

Wednesday, May 15, 2002

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2001 Census of Agriculture - Canadian farm operations in the 21st century

The 2001 Census of Agriculture counted 246,923 farms in Canada on May 15, 2001, down almost 11% since 1996. All provinces shared the decline, with 8 of the 10 showing decreases over 10%.

Farms have been getting bigger. The average farm in 2001 was 676 acres, compared with 608 acres in 1996. Those with gross receipts of \$250,000 or more accounted for 13.8% of all farms in 2001, compared with 9.4% in 1996 (at 2000 prices). The average farm size in that sales class was 1,620 acres.

Farmers are expanding their crop area and are switching to different crops for economic reasons. In 2001, for every acre in wheat, 2.3 acres were in other field crops, compared with 1.8 in 1996. Wheat still represents the largest crop area but has declined 12.6%. Pulses, which include crops such as dry field peas, lentils and beans, showed significant increases.

Livestock numbers have increased substantially to reach a new high. The number of cattle on Canadian farms has risen again — as it has in every census since 1986. Hog numbers are approaching the level of cattle numbers for the first time.

The portion of a dollar represented by expenses is getting bigger. In 2000, farmers spent 87 cents on operating expenses (not including depreciation) for every dollar received in gross farm receipts. In 1995, the ratio was 83 cents in expenses for each dollar in receipts. Farmers are having to manage their expenditures even more carefully to remain competitive.

Environmentally friendly land management practices have surpassed conventional tillage methods in popularity and are now used on 60% of land tilled, double what it was in 1991. Practices such as conservation tillage minimize the number of passes farmers make over their fields, which in turn decreases fuel costs and lowers carbon dioxide emissions.

The Daily. Wednesday, May 15, 2002

2001 Census of Agriculture - Canadian farm operations in the 21st century

Today's data release from the 2001 Census of Agriculture provides the latest snapshot of the agriculture industry. A detailed analysis of the farm characteristics in the agriculture sector, as portrayed by the Census, is available in *Canadian farm operations in the 21st century* on Statistics Canada's Web site (www.statcan.ca).

Since 1996, the number of farms has declined almost 11%, continuing a trend that first emerged 60 years ago when Canada's farm numbers started a downward slide from their 1941 peak. On May 15, 2001 — Census Day — 246,923 farms in Canada met the census definition of a farm. This is the fastest percentage decline between censuses since 1971. The census includes farms of all economic sizes, from hobby farms to large corporations. But while farms are fewer, the average farm is getting bigger.

Behind the data are the events and trends — domestic and global economic factors, technological changes and innovations, changing consumer tastes, the weather and other environmental issues — that add colour and context to the numbers. Unlike the census, which canvasses agricultural operators once every five years, these factors shift and change at unpredictable intervals and farmers must react quickly, precisely and prudently to survive economically. Responses are as varied as the individual operations.

New farms continue to enter sector

For every 10 Canadian farm operations that "counted themselves in" in 1996, 7 still existed in 2001, while 3 had left the agriculture sector. Yet new operations are still entering the sector: about 50,000 new farms since 1996. Farm operations that remained in business from one census to the next generally expanded their production, with higher average crop area or livestock numbers per farm.

Farm operations of all sizes are leaving, although as a group those with gross receipts less than \$100,000 are showing the fastest rate of departure. Just under half of farms with less than \$25,000 in receipts that were counted in 1996 had left farming by 2001. In the larger receipts classes there was less turnover. In 2001, farms with receipts under \$100,000 still represented two-thirds of all farms.

Adjustment and adaptability key to success

Farmers are also not immune to the demographic factors that affect the rest of the population. Although 2001 data on farm operators are not yet available, 1996 data show that farmers over the age of 55 are concentrated in the same receipts classes that have the fastest rate of departure.

Note to readers

Census of Agriculture on the Internet

More data are available at the Census of Agriculture location on Statistics Canada's Web site (www.statcan.ca). For additional information, click on the Census icon on the homepage, then on Census of Agriculture in the left menu bar.

Data, analysis and general information free on the Internet

All farm variables are now available from the 2001 Census of Agriculture at the Canada, provincial/territorial and sub-provincial (census agricultural region and census division) levels in an electronic publication (95F0301XIE, free). Data include number and type of farms, crop and land use areas, land management practices, numbers of livestock and poultry, farm machinery and equipment, farm capital, and farm operating expenses and receipts.

An additional 17 data tables for each province and Canada on topics from crop area to livestock inventories, and from computer use to receipts and expenses, with 1996 and 2001 data and the percentage change where applicable, are now available. From the homepage choose Canadian Statistics, click under the Economy and then Census of Agriculture.

Text describing Farm operations: provincial/regional trends is also available.

Farm data at the census consolidated subdivision level, the lowest level of geography available from the Census of Agriculture, will be available for all farm variables on the Internet or CD-ROM for a fee on June 12. See the Release schedule for a complete description of other data, products and services available from the 2001 Census of Agriculture.

For older farmers, it becomes a choice of whether to get bigger or leave, either because they want to retire from farming or because they have been edged out of the industry by rising costs and falling profits. Farmers sell or rent out their land to other operators when they stop actively farming.

For those that remain, adjustment and adaptability are key to success. Their increased production suggests they are finding ways to keep ahead of the economic tide. Overall, farmers are producing more with less.

Production is up

Farmers are raising more cattle, hogs and poultry than ever before and are devoting more land to crops. Farmers haven't found more land, they are converting unproductive land - in fallow - to cropland, either in marketable

crops or those that can be used to feed the increasing numbers of livestock. For the same reason, unimproved pasture is being managed to improve its feed value.

Wheat is still king, although its crown is slipping. Greenhouse area is expanding to unprecedented levels. Farmers have shifted to different commodities and the average farm size is increasing. In some parts of the country, combination livestock and crop operations are replacing crop farms, driven by the economic advantages of diversification and "value added" processes. Among livestock operators, less traditional animals are increasing in popularity.

Export markets strong for many products

Increased export markets for many products, including live pigs and cattle, and pork, beef, oilseeds, pulse crops (such as dry field peas, beans and lentils), wines, forage seeds and hay are reflected in the 2001 Census of Agriculture data. Since 1996, dry field beans, one of the pulse crops, has increased its area fivefold. Oilseeds, particularly soybeans, have also shown dramatic increases between censuses. Wheat, still the dominant crop with nearly one-third of all field crop area, is less common as farmers respond to market conditions and try different, more profitable crops. In 2001, for every acre in wheat, 2.3 acres were in all other field crops, compared with 1.8 acres in 1996.

Land management practices changing dramatically

Land management practices are changing dramatically, particularly in the West, where farmers are using more low- or no-till seeding methods, allowing them to put less land in fallow and more in production. Pastureland is being improved to increase its value and utility to livestock operations.

Wheat farmers pressed from several directions

Grain transportation issues continue to be a serious concern for Prairie farmers. One factor was the 1995 legislative change that phased out the *Western Canada Grain Transportation Act*, successor to the Crow Rate, which had helped offset farmers' transportation costs in getting their grain to the nearest port. Falling wheat prices effectively increased the share of income wheat farmers had to pay to move their grain. Meanwhile, livestock prices were rising and many Prairie farmers reacted by changing course. Census numbers show that the crop sector adjusted to these economic pressures by moving into other crop varieties or entirely different commodities.

