

# **Agriculture in Northern Alberta**

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## **Introduction**

This report provides a broad overview of the Agriculture Sector in northern Alberta, pointing out likely future developments and their implications for employment and training. Sources for this report include statistical data from Alberta Agriculture Food and Rural Development (AAFRD) and Statistics Canada, reports prepared on various aspects of the industry, journals and newspapers and interviews with contacts among producers and AAFRD field office staff.

The report begins with a look at the agriculture sector in Alberta as a whole and in northern Alberta in particular. The next section will examine some of the region's major products, focusing on recent trends and outlooks for the near future. Following sections will deal with value added production, farm labour and training needs and concerns.

## **Alberta in General**

Agriculture historically has been a central part of Alberta's economy and culture. It is still one of the province's three most important industries, along with petroleum and tourism. As of the 1991 census, Alberta had 57,245 farms on an average of 898 acres per farm. Alberta farm cash receipts totalled \$5.44 billion in 1994 (and just under \$6 billion estimated in 1995). This marked an increase of 8.7% over 1993 totals. Realized Net Farm income rose by 20.3% in the same time. From 1984 to 1994 the number of Albertans employed in agriculture dropped both in real terms and as a percentage of Alberta's workforce. In 1995 however, employment levels climbed sharply. Alberta farms employed about 105,100 people during the peak month of August, 1995.

In 1991 73.3% of farm operators in Alberta were male and 26.7% were female. The average age of farm operators throughout the province was 47.3 years. 38.2% of operators had some post-secondary education, with women being slightly more likely to have completed high school than men.

The most common products from Alberta farms are wheat, other grains (canola, oats, barley, peas) and beef cattle. Beef cattle make up 41.9% of Alberta's farm cash receipts, with wheat accounting for 16.5%, canola for 15.3%, hogs for 6.3% and barley for 5.2%.

Exports of Alberta agricultural products have benefitted from international trade agreements such as The North American Free Trade agreement (NAFTA) and the General Agreement on Tariffs and Trade (GATT). Alberta exported \$1.46 billion worth of agricultural products to the United States alone in 1993. Japan was the next most popular destination for Alberta products, buying \$504 million worth of goods.

## **Northern Alberta**

Employment figures in the northern agriculture sector have risen in recent years. According to census figures there were 12,460 people employed in farming, horticultural and animal husbandry occupations in northern Alberta in 1991. This is 14.6% of all Albertans in those fields

and 9.7% of the northern Alberta labour force. The March 1996 employment figures from Alberta Advanced Education and Career Development (AECD) list 89,800 Albertans working in the agriculture industry, down from 93,000 in February '96 and 95,600 in March 1995. 14.6% of the current figure gives us a total of 13,111 people in the northern agriculture industry.

The following table provides an overview of the commodities produced on northern Alberta farms. It is obvious from the number of farms that most farms produce more than one commodity.

Table 1: Agricultural production in northern Alberta

Product	No. of Farms (1991) NADC Area*	Production (1991) NADC Area*	Production (1994) NADC Area*
Wheat	5,112	1,321,500 tonnes	683,800 tonnes
Canola	4,193	507,800 tonnes	703,200 tonnes
Barley	5,398	885,450 tonnes	727,650 tonnes
Tame Hay	4,235	2,195,950 tonnes	2,906,250 tonnes
Oats	3,868	204,600 tonnes	388,550 tonnes
Flaxseed	110	3,200 tonnes	7,000 tonnes
Rye	134	2,000 tonnes	2,600 tonnes
Dairy cattle	723	12,370 head	10,040 head
Beef cattle	5,532	629,030 head	780,090 head
Pigs	1,422	216,930 head	252,570 head
Horses	3,089	17,595 head	
Bees	157	58,751 colonies	
Sheep and lambs	523	39,726 head	
“Other” livestock	201	(see table #2)	

Sources: AAFRD Agricultural Statistics Yearbook, 1994 and Statistics Canada, Agricultural Profile of Alberta, 1991 census year

\*The borders of the NADC area do not match Statistics Canada’s Census Divisions exactly; as a result, the numbers quoted here are approximate. Figures for livestock refer to the number of animals on farms.

