



# The Daily

Statistics Canada

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## MAJOR RELEASES

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- **Net farm income, 2001** 2  
 Net cash income reached \$8.8 billion in 2001, up 29.8% from 2000. This was mainly due to a booming livestock sector and marginal growth in crop receipts as farmers substantially reduced their grain and oilseed stocks.
  
  - **Farm cash receipts, first quarter 2002** 5  
 Crop producers continued to face difficulties during the first three months of 2002, with receipts falling to an eight-year low, while livestock receipts continued to climb.
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## MAJOR RELEASES

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### Net farm income

2001

Net cash income — the difference between a farmer's cash receipts and operating expenses — reached \$8.8 billion in 2001. Despite sharply higher costs of inputs such as feed and fertilizer, this increase was mainly due to a booming livestock sector and marginal growth in crop receipts as farmers substantially reduce their grain and oilseed stocks.

Farmers' net cash income rose 29.8% from 2000, as both cash receipts and operating expenses hit record highs. Net cash income increased for the second straight year, rebounding from annual declines during the late 1990s.

However, farmers drew heavily on their crop inventories to support sales in 2001 as grain and oilseed production was substantially reduced due to adverse weather conditions. As a result, year-end stocks of these crops were at levels not seen since 1989.

Cash receipts rose 9.7% to \$36.2 billion in 2001 — with increased receipts from the livestock sector being responsible for more than half the rise. Higher program payments — resulting from poor growing conditions and increased payments from various income disaster programs — accounted for almost 30% of the gain.

Operating expenses rose 4.4% to \$27.4 billion. Aside from higher fertilizer and feed costs, hikes in natural gas prices led to a jump in heating fuel expenses. Most provinces also saw increases in livestock purchases.

Net cash income can vary widely from one farm to another because of factors such as commodities produced, prices and weather. This is especially true for crop producers, who have been hit hard by low prices, as well as by drought or extremely wet conditions in many areas.

Provincially, net cash income rose in all provinces except Nova Scotia, where lower fruit receipts contributed to a 4.6% decline.

Some provinces that reported declines in net cash income in 2000 recorded large percentage increases in 2001. For example, in New Brunswick, a 49.4% increase came on the heels of a 32.2% decline in 2000. Similar situations occurred in Newfoundland and Labrador, Prince Edward Island and Saskatchewan.

#### Note to readers

*Farm cash receipts and operating expenses included in this release are not directly comparable with the similarly-named series derived from the recently released 2001 Census of Agriculture. Financial data from the 2001 Census of Agriculture refer to the year 2000. The major conceptual difference is that the data presented here exclude the value of agricultural products (livestock and poultry, seed and seedlings, and feed) sold from one farm to another farm within the same province, while the Census of Agriculture data include these inter-farm transactions.*

**Net cash income** measures farm business cash flow (farm cash receipts minus operating expenses) generated from the production of agricultural goods. Net cash income represents the amount of money available for debt repayment, investment or withdrawal by the owner.

**Total net income** measures the financial flows and stock changes of farm businesses (net cash income minus depreciation plus income-in kind and value of inventory change). Total net income values agriculture economic production during the year that the agricultural goods were produced. It represents the return to owner's equity, unpaid labour, management and risk.

**Farm cash receipts** measures the gross revenue of farm businesses in current dollars. They include sales of crops and livestock products (except sales between farms in the same province) and program payments. Receipts are recorded when the money is paid to farmers before any expenses are paid.

**Deferments** represent sales from grains and oilseeds delivered by western producers, for which payments were deferred until the next year. Because these receipts are based on physical deliveries, any deferred payments are deducted from the farm cash receipts of the current calendar year and included when they are liquidated (see "Liquidations of deferments" in the farm cash receipts table).

**Program payments** include payments tied to current agricultural production and paid directly to farmers. Examples of these payments come under the Net Income Stabilization Account, the Crop Insurance Act, provincial stabilization programs and the Canadian Dairy Commission Act. The program payments series does not attempt to cover all payments made to farmers nor does it represent total government expenditure under all assistance programs.

**Farm operating expenses** represent business costs incurred by farm businesses for goods and services used in the production of agricultural commodities. Expenses are recorded when the money is disbursed by the farmer.