Livestock numbers up

Cattle numbers were up in 2001, partly in response to market demand and partly as farmers - looking for ways to cut grain transportation costs - realized it was economically advantageous to feed their large supply of competitively priced grains to cattle and export the animals. Many of the additional 673,000 cattle in Alberta, Canada's beef province, serve the voracious export market to the United States.

One of the most significant increases shown by the census was the 26% jump in hog numbers since 1996, while the number of farms reporting hogs fell by nearly 27%. International demand, particularly from the United States

and Japan as well as new markets such as Mexico, was partly responsible for the increase. A number of tariff reductions, combined with the relatively low Canadian dollar and plentiful supplies of feed grain, have made Canadian pork increasingly attractive to international markets.

Greenhouses and grapes dual success story

Greenhouse expansion is another success story, and a full 18 square kilometres in Canada, most of it in southwestern Ontario, is now under some sort of cover. This is more than double the area in 1991.

Grapes, a relatively small commodity in terms of area, have made a large impact since the industry was transformed by the Canada-United States Free Trade Agreement in 1988. Since 1996, grape area has increased 41%, the largest relative increase in area of the top five fruits grown in Canada.

Margin between expenses and receipts narrows

Despite increased production, some farmers are being economically squeezed as the margin between operating expenses and gross farm receipts narrows in most provinces. For individual farmers, the ratio of expenses to gross farm receipts depends on many factors, but farm size and type seem to be two that distinguish those most successful in keeping a favourable financial balance. Beef cattle farms had the narrowest operating margin at 94 cents in expenses for every dollar in revenue and dairy farms had the widest at 75 cents to the dollar. Operations with between \$100,000 and \$250,000 in receipts tended to have the best ratio of expenses-to-sales of all classes, at 81 cents to one dollar in sales. Small farms, those with \$25,000 or less in receipts, had a less favourable ratio of \$1.68 in expenses to one dollar in sales.

This is the first of three data releases from the 2001 Census of Agriculture. Subsequent reports will produce a statistical portrait of the men and women who run the farms, and their families.

*Farm data: Initial release (95F0301XIE, free) is now available on Statistics Canada's Web site (www.statcan.ca). From the *Our products and services* page choose *Free publications* then *Agriculture*.*

For more information, or to enquire about the concepts, methods or data quality of this release, contact Gaye Ward (613-951-3172), Census of Agriculture, or Media Relations (613-951-4636).

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Canadian farm operations in the 21st century

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Farm numbers decline in all provinces

Between 1996 and 2001, the number of farms declined by at least 10% in all provinces, except for Alberta and British Columbia, which had slower rates of decline. The decrease represents 29,625 fewer farms across Canada since 1996.

Farm numbers have been falling for the last five decades, reflecting rapid changes in technology and increasing productivity. The largest-ever decline was between the 1956 and 1961 Censuses, when farm numbers fell by 94,116, or 16.4%. Another 15.0% of farms were lost between 1966 and 1971. The rate of decline had slowed between 1991 and 1996.

Provincially, Prince Edward Island had the biggest percentage drop in farm numbers. Manitoba was second.

	2001	1996	Absolute change	Percentage change
Canada	246,923	276,548	-29,625	-10.7 %
Newfoundland and Labrador	643	742	-99	-13.3%
Prince Edward Island	1,845	2,217	-372	-16.8%
Nova Scotia	3,923	4,453	-530	-11.9%
New Brunswick	3,034	3,405	-371	-10.9%
Quebec	32,139	35,991	-3,852	-10.7%
Ontario	59,728	67,520	-7,792	-11.5%
Manitoba	21,071	24,383	-3,312	-13.6%
Saskatchewan	50,598	56,995	-6,397	-11.2%
Alberta	53,652	59,007	-5,355	-9.1%
British Columbia	20,290	21,835	-1,545	-7.1%

Seven of every 10 farm operations that had been counted in 1996 remained in 2001, and three had left agriculture. Yet another 50,000 — or one-fifth of all farms — were new since 1996. This entry rate of new farm operations is consistent with longer-term trends.

Prince Edward Island had the largest relative decline in farm numbers since 1996 and also had the smallest share of new farms of any province. Just 16.6% of its farms were new since the last census. Farms in P.E.I. were 18.2% bigger on average since 1996, the largest relative increase of any province. Prince Edward Island's farms now average 350 acres, compared with 296 acres in 1996. Manitoba's increase in average farm size was

second largest, at 13.6%. The average farm in Manitoba is now 891 acres compared with 784 acres in 1996.

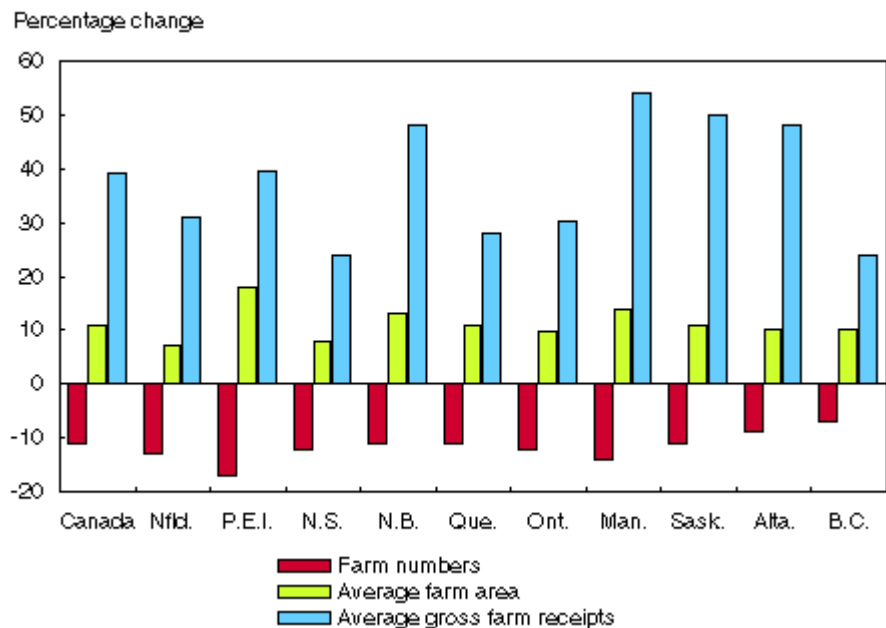
British Columbia was at the other end of the spectrum — over one-third (35.7%) of the farms counted in British Columbia on Census Day were new.

For both crop and livestock farms, particularly hog farms, those who left agriculture between censuses were smaller in average area or herd size than those who remained or began their farm business since 1996.

Just under half of farms with less than \$25,000 in receipts that were counted in 1996 had left by 2001. In the larger receipts classes, one-quarter of farms with receipts between \$25,000 and \$100,000 had left.

Farms with \$250,000 or more in gross farm receipts (at 2000 prices) represented 13.8% of all farms in 2001, double the proportion in 1991. Their share had more than doubled between 1981 and 1991 as well. This is the only receipts class to show increases at the Canada level.