## Crops

Northern Alberta is more crop-dependent than the south. Cereal crops and oilseeds are the mainstays of northern agriculture. The biggest issues facing grain and oilseed producers right now are transportation and marketing. The end of the Western Grain Transportation Act (WGTA) in 1995 and with it the Crowsnest Pass Freight Rate (the Crow rate) effectively doubled the cost of shipping grain to port. In a recent report titled "Prairie Grain Transportation - Toward the 21st Century", Harold Bjarnason states that,

*Because of the enormous future impact it will have on all sectors of the western Canadian grain handling and transportation system, the repeal of the WGTA effective August 1, 1995, has to be viewed as the greatest shock to the grain marketing system since the Second World War.*

With the increase in cost to the producer, farmers will look for greater efficiencies in the transportation of their grain. In order to become more efficient, railways may close down unprofitable branch lines, forcing grain companies to consolidate their elevator systems. Another recent report on transportation prepared for the NADC suggests that,

*It can be predicted that in three years' time, the (Peace) Region will have about 25 elevators (of 10,000 tonnes capacity) moving the same volumes, with farmers trucking grain to centralized locations. The farmers will choose by level of service and incentives offered by the buying company.*

Recently, a group of farmers from the Peace region demonstrated one of the options available to farmers in the north by trucking their grain directly to the grain terminal at Prince Rupert, B.C. instead of sending it by rail to Vancouver as in the past. Those involved were pleased with the results.

At the same time as the changes to the transportation system western wheat and barley growers are debating the future of the Canadian Wheat Board's marketing monopoly for their products. Many producers want direct access to the U.S. market which has grown significantly since the signing of the Free Trade Agreement in 1988. In a plebiscite on the matter in November, 1995 farmers in Alberta voted 62% in favour of a dual marketing system for wheat and 66% for a dual system for barley. The Alberta government and farmers elsewhere have joined in the widespread (though not universal) call for a less regulated grain marketing structure. The end of the CWB monopoly would put more of the marketing decisions in the hands of the farmers themselves.

Environmental concerns and new technologies are changing the way some farmers operate. Producers who see the benefits of soil conservation are eager to learn new low-tillage seeding techniques. Growing markets for organic and otherwise "environmentally friendly" foods, along with concerns for the health of river systems are encouraging some farmers to look for new

products and techniques for fertilization and weed and pest control. Widespread change in these areas will likely be gradual.

Another possible long term development in northern agriculture is in the area of agri-pulp. Fescue and wheat pulp can be used in the manufacture of paper and even of fibre board for furniture. One small mill to produce this is being constructed in Dawson Creek, B.C. This \$20 million project will require 50,000 tonnes of fibre to produce 30 million square feet of board for furniture. Other similar projects are under way in the United States. One prediction points to a possible 20 to 30 similar plants across the Prairies. While this figure may be high, there is some potential for this industry. The price per tonne of wheat straw is much less than that for wood fibre.

#### *Wheat*

Market receipts for wheat dropped annually from 1990 to 1993 but have risen since then jumping 41.2% in 1994. Prices are expected to remain high for the next year at least. Farmers are increasing the amount of wheat they grow accordingly. According to the Alberta Pool's recent survey of seeding intentions, farmers in Alberta and northeastern B.C. will seed 11% more wheat in 1996 than in 1995.

#### *Canola*

Canola production has grown rapidly through the 1990s, particularly in the Peace region where it generated the greatest value of any principal field crop in 1994. Something of a "Cinderella crop", canola kept many Peace country farms in business when wheat prices were low.

Canola production is likely to drop off in 1996. High wheat and barley prices will combine with crop rotation cycles to reduce canola acreage. Alberta Pool's seeding intentions survey shows a 22% drop in acreage planned for this year. Any increase in production in the near future is more likely to come from increased yield rather than from increased acreage seeded.

Those who do grow canola will have a ready market and steady prices for their product. The demand for canola should remain strong for some time. Some processors are concerned that they may have difficulty obtaining enough supply to meet their commitments.

#### *Barley*

Barley production is on an upswing in Alberta as a whole, but not so in the north. After hitting a 20-year low in 1993, cash receipts for barley in Alberta climbed in 1994 due to a high volume of sales. At the same time, production fell in the north. The low price per tonne is likely to prevent an increase in acreage seeded for barley.

