for all wheat was 2.92 Mha, with 2.49 Mha of spring wheat, 404,700 ha of durum wheat and 26,300 ha of winter wheat.

Of the 2.49 Mha of **spring wheat** seeded in 2000, approximately 80% is seeded to **Canada Western Red Spring**, with the balance sown to Prairie Spring, Extra Strong, and Soft White Spring varieties. Since reaching a record 194,200 ha in 1987, the area seeded to **winter wheat** has dropped dramatically to only 26,300 ha in 2000. Over the past 20 years, the production of wheat, excluding durum has remained fairly steady, ranging from 4.6 Mt in 1984 to a record 7.3 Mt in 1999. For 2000, production is expected to total 5.9 Mt, due to a dramatic reduction in yields as a result of very dry growing conditions throughout the spring and summer of 2000 in southern Alberta.

Between 1992 and 1998, the area seeded to **durum** increased 83%, to a record 424,900 ha. In 2000, the area seeded to durum was 404,700 ha, and production is expected to total 707,600 t.

Currently, there are four main **flour mills** in Alberta. ADM milling operates two mills, one in Calgary and the other in Medicine Hat, API Grain Processors is located at Red Deer, and Ellison Milling, a division of Parish and Heimbecker is in Lethbridge. Together, these four mills have a combined capacity of 1,375 tonnes per day (t/day). Based on the published capacities of the 27 largest mills in Canada, Alberta has about 16% of Canada's milling capacity, while it produces about 25% of Canada's wheat. Throughout the province there are at least 6 other flour processing operations that produce wheat flour, organic wheat flour, barley flour, or oat flour.

Ellison Milling Co. of Lethbridge, Alberta also mills durum wheat. With a 177 t capacity, Ellison has about 19% of Canada's durum milling capacity, and 44% of Western Canada's durum milling capacity. As well, both of Western Canada's major pasta plants are located in Alberta. Borden Foods Ltd. in Lethbridge, and Prairie Harvest in Edmonton, are two of Canada's six major pasta plants.

Coarse Grains

The area seeded to coarse grains has remained fairly constant throughout the 1990s, decreasing between 1990 and 1995, and after a brief increase in area in 1996, decreasing further until 1999. For 2000, seeded area is 2.89 Mha and total production of coarse grains is 6.29 Mt, a 10% decrease since 1999 due to a reduction in yields.

Barley is the most important coarse grain produced, with 2.19 Mha seeded in 2000, a 14% increase over 1999.

Production of barley fell 9% to 5.44 Mt, due to a dramatic decrease in yields.

Oats are also an important crop, with 526,100 ha seeded in 2000. While the area seeded to **rye** has been decreasing, 29% of all rye planted in Canada was seeded in Alberta.

Alberta is Canada's leading province for barley production, and the majority is fed to **livestock**. In addition to its many beef ranches and feedlots, Alberta is also a leading producer of **hogs** and **sheep**. Because of strong demand for feed barley in Western Canada, a growing livestock industry, and high transportation costs, very little feed barley is exported.

On average, 12% of the barley grown in Alberta is selected for malt purposes. As domestic processors typically prefer two-row malting varieties, more than 90% of the barley grown in Alberta is two-row. Two of Canada's six **malting plants**, Canada Malting in Calgary and Westcan Malting in Alix, are located in Alberta. Together the two plants have a malting capacity of 1,230 t/day, and produce about 35% of Canada's malt.

Alberta is Canada's second largest producer of oats, and over 80% is fed to livestock. A small amount is used for human consumption, mainly as rolled

oats, oat bran and oatmeal. Approximately 25% of Western Canada's oats are produced in Alberta, and about 25% of the oat processing takes place in Alberta. Two of the seven major **oat processing facilities** in Western Canada, Alberta Oats Ltd. of Edmonton and Westglen Milling of Barrhead, are located in Alberta, with a combined capacity of 430 t/day. Alberta Oats primarily produces groats, while Westglen Milling produces bran, flakes, and flour.

Oilseeds

The area seeded to oilseed crops increased substantially throughout the early 1990s to reach a record seeded area of 2.05 Mha in 1994. Since then, there has been some contraction in area seeded and only 1.55 Mha were seeded in 2000. The production of oilseeds fell from 3.01 Mt in 1999 to 2.10 Mt in 2000, due to sharp reductions in both yield and area seeded.