Farm numbers down, average gross farm receipts and average farm area up in all provinces (at 2000 prices) (1996-2001)



Changing land use practices increase productivity

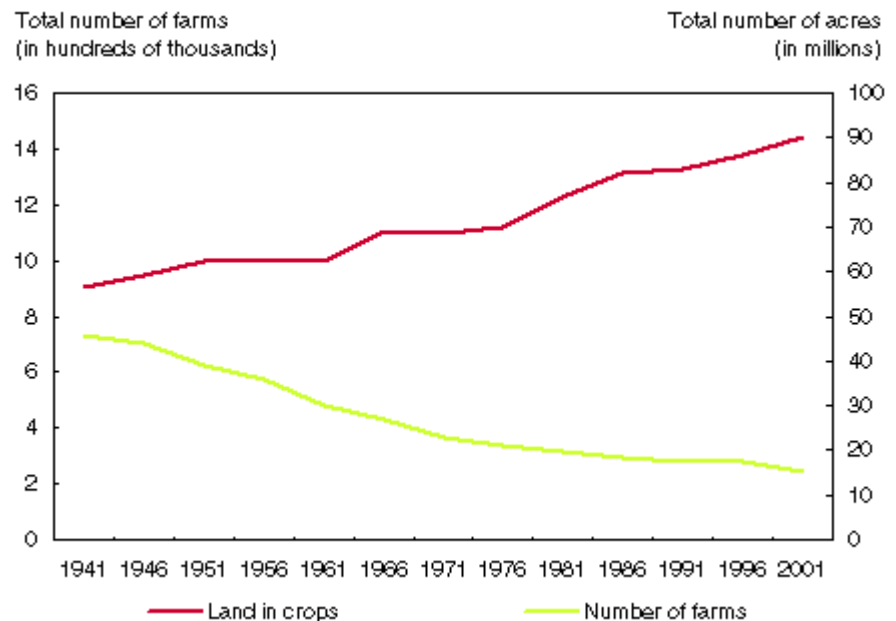
Nationally, farmers reported that they had 89.9 million acres in crops in 2001, up 4.2% from the previous census. The average Canadian farm got 11.2% larger, increasing from 608 acres to 676 acres.

Much of the increase in productive cropland is explained by the 25.2% decline in summerfallow. Land in summerfallow continues to decline partly because of farmers' increasing use of innovative land practices such as "no-till seeding" that retain the soil's moisture — reducing the need to leave land fallow for a year. Summerfallow is mostly a Prairie practice.

As the number of grazing animals increases, farmers are reporting more improved pastureland. Unimproved pastureland declined by half a million acres, some of which would have been converted to improved pastureland to make it more productive.

Consecutive years of drought have encouraged farmers to increase pasture and fodder crop area to meet the feed requirements of their livestock. Improved pasture was up 10.5% in 2001, alfalfa increased 25.2%, and other tame hay was grown on 7.6% more area than it had been in 1996.

Area under crops rises while number of farms continues to decline



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Crops

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Wheat still king, but farmers move to other crops

The transformation in agriculture is well illustrated by the crop sector. Area planted to crops is up and farmers are changing the types of crops they are growing. Wheat still represents the largest area, with 26.8 million acres, despite having the largest decline of all field crops since 1996. Barley still has the second largest area but, like wheat, it is shrinking, declining by a further 10% in 2001.

Spring wheat is still the dominant crop in the Prairie provinces, but its area declined dramatically between 1996 and 2001: by 8.1% in Manitoba, 23.1% in Saskatchewan, and 9.9% in Alberta.

Wheat farmers had received a double blow in the mid- to late nineties, with falling wheat prices and increased costs to get their grain to the nearest port. A 1995 legislative change had phased out the Western Canada Grain Transportation Act, successor to the Crow Rate, which had helped offset farmers' grain transportation costs. The effects of both were evident in 2001.

For some parts of Alberta and Saskatchewan, 2001 was the second or third straight year of severe shortages in precipitation, an added blow for a sector already plagued by falling crop prices and other economic pressures.

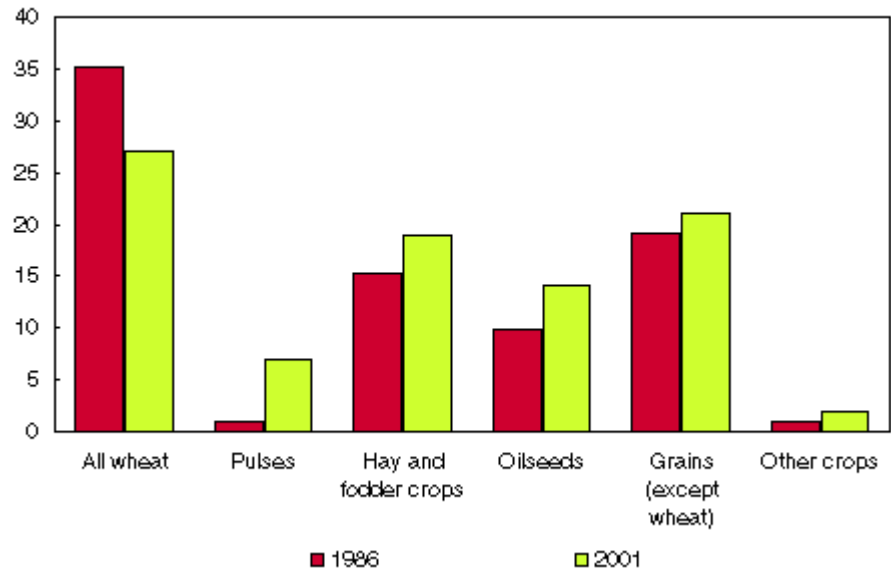
Drought conditions affect seeding patterns and some types of wheat, such as durum (up 3.9%), are more drought resistant than others. Substituting crops cannot always combat drought conditions, and the serious shortage of precipitation was reflected in near-record crop insurance payments in 2001. Moisture shortages also affect the availability of livestock feed, forcing farmers to turn fallow land into productive land, or improve existing pastureland to feed their animals.

While wheat's grip as the dominant crop continued to weaken, the trend is not new. Diversification to other crops has been ongoing for decades. Since 1986, wheat area has declined by 23.7%, whereas the area of land planted to oilseeds has increased by 45%. They now account for 15.8% of national crop area.

Pulse crops — dry field peas, lentils and beans — are up noticeably. Increases in dry field peas and beans were most pronounced in Saskatchewan and Alberta.

Oilseeds and pulses gain ground on wheat and other cereal grains in the past 15 years

Total area (in millions of acres)



Lentil area also more than doubled since the last census, the third largest increase of all crops. Pulse crops, because they can "fix" nitrogen in the soil, require less fertilizer than cereal grains or most oilseeds. Farmers find the higher value and lower fertilizer costs associated with pulses make them an attractive alternative crop as the expenses associated with producing a crop increase.

More than 100 countries import Canada's pulse crops. South Asia, with its large vegetarian population, consumes more pulse crops than any region in the world. Europe, particularly Spain where Canada's field peas are used for animal feed, is another prime export destination.

Soybeans increase in Manitoba

Among oilseeds, soybeans are showing the most dramatic increases. In Manitoba, total soybean area jumped from barely 600 acres in 1996 to more than 50,000 in 2001. New soybean varieties developed for shorter growing seasons, and demand from the province's growing hog industry for feed greatly influenced the increase. Despite increases in other provinces, Ontario remains by far the main soybean producer, with 84.1% of the 2.7 million acres in Canada. Quebec is a distant second.

Potato area up

Potato area has risen 12.8% since 1996 to 418,783 acres. Prince Edward Island accounted for one-quarter of total area, followed by Manitoba. In Alberta, potato area jumped by 85.3% since 1996, moving it from sixth to fourth place in terms of potato area. Alberta is now tied with New Brunswick in potato area.