An increase in cattle production, should it occur, would certainly increase the market for barley. It is more profitable to ship barley as part of a bull than as a commodity on its own.

### *Oats*

Oat production in the north hit a peak in 1993 and has dropped slightly since then. In 1993 the Peace region supplied almost 24% of Alberta's oats. For 1995 that figure is estimated at about 13%.

Broad predictions for 1996 are "reasonably favourable" but oat prices could face pressure from increased production in the U.S. and from an increase in the production of feed-quality wheat in Canada.

### *Forage Crops*

Northern Alberta produces more tonnes of tame hay than any other crop. Its financial value is comparatively low, however. Northern Alberta had 26% of Alberta's acres seeded for alfalfa in 1991. There are several alfalfa processing plants in the NADC area as well. Any significant growth in livestock production in northern Alberta would increase the demand for forage crops. Much of Alberta's forage seed production comes from the Peace region as well.

## **Implications for Employment and Training**

- The loss of the Crow rate and the likely deregulation of wheat and barley marketing will put a great deal of pressure on small producers. Increased transportation costs may result in fewer small operators 5 to 10 years from now.
- In order to cope with the coming changes producers will need greater knowledge of the marketing systems and how to use them effectively. Farm business management courses will have to play a greater role in general agricultural training programs, and will be needed as upgrading training for those currently in the industry.

## **Livestock**

Globally, animal protein consumption is on the rise particularly in Japan and the rest of the Pacific Rim countries. Experts also point to opportunities in the production of processed meat products and meat by-products. Relatively cheap land and feed are seen as positive factors for livestock production in the region.

### *Beef Cattle*

Northern Alberta is not as dominated by the beef industry as is the south. The provincial government is encouraging the growth of the beef industry in the north as part of their efforts to double the province's beef production in the next decade. Many parts of southern Alberta cannot support any increase in cattle populations making the industry look north for expansion.

Northern Alberta's share of the province's beef production has increased in the past few years but it may not grow rapidly over the next few. In spite of feasibility studies pointing to positive returns, there is a strong belief that feedlot operations will not work

in the north. Northern ranchers do face higher transportation costs than those in the south. Also, lower feed costs are balanced by long northern winters which mean that cattle have to be fed for a longer time while pastures are snow-covered. Moreover, the current low prices for beef make most farmers reluctant to take land out of lucrative wheat production in favour of cattle. Beef production is not likely to increase significantly without a rise in price.

### *Dairy*

Many farmers in the region keep some dairy cattle but there are few large dairy operations. Those that do operate in the north have had difficulty finding well-trained staff. Lavoie Dairies of St Isidore had to go to the Netherlands to find employees with the training that they sought. This situation is likely to improve as Lakeland College develops its dairy program.

### *Hogs*

Demand is strong for hogs in Alberta and elsewhere. Exports to the Pacific rim are healthy with potential for further growth. There is interest from Asian investors in developing a pork processing plant in northern Alberta to feed the Asian market. This would require a substantial increase in hog production. Northern Alberta produces about 13.2% of Alberta's hogs. Peace region hog producers have also had to look to Europe to find trained staff.

### *Bees*

The number of beekeepers in Alberta has declined over the last ten years but the overall increases in the number of colonies per apiary, yield per colony, and price per kg have resulted in an overall increase in the value of honey produced in the province. The Peace region is the largest honey-producing part of the province. The yield of 237 pounds per colony achieved in 1994 in the peace region was 22% higher than the provincial average. Honey prices have been rising due to a world-wide shortage. The U.S. market is currently opening up as the Americans have put a limit on the amount of honey that they will import from China. This is good news for local students as apiaries provide a large amount of seasonal employment in the region.

### *Alternative or Specialty Livestock*

In addition to traditional livestock, northern Alberta is home to growing numbers of "specialty" or "alternative" livestock. This category includes both indigenous animals such as bison, elk and deer and "exotic" animals like ostriches and llamas. One recent report states that there are 378 producers of "other" livestock in the Peace Region. Another from 1994 quotes the number of alternative livestock producers in Alberta and Saskatchewan at 749. Between these figures it would seem reasonable to estimate some 400 to 450 producers in the NADC area. This is a small figure compared to the number of traditional livestock producers but the industry appears to be growing. The numbers of head of bison, elk and deer in the Peace Country have grown significantly over the past few years.