### Cash receipts: Livestock revenues climb, crop receipts struggle upwards

Farmers received \$36.2 billion from agricultural commodities and program payments in 2001 — up 9.7%

from 2000 and 18.6% higher than the average for the previous five years (1996 to 2000). Farm cash receipts rose in every province, with Manitoba (+16.2%) posting the largest gain.

Estimates of cash receipts reflect to a certain extent the impact of adverse weather during the 2001 growing season. However, the impact of crop production in 2001 on marketing will continue to be felt in the first six months of 2002.

For livestock producers, cash receipts rose in 2001 for the third straight year to a record \$18.9 billion — driven by higher revenues from cattle and hogs. This level was 10.7% higher than 2000 and 25.4% above the previous five-year average (1996 to 2000).

Cash receipts from crops advanced a marginal 3.3% to \$13.6 billion — the first increase in four years. However, crop receipts remained 1.2% below the previous five-year average.

Cattle and calf receipts reached \$7.8 billion in 2001, up 14.5% from the record level of 2000. Higher sales abroad along with strong prices helped push receipts 35.7% above the previous five-year average.

Hog receipts (\$3.9 billion) were up for the third straight year and were 38.3% above the previous five-year average. Most of the 13.7% increase in 2001 was due to revenue generated from domestic hog slaughter where both prices and marketings continued to rise. Aiding the overall increase was a 24.1% jump in receipts from hogs exports, mostly to the United States.

There were also gains in receipts from the supply-managed sectors. Higher chicken prices and marketings pushed revenues to \$1.5 billion, up 10.7% from 2000 and well above the previous five-year average. In the dairy sector, revenues from milk and cream grew 2.8%, thanks to higher prices.

Crop receipts remained below the previous five-year average as lower deliveries for some major grains and oilseeds during the last half of 2001 offset higher prices. Farm stocks of major grains and oilseeds dwindled to very low levels by the end of 2001. They were 17.1% below the previous 10-year average, due primarily to the drought last summer.

Receipts for wheat excluding durum climbed to \$2.7 billion in 2001. However, revenues remained 6.4% below the previous five-year average, even though prices rose 13.6% and Canadian Wheat Board (CWB) payments increased 18.1%. Durum wheat receipts increased 22.8% largely because of higher CWB payments. Marketings were down for both durum and non-durum wheat.

Canola receipts grew 10.1% to \$1.7 billion, ending two years of declines but still short of the previous five-year average of \$2.0 billion. Marketings were

down 7.5% from 2000 despite sales to China that contributed greatly to the rise in deliveries for the first half of the year. However, deliveries fell in the last two quarters as production hit its lowest point in 10 years.

Barley receipts reached \$729 million, up 25.2% over 2000 and slightly above the previous five-year average. Tight supplies of feed barley in the western provinces helped drive up prices.

Farmers deferred \$863 million in crop receipts to 2002, up 47.4% from 2000 and 4.7% over the previous five-year average. A combination of higher prices for grains and oilseeds in 2001 and lower stocks at the end of that year may have caused producers to defer a larger portion of their crop receipts to 2002 in anticipation of reduced returns in the coming months.

### **Program payments jump as poor growing conditions, low prices, hit crops**

Farmers received \$3.8 billion in program payments in 2001, up \$925 million from 2000. Most of this increase was the result of higher payments in crop insurance and income disaster programs. In addition, Ontario producers received \$190 million from one-time program payments designed to compensate them for income losses in 2000 because of inclement weather and severely depressed crop prices.

Crop insurance payments jumped 71.1% to \$1.0 billion — in response to poor growing conditions in 2000 and 2001 and an increase in the acreage of crops insured.

Payments for income disaster programs reached \$627 million, up 48.4% from 2000. These include the Agricultural Income Disaster Assistance program, Canadian Farm Income Program and related provincial disaster programs.

### **Higher livestock, fertilizer costs drive up operating expenses**

Rising livestock expenses and fertilizer prices contributed to a 4.4% hike in total operating expenses in 2001 to \$27.4 billion. During the previous five years (1996 to 2000), operating expenses had gone up 18.2%.