Canola is the most important oilseed produced and 1.54 Mha were seeded in 2000, a 16% decrease from 1999. Production fell 30% to 2.09 Mt. Limited amounts of **flaxseed** are also produced.

There are numerous **companies processing oilseeds** and producing edible oil products in Alberta. Larger operations include: ADM at Lloydminster, CanAmera Foods at Fort Saskatchewan and Edmonton, and Canbra Foods in Lethbridge. There are also other companies producing specialty oils, such as organic canola oil and flaxseed oil.

Special Crops

Special crops, particularly **dry peas**, have

become an important cropping option for farmers since the early 1990s. Dry peas are an important part of the crop rotation, providing the benefit of nitrogen fixation, which has the potential to reduce farm input costs.

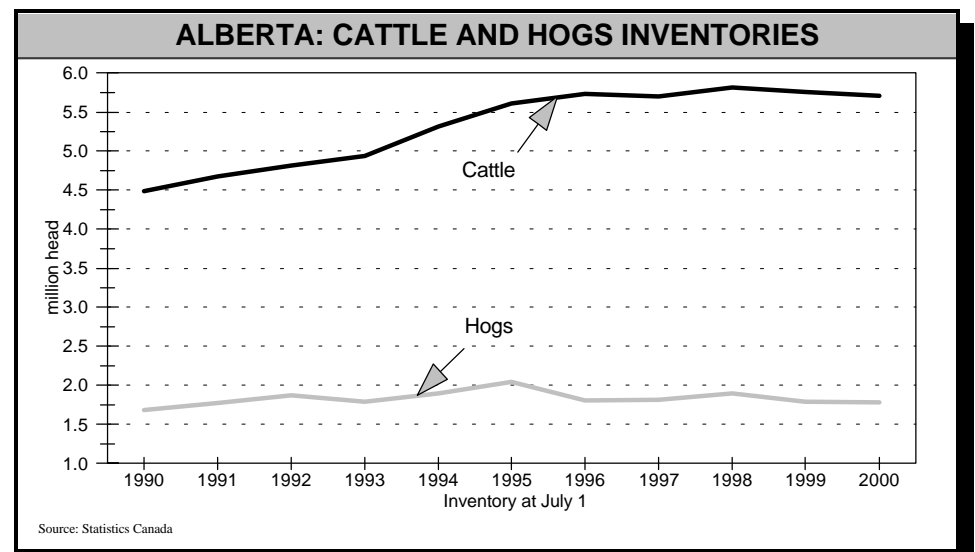
In Alberta, the area seeded to dry peas has increased from 34,400 ha in 1990 to a record seeded area of 267,100 ha in 2000. Other special crops that are grown, include: **mustard seed, chick peas, dry beans, lentils, canary seed and sunflower seed**. In 2000, Alberta will produce approximately 20% of Canada's dry peas, 15% of Canada's dry beans and 10% of the mustard seed.

Other Crops

Irrigation makes the production of root crops such as **sugar beets** and **potatoes** possible. The area seeded to sugar beets has increased from around 13,000 ha in 1990 to over 18,000 ha in 2000, and in 1999 contributed \$29.65 million in farm cash receipts. The area seeded to potatoes remained fairly constant at around 12,000 ha throughout most of the 1990s, but has expanded 61% since 1997 to 20,230 ha in 2000, in response to domestic processing demand. In 1999, potatoes contributed \$78.41 million in farm cash receipts.

LIVESTOCK PRODUCTION AND PROCESSING

In 1999, livestock production in Alberta generated approximately \$3.95 billion in farm cash receipts, accounting for 61% of the province's total farm cash receipts. With approximately 40% of Canada's



cattle, Alberta is Canada's largest cattle producer.

Cattle

In 1998, about 44% of the farms in Alberta were classified as cattle farms, according to the Statistics Canada Whole Farm Data Base. Cattle inventories in Alberta increased throughout the 1990s, increasing 29% between 1990 and 1998. Since 1998, cattle inventories have decreased slightly from the record 5.81 million head (Mhd) at July 1, 1998. In 1999, farm cash receipts for cattle and calves totalled \$3 billion, or 46% of total receipts. As of July 1, 2000, cattle inventories were at 5.71 Mhd.