Most of the increase is due to specialized processing plants demanding more potatoes to supply both the domestic and export markets' insatiable appetite for french fries.

Ontario grows most grain corn

Grain corn, a high-energy source of animal feed, remains an important crop in Ontario, where nearly two-thirds of the Canadian total is grown. Farmers have increased their grain corn area, bringing the national total to 3.2 million acres compared with 2.8 million acres in 1996.

Quebec's increase in grain corn area was the largest in absolute terms since 1996, and Manitoba has also had noteworthy increases. The increases in grain corn, a staple feed for hogs, in both Quebec and Manitoba have been driven by the significant increase in hog production in those provinces.

Grain corn is also used in many products including corn syrup, corn starch, corn oil and ethanol. Ethanol is an environmentally friendly, crop-derived alcohol that can be added to gasoline to increase octane levels and improve engine performance with cleaner-burning fuel. One step towards reducing greenhouse gases is the government proposal to make a 10% ethanol content mandatory in gasoline. Ethanol blends are already available across Canada.

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Livestock

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Record levels of cattle and hogs

Farmers reported record levels of both cattle and hogs as of May 15, 2001. The number of cattle on Canadian farms rose 4.4% between 1996 and 2001 to a record 15.6 million head. The number of hogs also reached record highs, at 13.9 million — a 26.4% jump.

Beef cattle are behind the increase in size of the cattle herd (which includes both beef and dairy cattle) since 1986. The average number of cattle per farm increased from 105 in 1996 to 127 in 2001.

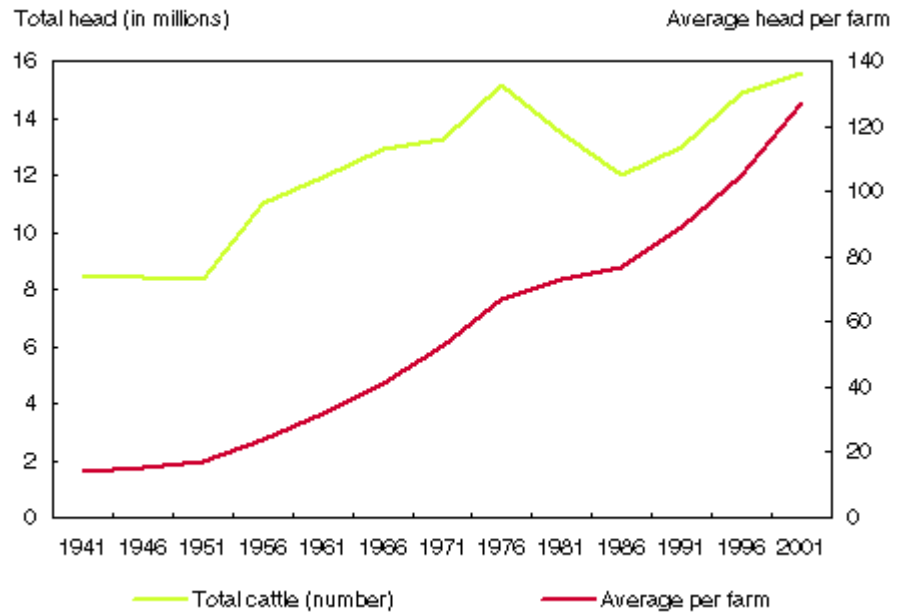
Most of the increase was in Alberta, which counted nearly 673,000 more cattle in 2001 than in 1996. Alberta accounted for 43% of the national herd, followed by Saskatchewan with less than 20%.

The increased demand for beef, combined with serious drought conditions in parts of the province, are reflected in changes in land use. In Alberta, summerfallow area declined by 14.0%. Much of this newly productive land seems to have gone to feed crops such as hay or alfalfa, which increased by over 30%. Improved pastureland in Alberta was up 16.5%.

The feedlot industry thrived during the five-year period, driven by favourable market conditions, both at home and abroad. Beef exports have grown by more than half since 1996, with the United States, Asia, Mexico and Argentina showing particularly significant increases. In addition to Canada's reputation as a supplier of good-quality beef, plentiful supplies of feed grains and the low Canadian dollar relative to the U.S. dollar give Canadian exporters an advantage.

For the beef herd, the east-to-west shift that started in 1991 continued, but the stampede slowed to a stroll. In 2001, the West accounted for over 86% of the 4.8 million head of beef cows, a slight increase since 1996.

Cattle numbers reach all-time high, average herd size increases

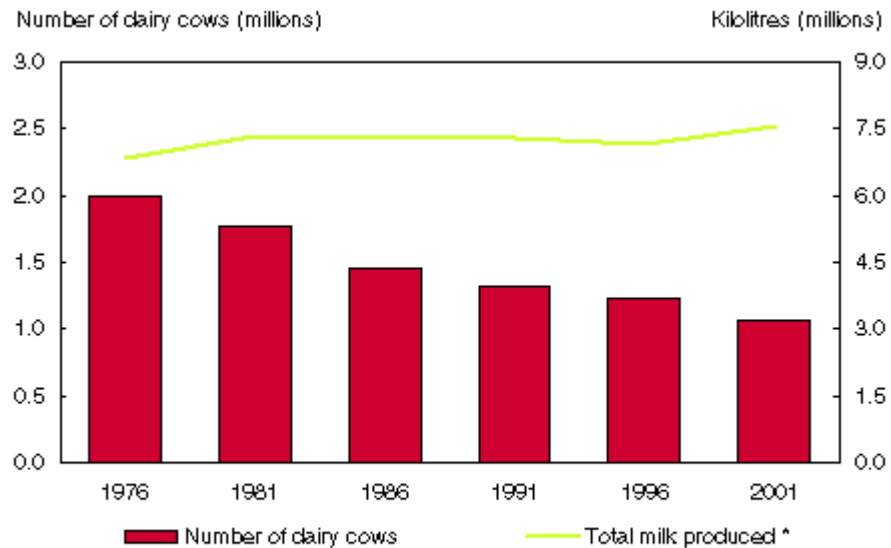


Dairy cattle decline, but production stable

The trend to fewer dairy cows continued in 2001, with the number of farms reporting dairy cows actually declining by 29.2% and the number of dairy cows decreasing by 13.6%. Despite these declines, production remained relatively stable.

Dairy production is regulated through supply management in Canada. As dairy cattle become more productive through improved breeding and feeding techniques and more frequent milking, fewer are required to produce the same quantity of milk. The quota system, based generally on population size and consumer demand, also explains why milk production remains concentrated in Quebec and Ontario.

Fewer cows, but more milk...



Hog numbers increase

The number of hogs was up sharply in 2001, at 13.9 million — a 26.4% jump since the last census. Since 1976, particularly between 1976 and 1981 and from 1996 to 2001, export demand has significantly increased hog production. Strong demand from U.S. finishing operations boosted the export of live hogs by 57.0% in the five years ending in December 2000, while increasing demand for pork from the United States and Japan put meat exports 76.3% higher in 2000 than in 1996.