Table 2: Estimated Alternative Livestock Populations in the Peace Region:

Species	1989/90	1992/93	1993/94	1994/95
Bison	1,250	8,500		12,860
Elk		343	479	867
Deer		60	86	110

Source: Serecon Management Consulting Ltd. Needs and Priorities for Agricultural Research and Technology Development in Northern Alberta, 1996. The numbers for bison are based on AAFRD growth rate estimates of 23% per year.

The growth in the number of producers is not as dramatic as that of the numbers of animals. The numbers for bison producers are not listed. Deer producers in the Peace have remained steady at 6 from 1992/93 to 1994/95 and elk producers have grown from 19 in 1992/93 to 37 in 1994/95.

Just over one-half of alternative livestock producers also raise traditional livestock with bison or ostriches as a sideline. Not unlike others in the agricultural sector, many of these producers say that they do not have the time to spend taking a long course. The strongest opportunity in the alternative livestock industry in northern Alberta may be in processing specialty meats.

### **Implications for Employment and Training**

- Growing global meat consumption suggests that demand will remain strong for livestock production; in addition, government support may lead to increased production. Significant growth in northern Alberta is unlikely however, without price increases.
- Any increase in pork production will result in a high demand for trained hog handlers.
- The growth in alternative livestock production as a sideline suggests that there may be a demand for courses on such animals to be included in general livestock programs as well as for short upgrading courses.

### **Value-Added Production**

Alberta's food processing industry is a major part of the provincial economy; nonetheless, Albertans still lag far behind other provinces in adding value to our agricultural products. This is particularly true in northern Alberta. Of 621 firms listed in the Directory of Alberta's Agricultural Processing Industry, only 40 are located in the north. The Alberta government is trying to encourage the growth of the province's food processing industry. The government's target is a \$20 billion industry within 10 years (from a shipment value of \$5.6 billion in 1994).



There are several positive factors encouraging the development of the value-added agriculture industry in northern Alberta.

- Worldwide markets are growing for prepared food products as opposed to bulk food commodities. Markets are also growing for environmentally friendly products such as organically grown flour and beef. The global increase in meat consumption may also create a larger market for processed forage products such as Timothy hay and dehydrated alfalfa which are already produced here.
- Increased shipping costs may encourage more producers to add value to their products before shipping them away. Likewise low cattle prices may drive the push to add value to the product by exporting beef and processed beef products instead of live animals.

There are some barriers to increased value-added production in northern Alberta.

- Transportation presents problems in terms of time, distance and cost.
- The current high prices for commodities such as wheat and honey discourage people from making major investments in added processing in those areas.
- There is not a strong tradition of value-added processing in the region. As a result, there has been little research and design work done and there is no pool of trained labour for the industry. Most importantly, people do not think of this as a likely area for investment.

Food processing is well established in major centres such as Calgary that are close to markets and major transportation routes. Rather than try to compete with those established businesses, the best opportunities in northern Alberta involve building on what we already have. There are several likely areas for expansion in the region.

- The processed forage industry is strong and has room for growth.
- Specialty crops such as saskatoon berries have great potential to grow. Producers currently have difficulty meeting the demand.
- Specialty meat packing would work well alongside the growing alternative livestock production industry in the region.

### **Implications for Training and Employment**

The food processing industry has traditionally had low educational requirements. While this may change in the future, training for this industry is not likely to be in great demand over the next five years.

There may be some demand for business training for those looking to establish businesses in the area.

Colleges may have a role to play in the development of the value-added agriculture industry by working with new businesses to provide needed training from the start.

## Farm Labour

14.6% of Albertans in the agriculture sector worked on the 21.8% of Alberta farms that were in the NADC region in 1991, putting the number of workers on northern farms well below that elsewhere in the province. Farms in northern Alberta provide an average of 22 weeks per year of wage labour. This is below the provincial average of 34.9 weeks. The wages for this labour are outlined in the following table.