Prices of feed grains rebounded from recent lows, putting upward pressure on commercial feed prices. This — together with buoyant markets for beef at home and in the United States, the continued expansion of the hog sector in the Prairies, and the strong demand for chicken products — translated into a 12.6% rise in commercial feed expenses. The increased activity in the livestock sector also led to a 6.2% hike in livestock purchases and a 5.3% climb in expenses for artificial insemination and veterinary services.

A sharp rise in prices resulted in a 14.7 % increase in fertilizer expenses. Higher fertilizer prices were in

part due to large price increases in natural gas, a major input to its production. Higher natural gas prices also contributed to a 23.4% increase in heating fuel expenses.

Machinery fuel prices stabilized in 2001 after increasing by more than 20% in 2000. However, machinery fuel expenses incurred by agricultural producers were still 12% higher than the previous five-year average.

### Total net farm income up

Total net farm income measures agriculture economic production by adjusting net cash income for value of inventory change, depreciation and income in kind.

Total net farm income rose 31.8% in 2001 with the increase in net cash income more than offsetting a large decline in the total value of inventory. Despite showing the largest increase since 1993, the level of \$3.7 billion posted in 2001 was nevertheless 17.8% below its 1996 record.

The poor growing conditions in many parts of the Prairies and the rest of Canada contributed to very low levels of farm crop inventories by the end of 2001. Lower stocks of all major grains and oilseeds, except for corn, reduced the value of on-farm crop inventories

by \$1.3 billion. Adverse weather in many areas of the Prairies reduced crop yields and forced farmers to use grain as feed earlier than usual as good pastureland quickly became scarce.

The impact of lower farmer-owned inventories was especially notable in Prince Edward Island and Saskatchewan, where total farm income fell despite strong increases in net cash income. In Prince Edward Island, a 39.0% decrease in potato production in 2001 contributed to a steep drop in the value of inventories. In Saskatchewan, the decline in farm inventories resulted in a 43.7% drop in total farm income. The 2001 level was 57.4% below the previous five-year average.

**Available on CANSIM: tables 002-0003, 002-0005, 002-0007 to 002-0009, 002-0012 and 003-0025.**

*Agriculture economic statistics supplement* (21-603-UPE, \$26/\$52) will be released in June. See *How to order products*.

For more information on net farm income, or to enquire about the concepts, methods or data quality of this release, contact Paul Murray (613-951-0065; [paul.murray@statcan.ca](mailto:paul.murray@statcan.ca)) or Kimberley Boyuk (613-951-2510; [kimberley.boyuk@statcan.ca](mailto:kimberley.boyuk@statcan.ca)), Agriculture Division.

### Net farm income

	Canada	New- foundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
	\$ millions										
2000 <sup>r</sup>											
+ Total farm cash receipts including payments	33,008	73	321	414	365	5,439	7,907	3,174	5,717	7,519	2,079
- Total operating expenses after rebates	26,206	63	280	328	306	4,224	6,327	2,531	4,542	6,003	1,603
= Net cash income	6,803	10	42	87	60	1,215	1,580	643	1,175	1,516	476
+ Income-in-kind	152	1	2	3	3	53	47	9	12	16	7
- Depreciation	4,042	4	36	44	36	515	960	357	877	1,005	208
= Realized net income	2,913	7	7	46	27	753	666	296	310	527	275
+ Value of inventory change	-69	-1	20	1	10	-88	-229	183	162	-119	-7
= Total net income	2,844	6	27	47	37	664	438	478	471	408	267
2001 <sup>p</sup>											
+ Total farm cash receipts including payments	36,196	82	336	421	411	5,689	8,488	3,689	6,567	8,299	2,214
- Total operating expenses after rebates	27,368	66	283	338	322	4,439	6,675	2,667	4,700	6,173	1,704
= Net cash income	8,828	16	54	83	89	1,250	1,813	1,021	1,867	2,126	510
+ Income-in-kind	152	1	2	4	3	52	47	9	11	16	7
- depreciation	4,132	4	39	46	39	549	970	362	892	1,031	201
= Realized net income	4,848	13	17	40	54	753	890	668	987	1,110	316
+ Value of inventory change	-1,098	0	-72	-5	-17	73	-113	-9	-721	-243	10
= Total net income	3,750	13	-56	35	37	826	777	660	265	867	325

<sup>r</sup> Revised.