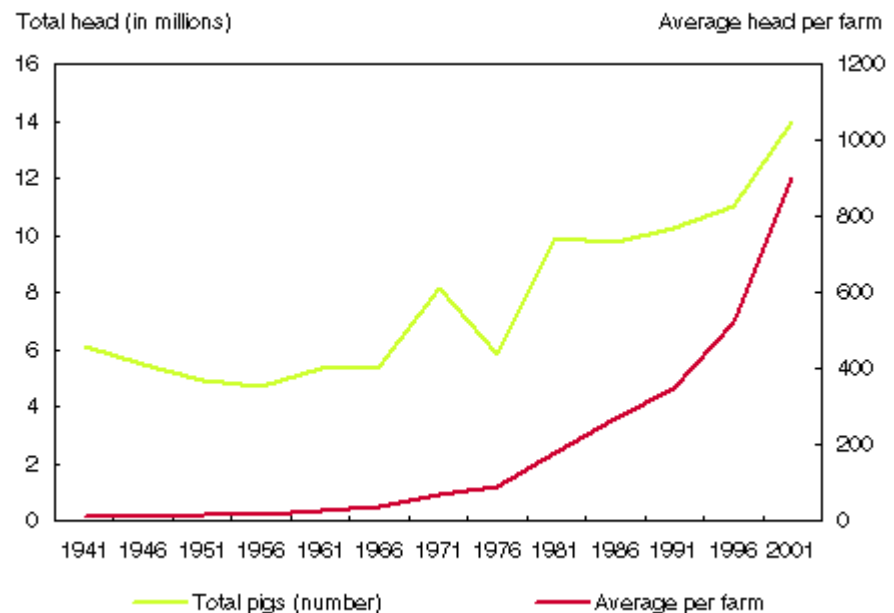
In January 2000, countervailing duties on pigs exported to the United States were dropped for the first time in almost 15 years. In 1995, the World Trade Organization agreement set Asian tariffs (except on exports to Japan) to decline by 30% to 60% from 1995 to 2004.

A large factor in the realignment of the pig sector was the demand from producers for animals meeting strict quality standards. Producing animals meeting uniform size, fat-to-meat ratios and other requirements is achieved more efficiently by large-scale operations than small. From the processors' perspective, it is better business to deal with several large producers than dozens of smaller ones.

The interval between censuses masked the 1998 crash in hog prices that had accelerated the extensive structural change already taking place in the hog sector. Larger producers moved in and many small operations left. Nearly 5,000 farms that were raising pigs in 1996 had left by 2001; they had an average herd size of 396 animals. The average in 1996 was 523.

Quebec and Ontario were still first and second in terms of numbers in 2001. Between them, they had more than half of all the hogs in Canada.

More pigs than ever on bigger farms

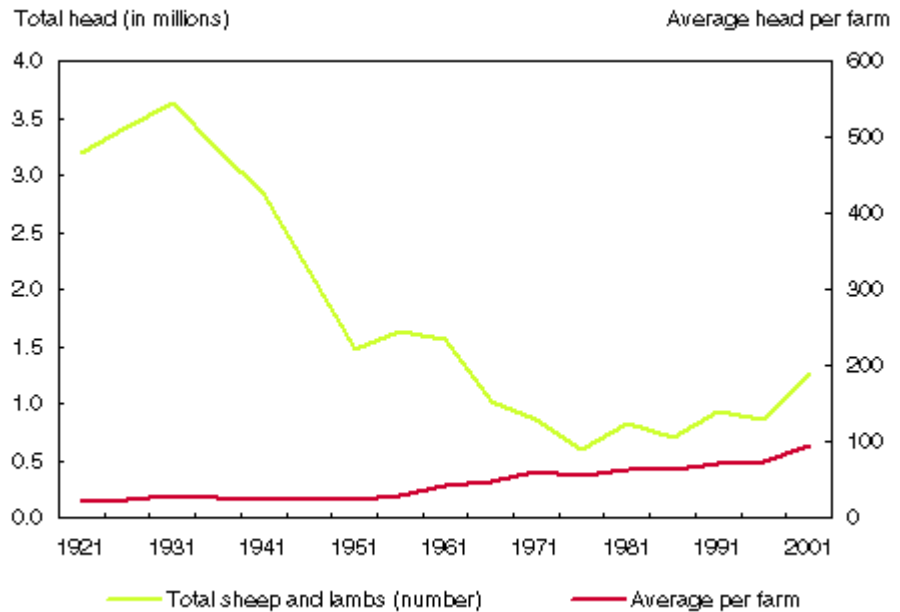


More sheep on more farms

The sheep industry reported increases in both the number of farms as well as the flock size. Farmers reported 1.3 million sheep in 2001, up almost 50% from five years earlier. This was well below the peak of 3.6 million reported in 1931.

The trend to more sheep on more farms that first appeared in 1991 continued in 2001, with about 12.2% more farms reporting sheep than in 1996. About 27% of sheep were on Ontario farms, followed by Alberta (24%), and Quebec (20%). Sheep in Canada are raised today for meat rather than wool. Much of the demand is driven by the increasingly ethnic population, particularly in the Greater Toronto Area (GTA), as well as by what producers call the "upscale urban market." Shipments to the GTA are expected to increase by 20% this year.

Average sheep farm grows in size as sheep numbers rise



Less traditional livestock more popular

The search for more diverse products and new markets continued to boost the number of less traditional livestock, a trend that started in 1991. For example, farmers reported 182,851 goats, up almost 45% since 1996. Goats are a versatile animal, and are raised for the healthy qualities of their meat and milk, and in some breeds such as the Angora, the luxurious quality of the wool. In addition, the demand for goat's cheese, once a rarity on restaurant menus and in supermarkets, is particularly strong.

Bison and llamas, the alternative animals favoured in the West, tripled in number. For bison, health issues were behind much of the increase. The outbreak of mad cow disease in Europe opened up markets for bison meat in France, Belgium, Germany and Britain. Bison meat, because it is lower in fat than beef, appeals to people concerned about their diets.

For llamas, the appeal is in their wool, which many consider comparable to cashmere in softness. Half of these animals are in Alberta.

Deer and elk were more likely to be found in Alberta, which had 39,635 head, and Saskatchewan, which had 38,283. Alberta's herd more than tripled between census years. Elk meat, like buffalo meat, is lower in fat, calories and cholesterol than either chicken or beef. Elk are now more popular than deer. The antler velvet from both animals is also an ingredient in holistic medicines, which are produced in North America for export to Pacific Rim countries.

Poultry

East remained focus of significant growth

The poultry sector also experienced significant growth since 1996, and Eastern Canada remained the focus of production. Poultry and egg production, like dairy, is supply-managed in Canada. Producers must buy "quota" in order to go into business. Quota restricts the amount of a supply-managed commodity a province can produce.

Canadian consumers are eating more chicken, more often. Per capita chicken consumption rose steadily between 1996 and 2000, to nearly 29 kilograms a year. Farmers reported 126.2 million hens and chickens in 2001. Chickens raised for meat represented 69% of all these birds; the rest are laying hens and pullets intended for laying. After reaching a per capita low of just over 14 dozen in 1995, egg consumption increased steadily to nearly 16 dozen in 2000. Ontario and Quebec are the top two producers.

The production of broilers, roasters and Cornish hens reached 1.1 billion kilograms, a jump of 35.0% from five years previously. Ontario's and Quebec's combined efforts amounted to just under 60% of total production.

Turkey production rose 13.3% during that period, to 178.2 million kilograms. The number of turkeys on Canadian farms declined by 5.5%, suggesting that the average turkey weighs more than ever before. Ontario and Quebec are again the main turkey producers but Ontario's share (41.4%) is almost double that of its neighbour (23.3%).