TABLE 3: Average Farm Labour Rates in Alberta

Position	1994 average hourly rate	change from 1993
General Farm Labour	\$9.53	+ 10.7%
Machinery Operator	\$10.03	+ 3%
Care of Livestock	\$9.76	+ 1.1%
Fruit and Vegetable Labour	\$6.66	- 0.9%
Supervising	\$11.58	- 21.9%
Other Types	\$7.58	- 53.1%

Source: AAFRD Agricultural Statistics Yearbook, 1994.

Given the rates of pay for farm labour and the seasonal nature of the work, there is no strong incentive to take training programs related to farm labour unless one is planning a career as a producer.

Farm operators often supplement their income by working at other jobs. 40.1% do some work off the farm. Of those, 54% work more than 190 days at another job and the average figure is 183 days per year worked off the farm.

## Education and Training

Fairview College and Lakeland College, along with Olds College and Lethbridge Community College in the south, are mandated to provide agricultural training. Lakeland College has recently been given the responsibility for training for the dairy industry. Officials at Lakeland expect the development of programs in this area to take several years. Lakeland has also

recently introduced a program in alternative livestock. Fairview College offers programs in beekeeping and turfgrass management in addition to a full slate of more traditional programs. Both Fairview

and Lakeland offer wide selections of diploma, certificate and continuing education programs in Agriculture.

Alberta Agriculture has offered a wide range of courses to be taken through home study and in short seminars. In addition, AAFRD sponsors the Green Certificate program through which people learn various farm operation skills while working on a sponsoring farm. This program has had mixed success. There are about 165 people enrolled in the program province-wide. The potential benefits of this hands-on training to the student are clear but it can be difficult to find effective and willing farmer/instructors. In an attempt to train young people who might enter the field this program is being introduced into high school curricula in the rural Grande Prairie area.

### **Suggested training areas**

Those contacted for this study identified a need for training in several areas within the agricultural sector.

- *Business training*  
This area will be crucial to the success of producers in the next decade. There is greater profit to be made from improved marketing than from an increase in seeded acres. According to one informant, as few as 10% of farmers understand the marketing and business opportunities available to them. There is a need for this training both as part of diploma and certificate programs and in short courses for current producers.
- *Computer training*  
While many farmers have moved past the introductory stage, there is a great deal to be learned in the areas of the internet and its uses as a business tool. As well, Geographic Imaging Systems (GIS) may become increasingly important as producers seek to improve their efficiency. Last year's Barley Project in which producers were provided free access to barley marketing information on the internet drew a good amount of interest. Even so, only 5% or so of farmers are hooked onto the internet.
- *Farm safety training*  
Short courses would be valuable for those engaged in seasonal farm work.
- *Truck driving training*  
First of all, many farmers work as log haul drivers in the winter, usually without any training as truckers. Secondly, with rail freight rates doubling due to the end of the Crow rate and with many elevators and branch lines closing, farmers will be trucking more of their grain for longer distances.

- *Woodlot management*  
Many farmers have substantial stands of timber on their property which, managed wisely, could provide long-term income for producers and an alternative supply source to the forestry sector. Response to recent events in this area has been disappointing, however.

### **Comments on Training in Agriculture**

While experts have identified many training needs, actual demand for courses that have been offered is frequently disappointing. Informants' estimates of local turnout for courses and seminars were usually in the 10 to 25 % range. Each of the following comments comes from several sources.

- While more than half of the respondents to a survey of alternative livestock producers (and would-be producers) expressed some interest in a college program on alternative livestock, the vast majority said that they received most of their information from other producers, magazines and association newsletters. This is true of producers in all areas of the sector.
- Most producers will only take a course (or change how they operate) when they see a positive return on their investment. Many producers feel that they do not have the time and effort to invest in training, not seeing a real need for it.
- The most effective way to create a demand for the training is to make use of local contacts. Farmers telling other farmers about courses and saying that they are worthwhile will do more to fill a class than any other medium. Also, having trusted local instructors (preferably other farmers) teach the courses is sure to increase the perceived value to producers.
- Those producers who do take upgrading courses tend to take many of them. They are the farmers who are committed to improving their knowledge and their operations. It can be difficult for government and institutions to stay ahead of this group of producers in terms of the information that they have to offer.

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