<sup>p</sup> Preliminary.

## Farm cash receipts

First quarter 2002

Crop producers continued to face difficulties during the first three months of 2002, with receipts falling to an eight-year low. Livestock receipts continued to climb, reaching a record level for a first-quarter period.

Crop receipts amounted to \$3.3 billion, down 5.4% from the first quarter last year, and the lowest level since the first quarter of 1994. They remained 14.5% below the previous five-year average (1997 to 2001). Lower deliveries for most of the major grains and oilseeds more than offset the increase in prices for all of them.

Program payments also declined during the first quarter. However, both declines were offset by a jump in livestock revenues, which rose 6.6% to \$4.8 billion. This increase was the result of higher receipts for cattle and to a lesser extent hogs. As a result, total cash receipts for the first quarter increased a slight 0.6% to \$8.9 billion, 9.3% over the average for the previous five years.

These estimates of cash income reflect, to a certain extent, the impact of adverse weather during the 2001 growing season. However, the impact of crop production in 2001 on marketings will continue to be felt in the first six months of this year as well.

In addition, these data provide only half the picture as cash receipts provide a measure of the gross revenue of farm businesses. They do not account for expenses incurred by farmers. Cash receipts can also vary widely from farm to farm because of several factors, including commodities, prices and weather.

### Provincial farm cash receipts

	Jan. to March 2001 <sup>r</sup>	Jan. to March 2002 <sup>p</sup>	Jan.-March 2001 to Jan.-March 2002 % change
	\$ millions		
<b>Canada</b>	<b>8,829</b>	<b>8,878</b>	<b>0.6</b>
Newfoundland and Labrador	19	19	-
Prince Edward Island	87	95	9.2
Nova Scotia	100	99	-1.0
New Brunswick	92	113	22.8
Quebec	1,185	1,237	4.4
Ontario	1,901	1,935	1.8
Manitoba	972	927	-4.6
Saskatchewan	1,904	1,876	-1.5
Alberta	2,076	2,054	-1.1
British Columbia	493	523	6.1

- Nil or zero.

<sup>p</sup> Preliminary data.

<sup>r</sup> Revised data.

**Note:** Figures may not add to totals due to rounding.

The largest percentage increase in cash receipts occurred in New Brunswick (+22.8%), followed by Prince Edward Island (+9.2%) due mainly to rising potato prices. The largest declines were in Manitoba,

Saskatchewan and Alberta — largely the result of falling crop receipts.

### Crops: Receipts plunge for canola producers

Canola producers, who experienced the largest decline, recorded receipts of \$321 million during the first quarter, down 43.4% from the same three months last year. Despite an increase of almost one-third in prices, marketings fell 57.2%. The decrease in deliveries was mainly due to lower exports to China, which normally buys canola during the summer and fall, but purchased large quantities during the early part of 2001.

The next largest decrease was wheat (excluding durum) as lower payments from the Canadian Wheat Board (CWB), as well as lower deliveries, offset a 17.5% increase in prices. The timing of the final CWB payment — January 2001 for the prior crop year and December 2001 for last crop year — accounted for the decline in CWB payments in the first quarter of 2002. A slight recovery in prices during the last months of 2001 encouraged farmers to sell the major part of their crop during the fall. As a result, low stocks led to reduced deliveries in early 2002. Receipts were \$463 million, 22.4% below the level reached for the same period in 2001.

Barley receipts plunged 40.1% to \$121 million, while receipts for durum wheat fell 35.9% to \$125 million. As in the case of wheat (excluding durum), the timing of final CWB payments, along with low stocks at the end of 2001, contributed to these decreases. The low stocks led to reduced deliveries early in 2002.

The decrease in receipts for most of the major grains and oilseeds was partly softened by higher liquidations of deferments. In anticipation of reduced returns in early 2002, farmers deferred a larger portion of their crop receipts in 2001. As a result, the liquidations were up 39.4% to \$747 million during the first quarter of 2002, the highest value in three years for this period.