Commercial poultry hatcheries, which supply the egg and meat sectors, also contributed to gains in the poultry sector. In five years, the number of chicks hatched rose by 22.4% to 686.5 million. Again, Ontario and Quebec teamed up for almost 60% of the total.

Land management

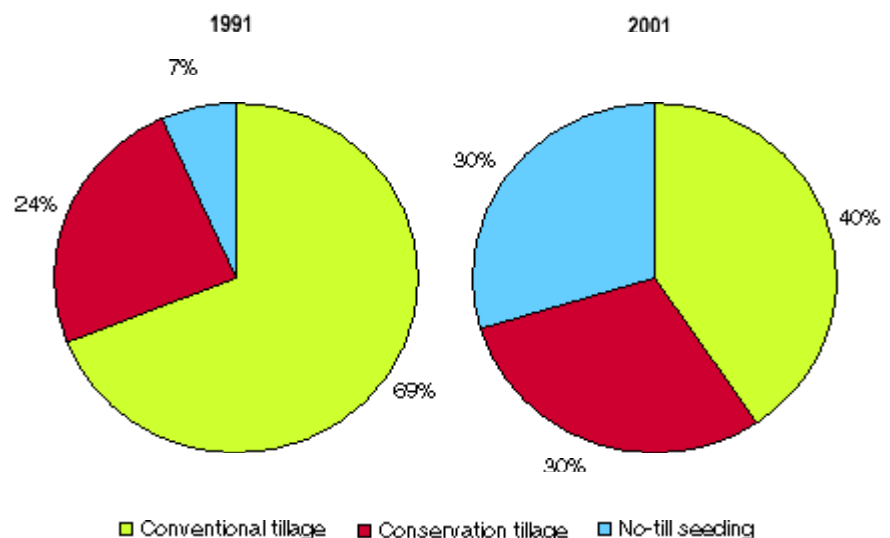
[Conservation tillage and no-till seeding more common](#)

[Manure: Nature's renewable nutrient](#)

Conservation tillage and no-till seeding more common

Canadian farmers have been looking for ways to keep their costs down and new or rediscovered land management practices are proving to be one solution. Numbers show that farmers are using more and more environmentally friendly practices to minimize wind and water erosion and soil compaction. But farmers benefit as well as the environment. Practices such as conservation tillage minimize the number of passes farmers make over their fields, which in turn reduces the number of hours spent in each field, decreases fuel costs and lowers carbon dioxide emissions. The time saved allows a farmer to crop more land in the same amount of time using the same equipment.

Conservation tillage and no-till seeding techniques combine to overtake conventional tillage



More Canadian farmers are preparing their land for seeding using no-till seeding and conservation tillage methods, which leave some stubble on the surface to protect the soil from wind and water erosion, and retain moisture. This ability to retain moisture allows farmers to convert summerfallow land to cropland and is particularly important in years of drought. The extent to which no-till seeding or conservation tillage methods can be used depends on the soil type and crop.

Use of conservation tillage and no-till seeding techniques first appeared in significant proportions in 1991. The trend was confirmed in 1996, and in 2001, 44.4% of farms reporting tillage practices were using these methods. More importantly, the area where no-till or conservation tillage was used accounted for 59.5% of all area tilled. These practices have the longest tradition in the Prairie provinces, but in 2001 the Atlantic provinces, Ontario and Quebec all reported significant increases, with the exception of no-till in Prince Edward Island. Potatoes cannot be grown using current no-till techniques.

Manure: Nature's renewable nutrient

With the growth in animal numbers, Canadian farmers are looking for more environmentally and neighbour-friendly ways to dispose of manure. Manure is a natural alternative to commercial fertilizers. Whether or not manure is a practical substitute for chemical fertilizers depends on the quantity and the distance it would have to be transported. In 2000, manure was spread over 6.7 million acres, an increase of 5.5% compared with five years ago.

In many parts of Canada, more stringent regulations are being implemented for livestock operations as public pressure to improve water quality grows. Quebec and parts of British Columbia already have environmental regulations in place for manure disposal similar to those in Europe, where restrictions are tight.

Since the last census, the area spread with fertilizers was down, suggesting a shift from fertilizers to manure. Farmers may use one or a combination of methods to spread manure. Spreading solids was the most common method in 2000 as it had been in 1995: it was used on 67.2% of the area to which manure was applied compared with 73.0% of the total area in 1995.

Of the two liquid-spreading methods — surface or injected — surface spreading accounts for 85.0% of liquid-spread area. Injecting manure directly into the soil is considered the most environmentally friendly method and its area increased 145.2%.

Dried or composted manure for urban gardeners and nurseries is also a product of livestock operations.

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Certified organic farming

[Field crops dominate production](#)

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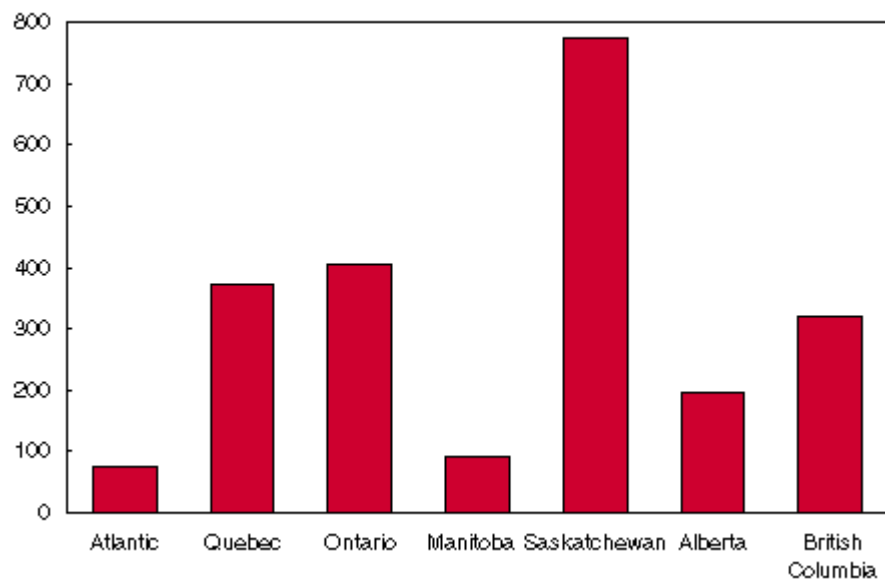
Field crops dominate production

For the first time, farmers were able to report on their census forms that they produced certified organic commodities. (In Canada, to become "certified organic" a farmer must apply to a recognized certification agency. Although slightly different from province to province, organic certification is based on the Organic Agriculture Standard put out by the Canadian General Standards Board.)

The census enumerated 2,230 farms, or just under 1% of the total, that produced at least one category of certified organic agricultural products. Farmers who reported that at least some of the products on their operation were certified organic are attempting to develop and satisfy a niche market driven by people concerned with maintaining a healthy lifestyle. Saskatchewan had the most farms certified by an agency, with 773. Ontario ranked second, followed by Quebec and British Columbia.

Saskatchewan has the most farms reporting certified organic production, 2001

Number of farms



Although the popular impression of organic farming probably involves fruit and vegetable production, field crops (such as buckwheat, rye or caraway) actually dominate. A total of 1,442 farms with certified organic production, or almost two-thirds of such farms, grew field crops organically. Field crops were the most common certified organic product in four provinces: Ontario, Manitoba, Saskatchewan and Alberta.