Across Canada, cattle herds have been in a contraction phase for the past 4 years with inventories falling 5% since 1996. Over the next year, the cattle cycle is expected to move from the "contraction" phase to the "turn-around" phase of a typical cattle cycle, and more heifers will be held back for breeding. This will set the stage for several years of herd expansion in Canada and Alberta, which is expected to commence by 2002.

The number of beef animals on feedlot operations has grown 26% since 1995, to reach 1.04 Mhd on feeder, stocker and finish operations, and another 985,000 head on backgrounding feedlots at July 1, 2000. In comparison, the total number of cattle and calves in Alberta only increased 2% during that time period, because of a decrease in the number of breeding stock on cow and calf operations. While feedlot operations are located throughout the province, there is a strong concentration around Lethbridge in southern Alberta, and a growing number of finishing operations in central Alberta.

There has been a dramatic expansion in the **meat packing industry**, and in 1999, manufacturing shipments of meat and meat products totalled \$3.86 billion, roughly 50% of Alberta's food and beverage industries' shipments and 11% of Alberta's total manufacturing shipments. In 1999, 61% of Canada's cattle, and 91% of Western Canada's cattle were slaughtered in Alberta. About 2.29 million cattle were slaughtered in federally inspected establishments, while a further 27,448 were slaughtered in provincially inspected establishments.

Federally inspected cattle slaughter plants include: Lacombe Meat Research Centre of Lacombe, Lakeside Packers Ltd. of Brooks, Edmonton Meat Packing Ltd. of Edmonton, Cargill Ltd. of High River, XL Foods Inc. of Calgary and Bouvry Export Calgary Ltd. of Fort Macleod.

Hogs

In 1998, 1.8% of the farms in Alberta were classified as hog farms. Throughout most of the 1990s, hog numbers have been more or less stable, and Alberta's share of Canada's hog population has fallen. In 1999, farm cash receipts for hogs totalled \$344.3 million, or 5.3% of all receipts.

There are five federally inspected **pork slaughter and processing plants** operating in Alberta. They include: Fletcher's Fine Foods Ltd., of Red Deer, Maple Leaf Meats Inc. of Lethbridge, J & M Meats International Ltd. of Warburg, Lacombe Meat Research Centre of Lacombe and Trochu Meat Processors Ltd. of Trochu. In 1999, 1.95 million hogs were slaughtered in these establishments, while another 183,730 hogs were slaughtered in the numerous provincially inspected establishments, totalling about 11% of the hogs slaughtered in Canada.

PROCESSED FOOD AND BEVERAGE INDUSTRIES

Food processing is Alberta's largest manufacturing sector, accounting for \$7.77 billion in manufacturing shipments in 1999, almost 22% of Alberta's total manufacturing shipments. The food and beverage industries employ about 17,000 people in over 400 companies. Specifically, in southern Alberta, there are more than 130 agri-food processing companies. While establishments in the food processing industry are diverse, the meat packing and processing sector accounts for about 50% of Alberta's food processing sales. Other large sectors include: dairy, feed, cereal, grain and flour, canola processing, and frozen fruits and vegetables, including potatoes.

AGRI-FOOD EXPORTS

Alberta exported \$4.32 billion worth of agri-food products in 1999, about 20% of Canada's total agri-food shipments. For the first time meat exports, valued at \$1.39 billion, outweighed bulk grain exports, valued at \$1.02 billion. With the growth of

livestock processing capacity, live animal exports have decreased dramatically. Alberta's top trading partners are the United States, Japan, China, and Mexico.

OUTLOOK

Alberta has a dominant position in the growing Western Canadian market of nine million people. The province is also relatively close to the enormous markets of the Pacific Northwest, California and central Canada. Furthermore, the Pacific Rim is easily accessible, through rail transportation to the ports of Vancouver and Prince Rupert.

The immense size of Alberta's agricultural land base will ensure continued growth for the food and beverage industry. With more than 20 Mha currently used for crop and livestock production, there is considerable room for growth in value-added food and beverage manufacturing. Continued livestock expansion is expected, and the increase in production will continue to be matched by an increase in processing.

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