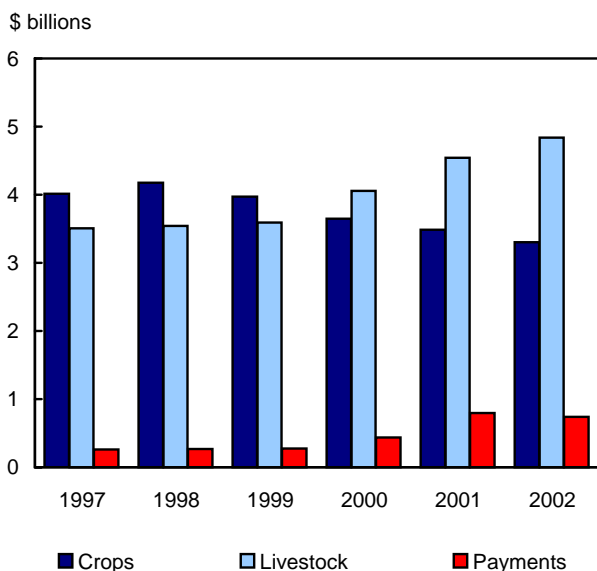
After two consecutive years of decline, potato receipts rose 38.2% to a record \$235 million on the strength of higher prices. The increase in prices can be attributed to the large decline in potato production in 2001, which placed strong upward pressure on prices.

### Livestock: Substantial jump in cattle receipts

Cattle receipts for the first quarter of 2002 were \$1.9 billion, up 10.1% from the same period last year. This increase was driven by a 13.1% rise in the number of head sold in the first quarter of 2002, while overall prices remained unchanged. Nearly three-quarters of the increase in head sold was due to cattle being exported abroad, largely to the United States, while the rest resulted from an increase in the number slaughtered.

Hog receipts for the first quarter of 2002 were \$945 million, up 6.8% from the first quarter of 2001. This was largely due to an 8.7% increase in the number of hogs marketed, as overall prices remained steady. Over one-half of the increase was due to the rise in slaughter hog receipts, as the increase in number slaughtered offset the marginal decrease in price. The remainder was due to an increase in the number and price of hogs exported internationally.

#### Farm cash receipts, January to March



#### Program payments still well above five-year average

Farmers received \$737 million from program payments in the first three months of 2002, down 7.4% from the same period a year earlier, but still well above the previous five-year average of \$409 million.

Increased crop insurance payments were more than offset by decreases in income disaster assistance programs and the elimination of specific ad hoc programs in Ontario and Prince Edward Island.

#### Farm cash receipts

	Jan. to Mar. 2001 <sup>r</sup>	Jan. to Mar. 2002 <sup>p</sup>	Jan.-Mar. 2001 to Jan.-Mar. 2002
	\$ millions		% change
<b>Canada</b>	<b>8,829</b>	<b>8,878</b>	<b>0.6</b>
All wheat <sup>1</sup>	792	589	-25.6
Wheat excluding durum <sup>1</sup>	597	463	-22.4
Durum wheat <sup>1</sup>	195	125	-35.9
Barley <sup>1</sup>	202	121	-40.1
Deferments	-91	-73	-19.8
Liquidations of deferments	536	747	39.4
Canola	567	321	-43.4
Soybeans	142	104	-26.8
Corn	134	156	16.4
Other cereals and oilseeds	76	97	27.6
Special crops	161	146	-9.3
Other crops	970	1,093	12.7
<b>Total crops</b>	<b>3,489</b>	<b>3,300</b>	<b>-5.4</b>
Cattle and calves	1,884	2,059	9.3
Hogs	885	945	6.8
Dairy products	1,012	1,046	3.4
Poultry and eggs	554	574	3.6
Other livestock	208	217	4.3
<b>Total livestock</b>	<b>4,543</b>	<b>4,841</b>	<b>6.6</b>
Net Income Stabilisation Account	104	105	1.0
Crop Insurance	197	387	96.4
Income Disaster Assistance programs	271	124	-54.2
Provincial stabilization	80	71	-11.3
Dairy subsidy	16	7	-56.3
Other programs	127	42	-66.9
<b>Total payments</b>	<b>796</b>	<b>737</b>	<b>-7.4</b>

<sup>p</sup> Preliminary data.

<sup>r</sup> Revised data.

<sup>1</sup> Includes Canadian Wheat Board payments.