Fruits, vegetables and greenhouses on East and West Coasts

On the other hand, vegetable, fruit or greenhouse products were the most common product on at least three-quarters of certified organic farms in Atlantic Canada and British Columbia.

Maple products dominate in Quebec

Quebec was more varied in its certified organic production. About 41% of Quebec organic farms reported "other products," primarily maple products. Vegetables, fruit and greenhouse products were a close second, with 33.6% of certified organic farms reporting.

Certified organic animal production remains a very small sector in Canadian agriculture. Less than one in five certified organic farms (17%) in Canada reported animals or animal products.

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Greenhouses

[Area has doubled in 10 years](#)

[Vegetables overtaking flowers](#)

Area has doubled in 10 years

The greenhouse industry continued its dramatic expansion between 1996 and 2001 when the area under cover increased 42.1%. During the past 10 years, it has more than doubled.

In 2001, the area under glass, plastic or other protection for all Canadian greenhouses reached 197.5 million square feet, or 4,535 acres. The average greenhouse area covers three-quarters of an acre.

Much of the increase is going south: tomatoes from Canada's greenhouses are attractive to the U.S. market, where produce grown in greenhouses built on cheaper Canadian land and sold in a lower-valued dollar are more competitively priced than "home-grown" tomatoes from California or other sunshine states.

All provinces posted gains in greenhouse area. In 1996, Ontario accounted for 45% of total area. By 2001, its share had reached just under 50%. Most of the expansion was in southwestern Ontario's Essex County.

British Columbia was a distant second in greenhouse area, with 50.0 million square feet, although the area under cover increased by more than 61%.

Vegetables overtaking flowers

Flowers, which accounted for 47% of the area in 2001, are still the main greenhouse product. However, greenhouse vegetables were a close second at 43% and are increasing their share faster than flowers. Consumers have become used to having fresh produce year-round, and are willing to pay more for it.

The remainder of the greenhouse area was devoted to other products such as seedlings.

Fruits

[Blueberry area greater than apple area](#)

[Taste of success for wine growers](#)

[Other berries](#)

Blueberry area greater than apple area

With 108,679 acres, blueberries confirmed their dominance over apple area in 2001. While blueberry area gained more than 20%, apple area declined by a similar amount. A major difference between the two is actual producing area. In 2001, 10.7% of apple area was not in production, compared with 45.3% of all blueberry area. Many apple producers are replanting their orchards with dwarf and semi-dwarf varieties that require less area.

Canada's total area in apples was 63,814 acres in 2001. Canadians are now accustomed to a year-round supply of fresh apple varieties from the world over that are not grown here. Imports from the United States, Argentina, Chile and New Zealand are shrinking domestic growers' share of the market and lowering farmgate prices.

The top five fruits in terms of total area, Canada 2001

Fruit	2001 area (acres)	Percentage Change (1996-2001)
Blueberries	108,679	21.4%
Apples	63,814	-18.3%
Grapes	26,165	40.9%
Strawberries	14,834	-12.2%
Raspberries	9,474	-4.9%

Taste of success for wine growers

The area devoted to grapes rose 40.9% between censuses to 26,165 acres. Most of the increased area was in southern Ontario's wine-producing areas of Niagara and Essex County. About 70% of Canada's grapes come from southern Ontario.

The signing of the Free Trade Agreement by Canada and the United States in 1988 instigated a major program to uproot native grape varieties and replant them with more tender, European vinifera varieties such as Chardonnay, Riesling, Sauvignon Blanc, Cabernet Sauvignon and Merlot. It takes five years for grapevines to become productive.

This diversification, as well as new technology, competitive prices and a growing export market, have given Ontario and British Columbia wineries world-class reputations. The industry is increasingly sophisticated, and wine tourism, where vineyards have their own wineries to sell their goods, offer tours and even cooking classes, is one factor fuelling recent growth. This is an excellent example of "adding value" to a basic crop.

Other berries

Cranberries posted an impressive increase among fruits, with total area rising 64.6% to 7,453 acres. British Columbia accounted for almost 54.4%, and Quebec 35.2%. Cranberry juice, and the health benefits attributed to it, are increasing the demand for cranberries. In dried form, they have become a popular and healthy snack.

Saskatoon berries, as the name suggests, are a Prairie product showing up as jams and jellies on grocery shelves across the country. These hardy native shrubs are closely related to the apple, hawthorn and mountain ash family and produce clusters of tart berries resembling blueberries. Plantings increased 79.2% between 1996 and 2001 to 2,937 acres. The three Prairie provinces accounted for almost 95% of production.

Field-grown vegetables

Area at record high

Although small in terms of area, vegetables played a role in the move to more non-traditional crops, with an area 4.8% larger than in 1996 and an all-time high of 330,752 acres. Canadians may be taking to heart the Canada Food Guide recommendation of 5 to 10 servings of fruits and vegetables a day.

Beans, once fifth most common, now rank third behind sweet corn and green peas, with 31.2% more area than in 1996. Large increases in the "other vegetables" category in Saskatchewan, and especially Alberta, are attributable in part to more area given to culinary and medicinal herbs such as basil and echinacea.

The top five vegetables in terms of area, Canada 2001

Vegetable	2001 area (acres)	Percentage change (1996-2001)
Sweet corn	87,696	-6.3%
Green peas	43,132	6.7%
Beans	30,001	31.2%
Tomatoes	23,865	-6.6%
Carrots	23,184	-2.2%

Sweet corn area declined 6.3% since 1996, although it is still the most common vegetable, with 26.5% of all vegetable area. The top four vegetables grown in Canada — sweet corn, green peas, beans and tomatoes — accounted for over half of all vegetables grown.

Finances

[Gross farm receipts and expenses both increase](#)

[Farm size influences success for many](#)

[For farm finances, bigger is better, but not always](#)

[Product type also a factor](#)

Gross farm receipts and expenses both increase

Over the five-year period between 1995 and 2000, the prices farmers received for their products declined by 4.6%, while prices they paid for expenses such as fertilizer and fuel increased by 10%. Farmers, squeezed by increasing costs and declining value of many of the products they sold, had to increase farm production to keep the ratio of expenses-to-receipts favourable.

In Canada, farmers spent 87 cents in operating expenses for every dollar in gross farm receipts in 2000. In 1995, it took 83 cents in expenses to earn a dollar in gross farm receipts. (Expenses collected on the census do not include depreciation.)

Total gross farm receipts were \$38.3 billion in 2000, while operating expenses reached \$33.2 billion. While factors such as the commodities they produced, the prices they received and the weather they had to deal with made each farmer's situation different, in general expenses rose slightly faster than revenues.

Five years earlier, at 1995 prices, receipts were \$32.2 billion and expenses were \$26.7 billion. Over much of this period, prices for grains and oilseeds fell substantially, while those for cattle rose. Hog prices fell to an alarmingly low level in 1998 before beginning a recovery. The level of program payments from governments to farm businesses also increased.

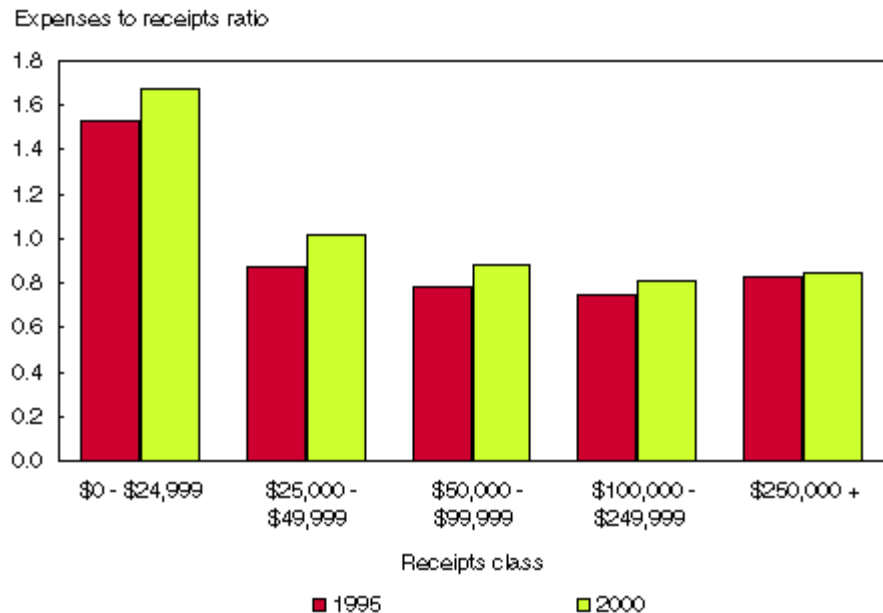
Farm size influences success for many

The amount of a farm's expenses relative to the dollars it receives in gross farm receipts differs by receipts category. The smallest farms, those with receipts less than \$25,000, spent \$1.68 in operating expenses for every dollar in receipts. Many farms in this category are hobby farms.

Those in the largest receipts category (\$250,000 and over) spent 85 cents for every dollar they received. However, in each of the receipts categories, farmers spent more to earn a dollar in 2000 than they did in 1995.

Only farm operations in the receipts category of \$250,000 or more grew in terms of farm numbers over the five-year period. They represented 34,139 farms, an increase of 32.0% from 1995. While they accounted for only 13.8% of all farms in Canada, they had 68.1% of all gross receipts reported for 2000.

Regardless of farm size, it cost more to make a dollar in 2000



For farm finances, bigger is better, but not always

Even though size is important, bigger is not always better. No matter how large or small the farm, some operations in every receipts category have higher expenses than receipts. This reflects the fact that a farmer's costs have grown faster than the revenues from the farm products. Only 25% of farms with receipts less than \$25,000 had higher receipts than expenses.

Although this percentage increases as farms grow in size, it was lower in each receipts category in 2000 than in 1995. This was especially true for farms with a high dependence on grains and oilseeds as prices for these crops declined substantially.

Receipts category	Farms with gross farm receipts greater than farm operating expenses			
	1995		2000	
	Number	Percentage	Number	Percentage
\$0 - \$24,999	35,160	29.9%	24,070	25.0%
\$25,000 - \$99,999	62,481	76.3%	46,009	66.3%
\$100,000 - \$249,999	46,263	90.3%	39,606	84.1%
\$250,000 +	23,446	90.3%	30,040	88.0%
All farms	167,350	60.5%	139,725	56.6%

Product type also a factor

Farms also differ by the type of product. Dairy farms spent the least in operating expenses per dollar of receipts, at 75 cents. Cattle farms, on the other hand, spent the most, at 94 cents. These operations are often run as low-margin, high-volume businesses. Hog farms fell in the middle, spending 84 cents for every dollar in receipts. Crop farms (including field crop, grain and oilseed, and wheat farms) averaged 86 cents in expenses for every dollar in receipts.

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Agriculture in the North

In 2001, the Census of Agriculture enumerated 200 farms in the territories: 170 are in Yukon Territory and 30 are in the Northwest Territories. There are no farms in Nunavut.

Farms in the territories are smaller than in the rest of the country, averaging just under 150 acres. Some farm operations in the Northwest Territories are unique in that they commercially harvest wild animals. The Yukon, a prime tourist destination, has many outfitting businesses that run agricultural operations. These operations tend to grow hay and have horses to augment the business. Hay accounts for three-quarters of total field crops in the territories. Reindeer, musk-oxen and horses are the most common animals found on territory farms.

Computers

[Four in 10 farms used a computer](#)

[Computer use increases as receipts rise](#)

Four in 10 farms used a computer

Since 1986, the census has collected data on how many farms had computers as a management tool on their farms. For the first time in 2001, the census collected information on the kinds of computer applications used.

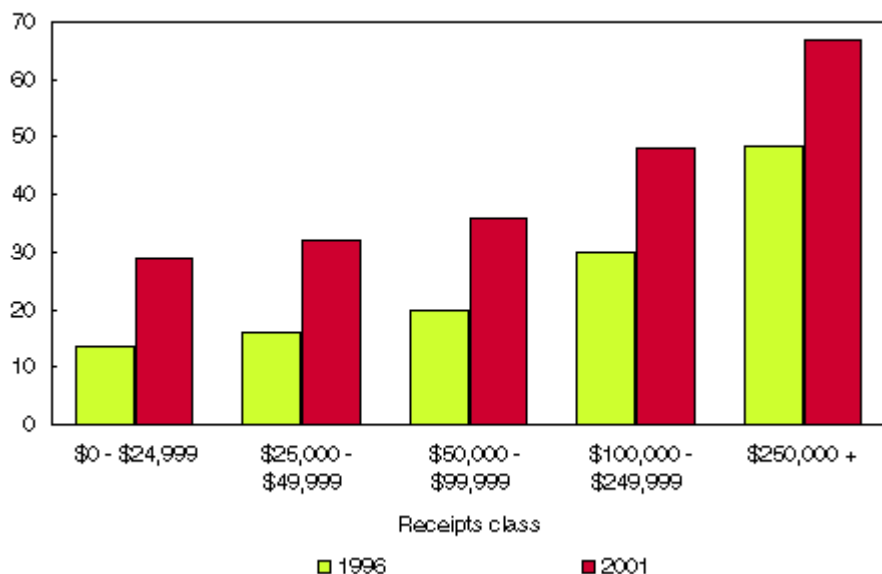
The share of farms using a computer to help manage the farm has doubled every five years since 1991. In 2001 it stood at almost 40%, compared with 21% in 1996. This proportion may seem low when compared with the 54.9% of all Canadians who had a computer in 2000. However, until recently rural areas have lacked the infrastructure that makes computer "connectivity" as attractive or practical as in urban Canada.

In some cases, such as bookkeeping, farmers are simply transferring paper functions to the computer. Bookkeeping was the most common application on almost 8 out of 10 computers. Others, such as the Internet, have brought the world to the farm office. Seven out of 10 farmers surfed the Internet for such information as commodity prices or weather reports.

Word processing, use of e-mail, and livestock and crop record-keeping followed, in that order. Computers were also used for other purposes such as banking.

Computers gain in importance in every receipts category, Canada 1996-2001 (at 2000 prices)

Percentage of farms



Computer use increases as receipts rise

The higher the receipts, the more likely a farm was to have a computer. In 2001, more than two-thirds of farms with receipts of at least \$250,000 used a computer in some capacity to manage their farm. In 1996, slightly less than one-half of farms in that receipts class (at 2000 prices) reported using a computer. The share of farmers using computers is up in all receipts classes since 1996.