- Nil or zero.

**Note:** Figures may not add to totals due to rounding.

Available on CANSIM: table 002-0001 and 002-0002.

The first quarter 2002 issue of *Farm cash receipts*, Vol. 63, no. 1 (21-001-XIB, \$15/\$48) is now available. See *How to order products*.

For more information on farm cash receipts, or to enquire about the concepts, methods or data quality of this release, contact Kimberley Boyuk (613-951-2510; [kimberley.boyuk@statcan.ca](mailto:kimberley.boyuk@statcan.ca)) or Paul Murray (613-951-0065; [paul.murray@statcan.ca](mailto:paul.murray@statcan.ca)), Agriculture Division. ■

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## OTHER RELEASES

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### Production and disposition of tobacco products

April 2002

Cigarette production was up significantly while sales saw a minor increase in April. The excess of production over sales caused cigarette inventories to expand.

In April, cigarette production increased 20% from a month earlier to 4.3 billion cigarettes but was 2% below the production level from the same month last year. Year-to-date production reached 14.7 billion cigarettes, down 2% from the same period a year earlier.

Shipments advanced 2% to 3.6 billion cigarettes, but remained 7% lower than in April 2001. Year-to-date shipments reached 13.8 billion cigarettes, down 6% compared with the same period in 2001.

Due to the relatively high production, inventories grew 5% to a closing level of 4.8 billion cigarettes — up 17% from closing inventories at the end of April a year ago.

**Available on CANSIM: table 303-0007.**

The April 2002 issue of *Production and disposition of tobacco products*, Vol. 31, no. 4(32-022-XIB, \$5/\$47) is now available. See *How to order products*.

To order data, or for general information, contact the Dissemination Officer (1-866-873-8789; 613-951-9497; [manufact@statcan.ca](mailto:manufact@statcan.ca)). For analytical information, or to enquire about concepts, methods or data quality of this release, contact Peter Zylstra (613-951-3511; [peter.zylstra@statcan.ca](mailto:peter.zylstra@statcan.ca)), Manufacturing, Construction and Energy Division. ■

### Placement of chicks and turkey poults

April 2002 (preliminary)

Chick placements were estimated at 58.4 million birds in April, up 1.9% from April 2001. Turkey poult placements increased 0.8% to 1.7 million birds.

**Available on CANSIM: table 003-0021.**

For more information, or to enquire about the concepts, methods or data quality of this release, contact Conrad Ogrodnik (613-951-2860; [conrad.ogrodnik@statcan.ca](mailto:conrad.ogrodnik@statcan.ca)), Agriculture Division. ■

### Cereals and oilseeds review

March 2002

Data from the March 2002 issue of *Cereals and oilseeds review* are now available. The information includes data on production, stocks, cash and futures prices, domestic processing, exports, farmers' deliveries and supply-disposition analyses.

The April situation report, an overview of current market conditions, both domestic and international, is also included in the March issue of *Cereals and oilseeds review* (22-007-XPB, \$15/\$149) and on the Internet (22-007-XIB, \$11/\$112), which will be available in mid-June 2002. See *How to order products*.

For further information on this release contact Les Macartney (613-951-8714; [les.macartney@statcan.ca](mailto:les.macartney@statcan.ca)) or Karen Gray (204-983-2856; [karen.gray@statcan.ca](mailto:karen.gray@statcan.ca)), Grain Marketing Unit, Agriculture Division. ■

### Canadian Vehicle Survey

Fourth quarter 2001

Vehicles covered in the Canadian Vehicle Survey travelled an estimated 76.6 billion kilometres. Among them, vehicles weighing less than 4 500 kilograms (and not used as a bus) travelled 69.6 billion kilometres, or 91% of the total during the quarter.

The survey measures the activity of all on-road vehicles registered in Canada with the exception of some vehicles such as motorcycles, construction equipment and road maintenance equipment.

Estimates of total vehicle-kilometres are available by province and territory. Estimates of passenger-kilometres are available by province only.

The fourth quarter 2001 issue of *The Canadian Vehicle Survey* (53F0004XIE, free) is now available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). From the *Our products and services* page, choose *Free publications*, then *Transport and warehousing*.

To obtain data, contact Jean-Robert Laroque (613-951-2486; [laroque@statcan.ca](mailto:laroque@statcan.ca)). For more information, or to enquire about the concepts, methods or data quality of this release, contact Wendy Christoff (613-951-2498; [chriwen@statcan.ca](mailto:chriwen@statcan.ca)), Transportation Division. ■

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## Air charter statistics

Second quarter 2001

During the second quarter of 2001, international air charter flights carried 788,091 passengers, down 5.4% from a year earlier.

*Aviation: Service bulletin* (51-004-XIB, \$8/\$82) will be available soon. A print-on-demand service is also available at a different price. See *How to order products*.

For more information, or to enquire about the concepts, methods, and data quality of this release, contact Kathie Davidson (613-951-0141; [davikat@statcan.ca](mailto:davikat@statcan.ca)), Aviation Statistics Centre, Transportation Division. ■

## Advanced technology use in food processing

Gains in labour productivity and a better ability to meet regulatory requirements were the main benefits that food-processing plants received from adopting advanced technology, according to a new research paper. Production of higher quality products, although slightly less important, was still a significant reason for adopting new technology.

The study *Enhancing food safety and productivity: Technology use in the Canadian food processing industry*, available today, examines both the factors that contribute to and impede the adoption of advanced technologies in the food-processing sector. The study uses data on the adoption of advanced technology from the 1998 Survey of Advanced Technology in the Canadian Food Processing Industry.

Historically, this sector has lagged behind the rest of the manufacturing sector in terms of productivity. According to the study, adoption of new technology has been found to be strongly linked to higher productivity growth, where increased productivity can be achieved in a number of ways such as through reductions in labour, materials or capital, or from shorter set-up times or lower rejection rates.

Food processing is an industry heavily reliant on product-market regulation because of concerns about food quality and safety. Adoption of advanced technology has helped firms in this industry comply with these regulations. Regulatory compliance can take the form of improved worker safety, better food safety and enhanced environmental protection.

On the impediments side, the greatest challenge facing plant managers in adopting advanced technology is integrating it into the existing production system. Adapting the new technology for operation within a firm can be a difficult and costly undertaking.

Other obstacles to adopting advanced technology includes inadequate financing and training. Firms that lack adequate financing and training tend to adopt fewer technologies.

Certain firm characteristics also lend themselves to greater use of advanced technology. The study found that large plants made the greatest use of advanced technology, particularly when it came to network communications and processing technologies.

The nature of the production process used in a plant is also a factor. Establishments engaged in secondary processing, either by itself or in conjunction with primary processing activities, make greater use of advanced process control and packaging technologies. In addition, foreign-owned plants adopt more technologies.

The research paper *Enhancing food safety and productivity: Technology use in the Canadian food processing industry* is now available. See *How to order products*.

*Enhancing food safety and productivity: Technology use in the Canadian food processing industry* (11F0019MIE, no. 168) is also available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). From the *Our products and services* page, choose *Research papers (free)*, then *Social conditions*.

For further information, or to enquire about the concepts, methods or data quality of this release, contact John Baldwin (613-951-8588, [baldjoh@statcan.ca](mailto:baldjoh@statcan.ca)), or David Sabourin (613-951-3735, [sabodav@statcan.ca](mailto:sabodav@statcan.ca)), Micro-economic Studies and Analysis Division. ■



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## NEW PRODUCTS

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**Enhancing food safety and productivity:  
Technology use in the Canadian food processing  
industry**, no. 168  
**Catalogue number 11F0019MIE2002168**  
(free).

**Farm cash receipts**, January-March 2002, Vol. 63,  
no. 1  
**Catalogue number 21-001-XIB** (\$15/\$48).

**The dairy review**, January-March 2002, Vol. 63, no. 1  
**Catalogue number 23-001-XIB** (\$27/\$89).

**Production and disposition of tobacco products**,  
April 2002, Vol. 31, no. 4  
**Catalogue number 32-022-XIB** (\$5/\$47).

**Canadian Vehicle Survey**, Fourth quarter 2001  
**Catalogue number 53F0004XIE**  
(free).

**All prices are in Canadian dollars and exclude sales  
tax. Additional shipping charges apply for delivery  
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
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